

Curriculum Vitae
ELSA SUSANNA POOLEY
2008

PERSONAL DETAILS

Born Elsa Susanna Bond, Johannesburg, 1947.

Education Pietermaritzburg Girls High School, Pietermaritzburg

Widowed Husband d. 2004. Tony Pooley, game ranger, natural scientist, world authority on crocodiles, natural history writer/photographer, specialist wildlife and natural history film consultant. Three sons, Simon, Justin and Thomas.

Address Cottage no 1, Finningley Estate, Clansthal, KZN South Coast
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AWARDS

1996 Wildlife and Environment Society (Natal Region) Conservationist of the Year
1999 Certificate of Merit for Outstanding Contribution to Botany, SA Association of Botanists
2000 Kirstenbosch Bronze Medal, Inaugural Kirstenbosch Botanical Art Exhibition
2004 Marloth Medal, Botanical Society of SA
2008 Honorary Doctor of Science, University of KwaZulu-Natal

PUBLICATIONS

Books

1. **Pooley, E.S.** (1993) *The Complete Field Guide to Trees of Natal, Zululand & Transkei*. Natal Flora Publications Trust. pp 1-512
To date, 13 000 copies have been sold and the 4th impression has been published
2. *Carruthers, V., editor (1997) *The Wildlife of Southern Africa. A field guide to the animals and plants of the region.* (**Elsa Pooley, author and illustrator of the plants**). Southern Book Publishers pp 310
3. **Pooley, E.S.** (1998) *A Field guide to Wild Flowers of KwaZulu-Natal & the Eastern Region.* Natal Flora Publications Trust. pp 1-632
To date, 11 000 copies have been sold
4. ***Pooley, E.S.** (1998) *Trees of Southern Africa.* Southern Green Guide Series. Southern book Publishers pp 1-56
5. ***Pooley, E.S.** (1998) *Wild Flowers, Grasses, Sedges, Ferns & Fungi of Southern Africa.* Southern Green Guide Series. Southern Book Publishers pp 1-64
6. **Pooley, E.S.** (1999) *SASOL First Field Guide to Trees of Southern Africa.* Struik pp 1-57
This publication is also available in Afrikaans:
Pooley, E.S. (1999) *SASOL Eerste Veldgids tot Bome van Suider-Afrika.* Struik pp 1-57
7. **Pooley, E.S.** (2003) *MOUNTAIN FLOWERS A Field Guide to the Flora of the Drakensberg and Lesotho.* The Flora Publication Trust. pp 1-320
8. **Pooley, E S.** (2006) *Forest Plants, in the forest and in the garden.* Flora Publications Trust. Pp 1-72

*Contributed text and water colour illustrations of 777 species of trees, flowers, grasses, sedges, ferns and fungi for the *Complete Field Guide to Wildlife in Southern Africa* (Southern Books) in 1997 (reference 2. above). This work has now been published as two smaller booklets in the *Green Guide* series, namely *Trees* and *Wild Flowers, Grasses, Sedges, Ferns & Fungi* (references 4 and 5 respectively).

Articles

1. Pooley, A.C., **E.S. Pooley**, Wayne F. Hadley and Carl Gans (1973) *Ecological aspects of the subsoil herpetofauna in Ndumu Game Reserve*. Annals of Carnegie Museum vol. 44 Article 8.
2. Anderson J.L. and **E.S. Pooley** (1977) *Some plants identified in the rumina of Nyala antelope *Trgaelaphus angasi* in Ndumu Game Reserve*. Lammergeyer, Journal of Natal Parks Board, 23:40-45.
3. De Moor, P.P., **E.S. Pooley**, G. Neville and J. Barichiev (1977) *Vegetation of Ndumu Game Reserve, Natal. A Quantitative Physiognomic Survey*. Annals Natal Museum. 23(1): 239-272
4. **Pooley, E.S.** (1978) *A Checklist of the Plants of Ndumu Game Reserve, North-eastern Zululand*. J.S. Afr. Bot. 44(1) : 1-54
5. **Pooley, E.S.** (1980) *A report on a study of *Smilax kraussiana* in the St Lucia Resort Game Park*. Internal report, ~Natal Parks Board.
6. **Pooley, E.S.** (1980) *Some notes on the utilization of natural resources by the tribal people of Maputaland*. IN Studies on the Ecology of Maputaland, edited by M.N. Bruton & K.GH. Cooper, Wildlife Society of SA pp 467-479
7. **Pooley, E.S.** (1989) *Palms of Southern Africa*. In: Veld and Flora, magazine of the Botanical Society of SA.
8. Smedley, L.N. J.L. Ribeiro-Torres (**E.S. Pooley, research contributor**) (1979) *Man and the Pongola Floodplain: a preliminary study*. HSRC report no. S-62.

BOTANICAL STUDIES AND EXPERIENCE

- Made a comprehensive collection, and gained extensive knowledge, of the flora of northern Zululand. Specimens are lodged in the Bews Herbarium, University of KwaZulu-Natal, Pietermaritzburg. This work was carried out over 20 years, at Ndumu and Mkuzi game reserves (1965-1974) and the Greater St Lucia Wetland Park (1974-1984).
- Undertook a vegetation mapping study of Ndumu Game Reserve with the Council for Scientific and Industrial Research / SA Medical Research Council / Natal Parks Board (now Ezemvelo KZN Wildlife).
- Completed a checklist of the plants of Ndumu Game Reserve and identified the food plants in the rumina of Nyala antelope.
- Conducted a sociological survey of local women in the Ndumu area for the then University of Natal, Durban / HSRC and also gathered information on the utilisation of indigenous plants, animals and insects.
- Completed a 2-year study on problem plants and assisted in setting up veld assessment plots on the Eastern Shores of Lake St Lucia for the Natal Parks Board.
- Helped establish a field herbarium for the Natal Parks Board research centre at St Lucia Estuary.
- Laid out indigenous gardens at Ndumu Game Reserve camp, Ndumu Crocodile Experimental Station, KZN Wildlife St Lucia Reception Centre, St Lucia Crocodile Centre and at Crocworld, a large tourist and commercial crocodile farm in Scottburgh.
- Since 1991 researching, writing and publishing photographically illustrated books on plants on behalf of the Natal Flora Publications Trust. Preparing these books has been a collaborative effort. Research has required interacting with people throughout the region in order to collect photographs and record original information which might otherwise have been lost. Work on these books has also required assistance in designing computerized plant distribution mapping programmes.

ART WORK

- Self taught botanical artist. Started painting botanical illustrations in 1967 and first exhibited in 1973.
- Paintings commissioned by the National Botanical Institute for the series *Flowering Plants of Africa*.
- Work illustrated in the book *S A Botanical Art - Peeling Back the Petals* edited by Marion Arnold (Fernwood Press 2001).
- Listed in the *Dictionary of South African ~Painters and Sculptors*.
- Work is held in private and public collections both here and abroad.
- Produced limited edition, hand-made prints (in collaboration with Malcolm Christian of Caversham Press and the 1820 Settler Foundation) for an exhibition opened at the Grahamstown Festival (1992) titled '*Science meets Fine Art: Flowers as Images*'. This Standard Bank exhibition travelled to the major centres around the country.
- Completed an educational poster illustrating 313 flowering plants of the vegetation regions of Southern Africa. Commissioned by the National Botanical Institute, published by the Shell Education Series.

CURRENT WORK

Set up a company in 2004 specializing in indigenous landscaping and rehabilitation of dunes, grassland and forest as well as ECO work on developments.

Botanical tours of KZN and Lesotho.

Botanical art courses at the Cavern, northern Drakensberg (twice a year).

Revising "Trees of Natal, Zululand & Zululand" with Richard Boon (publication date: 2009)

Writing a series of books on the biomes of southern Africa.

OUTREACH, COMMUNITY DEVELOPMENT AND EDUCATION

- Promotes indigenous plants, through workshops, talks, walks, radio and television interviews.
- Conducts botanical tours: 1 to 21 day tours to the botanical 'hot spots' of the region, Drakensberg, Pondoland and Maputaland.
- Trains young people to remove alien invasive plants on the KZN South coast.

May 2008

FONDA FRANCES LEWIS

PERSONAL DETAILS

Date of Birth: 1968 - 01 - 02
Identity Number: 6801020010083
Nationality: South African
Languages: English (Fluent)
Afrikaans (Fluent)
Zulu (Basic)

QUALIFICATIONS

<i>Institution</i>	<i>Qualification</i>	<i>Year</i>
University of Natal (Pietermaritzburg)	MEnvDev	1997
University of Natal (Pietermaritzburg)	BSocSci	1995
Cape Technikon	Nat. Dip. Nature Conservation	1988

RECORD OF EMPLOYMENT

<i>Year(s)</i>	<i>Position</i>	<i>Company</i>
1989	Contract Researcher	De Beers Consolidated Mines
1990 – 1993	Research Technician	Natal Parks Board
1998 – 1999	Chief Researcher	Human Sciences Research Council
1999 – 2004	Project Manager	Institute of Natural Resources
2004 – current	Practice Area Leader	Institute of Natural Resources

KEY FIELDS OF EXPERTISE / DISCIPLINE

- Socio-economic assessment and rural development
- Community based environment and natural resource management
- Environmental assessment and integrated environmental management
- Enterprise planning and development
- Project management and planning

PROJECT EXPERIENCE

Project Name: Commercialisation of eco-tourism and hospitality functions in the Royal Natal National Park, Thendele, Rugged Glen and the Spioenkop dam Resort within the uKhahlamba-Drakensberg-World Heritage site
Name of Client: Grant Thornton THL Consulting (Pty) Ltd
Role/Responsibility: Project Manager
Location: KwaZulu-Natal

Project Name: Social Impact Assessment for the Upgrading of the Sani Pass Road (P318) Phase 2
Name of Client: Arcus Gibb
Role/Responsibility: Project Manager
Location: KwaZulu-Natal

Project Name: Social impact assessment (SIA) for the proposed Alflourco (Pty) Ltd Aluminium Fluoride Production Facility in the Richards Bay area.

Name of Client: SRK Consulting

Role/Responsibility: Project Manager

Location: KwaZulu-Natal

Project Name: Environmental Impact Assessment for proposed Alluvial Diamond Mining

Name of Client: De Beers Consolidated Mines (DBCM)

Role/Responsibility: Consultant

Location: Kimberley, Northern Cape Province South Africa

Project Name: Review of Natural Resource Use in KwaZulu-Natal

Name of Client: Ezemvelo KZN Wildlife

Role/Responsibility: Project Manager

Location: KwaZulu-Natal

Project Name: The Development of Natural Forests and Plantation Forest Management Certification Standards for South Africa

Name of Client: Department of Water Affairs and Forestry

Role/Responsibility: Project Manager

Location: National

Project Name: Commercial Marula Production

Name of Client: Gijima KZN

Role/Responsibility: Project Manager

Location: KwaZulu-Natal

Project Name: Conduct Criteria Indicators and Standards (CI&S) Audits for Sustainable Forest Management in three Provinces namely Eastern Cape, Limpopo and KwaZulu-Natal

Name of Client: Department of Water Affairs and Forestry

Role/Responsibility: Consultant

Location: National

Project Name: Amakhuzeni Eco-Tourism Initiative

Name of Client: Ezemvelo KZN Wildlife

Role/Responsibility: Project Manager

Location: KwaZulu-Natal

Project Name: Strengthening a Co-Management System for the Gxalingenwa and KwaYili Forests in KwaZulu-Natal

Name of Client: Bradley Fund for the Environment, Sand County Foundation

Role/Responsibility: Project Manager

Location: KwaZulu-Natal

Project Name: Feasibility study into the potential for a provincial solid biofuel production initiative using plantation and timber residues and waste in KwaZulu-Natal

Name of Client: Department of Agriculture and Environment Affairs (KwaZulu-Natal)

Role/Responsibility: Project Manager

Location: KwaZulu-Natal

Project Name: Business and implementation plan for a community based marula processing facility in the Umkhanyakude District of KwaZulu-Natal
Name of Client: Department of Economic Development
Role/Responsibility: Project Manager
Location: KwaZulu-Natal

Project Name: Feasibility study into the potential establishing a solid biofuel production enterprise in Ingwe Municipality.
Name of Client: Department of Economic Development (KwaZulu-Natal) and Ingwe Municipality
Role/Responsibility: Project Manager
Location: KwaZulu-Natal

Project Name: Making forest markets work for the poor: Identifying and harnessing opportunities in the forestry sector for black economic empowerment and poverty reduction.
Name of Client: DFID-DWAF
Role/Responsibility : Consultant
Location: South Africa

Project Name: Establishment of a community based craft production project based on the sustainable utilization of wetland fibre resources in the Mnini area of KwaZulu-Natal
Name of Client: Department of Environmental Affairs and Tourism (Sustainable Coastal Livelihoods Programme)
Role/Responsibility: Project Manager
Location: KwaZulu-Natal

Project Name: Establishment of a medicinal plant cultivation and value addition enterprise in the Eshowe District of KwaZulu-Natal.
Name of Client: Department of Science and Technology
Role/Responsibility : Project Manager
Location: KwaZulu-Natal

Project Name: Feasibility study into the potential for establishing a community based charcoal production enterprise at Singisi
Name of Client: CPPP
Role/Responsibility: Project Manager
Location: KwaZulu-Natal

Project Name: Preparation and implementation of a community based management plan for the Mnagzana Mangroves and Estuary
Name of Client: USAID / DEAT (Marine and Coastal Management)
Role/Responsibility: Project Manager
Location: Eastern Cape

Project Name: Assessment of the contribution small scale timber production makes to poverty reduction in South Africa
Name of Client: IIED
Role/Responsibility: Consultant
Location: South Africa

Project Name: Preparation of a pilot state of the forest report for South Africa
Name of Client: DWAF/DFID
Role/Responsibility: Project Manager
Location: National

Project Name: An analysis of the honey production sector associated with the forestry industry and opportunities for black economic empowerment
Name of Client: DWAF/DfID
Role/Responsibility: Project Manager
Location: National

Project Name: An analysis of the ferns and foliage sector associated with the forestry industry and opportunities for black economic empowerment
Name of Client: DWAF/DfID
Role/Responsibility: Project Manager
Location: National

Project Name: An analysis of the indigenous medicinal plants sector associated with the forestry industry and opportunities for black economic empowerment
Name of Client: DWAF/DfID
Role/Responsibility: Project Manager
Location: National

Project Name: An analysis of the indigenous fruits and foods sector associated with the forestry industry and opportunities for black economic empowerment
Name of Client: DWAF/DfID
Role/Responsibility: Project Manager
Location: National

Project Name: Establishment of a community based groundnut production and processing facility in the Umkhanyakude District of KwaZulu-Natal.
Name of Client: Department of Science and Technology
Role/Responsibility : Project Manager
Location: KwaZulu-Natal

Project Name: Establishment of a community based essential oils production enterprise in the Umkhanyakude District of KwaZulu-Natal.
Name of Client: Department of Science and Technology
Role/Responsibility : Project Manager
Location: KwaZulu-Natal

Project Name: A review of poverty in South Africa in relation to forest based opportunities
Name of Client: DFID-DWAF
Role/Responsibility : Project Manager
Location: South Africa

Project Name: Preparation of Principles, Criteria, Indicators and Standards for Sustainable Forest Management in South Africa
Name of Client: Department of Water Affairs and Forestry in association with Department for International Development (DFID)

Role/Responsibility : Project Manager
Location: South Africa

Project Name: Preparation of criteria and indicators for monitoring the impacts arising from the development of the Maguga Dam and the associated resettlement of local communities

Name of Client: Swaziland Komati Project Enterprise (SKPE)
Role/Responsibility : Consultant
Location: Swaziland

Project Name: An options study on enterprise and public private partnership opportunities for development in selected state forests

Name of Client: DFID-DWAF
Role/Responsibility : Project Manager
Location: South Africa

Project Name: The commercialization of the marula industry for sustainable livelihoods

Name of Client: DFID/FRP
Role/Responsibility : Consultant
Location: South Africa

Project Name: Establishment of honey production enterprises Mondi and SiyaQhubeka forests as a livelihood intervention to local rural households

Name of Client: Department of Economic Development and Tourism
Role/Responsibility : Project Manager
Location: KwaZulu-Natal

Project Name: Design and implementation of a community based agricultural production system using treated effluent

Name of Client: Ethekeweni Municipality
Role/Responsibility : Project Manager
Location: KwaZulu-Natal

Project Name: An analysis of key issues for the development of small and medium scale enterprises in the forestry sector

Name of Client: IIED
Role/Responsibility : Project Manager
Location: South Africa

Project Name: An environmental scoping study for the proposed resettlement of the Hilton Valley Community

Name of Client: Hiltonian Society
Role/Responsibility : Consultant
Location: Hilton Estate (KwaZulu-Natal)

Project Name: Preliminary environmental assessment for the Nxamalala and Egamaletu Communities

Name of Client: Lima Development (for Department of Land Affairs)
Role/Responsibility : Consultant
Location: Petrus Stroom and Karkloof (KwaZulu-Natal)

Project Name: Environmental investigation and preparation of an environmental management plan following the awarding of title and settlement of three families on a portion of See Forth Farm (Himeville), facilitated under the Land Reform (Labour Tenants) Act (Act 3 of 1996).

Name of Client: Department of Land Affairs

Role/Responsibility : Project Manager

Location: KwaZulu-Natal

Project Name: Analysis and identification of Black Economic Empowerment opportunities within the medicinal plant industry, for the development and formalisation of the sub-sector in KwaZulu-Natal.

Name of Client: Department of Economic Development and Tourism (Directorate Rural Economic Development)

Role/Responsibility : Project Manager

Location: KwaZulu-Natal

Project Name: Peer review of the Masonite FSC certification audit

Name of Client: SGS South Africa

Role/Responsibility : Peer Reviewer

Location: KwaZulu-Natal

Project Name: Preparation of a strategy for participatory forest management at Ntendeka Wilderness Area

Name of Client: Department of Water Affairs and Forestry (funded by DFID)

Role/Responsibility : Project Manager

Location: KwaZulu-Natal

Project Name: Identification of tourism development opportunities in Ongoye Forest Reserve. Development of enterprise development and operating models for selected tourism opportunities.

Name of Client: KZN Tourism Authority and Uthungulu District Council.

Role/Responsibility : Consultant

Location: KwaZulu-Natal

Project Name: Assessment of the environmental impacts arising from proposed scenarios reflecting a range of options for airport and industrial development in the South Industrial Basin, and the relocation of the airport to La Mercy

Name of Client: Durban North, South and Central Local Councils

Role/Responsibility : Consultant

Location: Durban

Project Name: Scoping of the impacts arising from the construction of the temporary barrages in the Umkomaas River

Name of Client: Sappi Saiccor

Role/Responsibility: Consultant

Location: KwaZulu-Natal

Project Name: Assessment of resource use patterns and a recommended management strategy for the Sihangwane Sand Forest

Name of Client: HSRC/HNRE Programme

Role/Responsibility : Project Manager

Location: KwaZulu-Natal

Project Name: An assessment and evaluation of land use options in the Mbangweni Corridor, northern KwaZulu-Natal.

Name of Client: Group for Environmental Monitoring / UNEP

Role/Responsibility : Consultant

Location: KwaZulu-Natal

Project Name: Investigation of guidelines for responsible tourism in South Africa

Name of Client: Natural Resources Institute (UK)

Role/Responsibility : Consultant

Location: South Africa

CURRICULUM VITAE – Dr Mark Graham

Profession: Aquatic Ecologist/Biodiversity Specialist
Date of Birth: 24 October 1964

MEMBERSHIP OF PROFESSIONAL SOCIETIES

Southern African Society of Aquatic Scientist (SASAqS)
Past chairman – Water Institute of Southern Africa (WISA) - Water Scientists Technical Division, KZN Branch.
Registered Pr.Sci.Nat. with the South African Council for Natural Scientific Professions (SACNASP)
Freshwater Biological Association
Member - KZN Provincial Implementation Team, River Health Programme (RHP)
International Association of Impact Assessors (IAIA)

KEY QUALIFICATIONS:

Thirty years experience in terrestrial and aquatic ecosystem functioning and management. Project locations include South Africa, Lesotho, Botswana, Ethiopia, Democratic Republic of Congo (DRC), Egypt, Kenya and Namibia. Range of organisations worked for include: consulting, large multinational companies, academic, government and local municipalities. Particular areas of expertise are:

- Specialist inputs to Reserve Studies, environmental impact assessments (EIAs) and studies, specifically those associated with water and water quality related issues.
- Biodiversity specialist and team leader in various ESIA studies to Equator Principles standards, in particular IFC Performance Standards on Social & Environmental Sustainability and World Bank Group Environmental, Health & Safety Guidelines, particularly focusing on water related issues.
- Management of an ISO 17025 quality accredited water analytical laboratory
- External specialist auditor for SANAS (South African National Accreditation Society)
- Management of the National River Health Programme - Quality Assurance programme.
- Provincial SASS5 quality assurance auditor.
- Integrated water resource management (IWRM) and Integrated Catchment Management (ICM)
- Conservation planning, specifically around freshwater aquatic conservation issues, including rivers, wetlands and lakes.
- Statistical and multivariate analytical approaches to applied ecological data.

Publication of the standard method for the SASS5 technique as well as accreditation of this method to the ISO 17025 standard. Development and publication of community based tools for water quality assessment.

Recent relevant assignments include:

Lead consultant, eThekweni Municipality – Comprehensive Baseline River Health Survey for IWRM planning January – June 2007

Specialist scientific advisor, eThekweni Municipality – Aquatic Ecosystems Consultant. July 2007 – June 2008

Lead consultant & Project Manager, MONDI Forests (includes MONDI Business Paper, MONDI Shanduka, North East Cape Forests), SAPPI Forests, SINGISI Forests, NCT Forests – River Health Survey for IWRM planning and FSC compliance January 2003 – present

Lead Consultant & Project Manager, Oldfield Business Park - Hazardous Waste Disposal project

January 2003 – present

Lead Consultant & Project Manager, Upper uMgeni River/Dargle Minimum Environmental Flows Project

September 2005 – present

Project Leader and Lead Researcher, 3 year WRC project: **Development of a model to assess the costs associated with eutrophication in the Vaal River system.**

January 2006 – December 2008

Specialist Aquatic Biologist Consultant, **Banro Mining DRC** – pre mining specialist aquatic ecosystems impact study.

April 2008 - Present

Biodiversity Team Leader, **Kisanfu Copper Mine DRC** – pre mining specialist aquatic ecosystems impact study.

November 2007 - Present

Biodiversity Team Leader, **Kalumines Copper Mine DRC** – pre mining specialist aquatic ecosystems impact study.

February 2008 - Present

Specialist Aquatic Biologist Consultant, **Kao Diamond Mine Lesotho** – pre mining specialist aquatic ecosystems impact study.

February - September 2004

Specialist Aquatic Biologist Consultant, **Okavango Delta Tsetse Fly control programme, Botswana** – specialist aquatic ecosystems impact study. Project initiation, survey and data analysis

2002

EDUCATION:

BSc (Range and Forage Sciences) University of Natal (Pmb), 1987

MSc (Biological Sciences), University of Natal, Durban, 1991

PhD, University of the North West (Potchefstroom), 2004. Thesis Title: ***“Modelling the Water Quality in Dams within the Umgeni Water Operational Area with an Emphasis on Algal Relations”***

EMPLOYMENT RECORD:

2005 to date: GROUNDTRUTH cc – biomonitoring services & environmental consultants. Director.

Provision of applied environmental and water quality solutions and biomonitoring services to local and international industries and mining houses (e.g. Banro Mining (DRC), Phelps Dodge (DRC), Kalumines (DRC), SAPPI, Mondi, Singisi Forests), consultants (e.g. SRK, ACER, SiVEST), developers and regional and national government departments (e.g. Ezemvelo KZN Wildlife, eThekweni Municipality, Department of Water Affairs and Forestry (DWAF), Water Research Commission (WRC) etc.).

2003 to 2004: UMGENI WATER, KWAZULU/NATAL, SOUTH AFRICA. Specialist Environmentalist

This position was principally to market and conduct specialist investigations around aquatic resources and water quality for the water and environmental industries.

1995 to 2003: UMGENI WATER, KWAZULU/NATAL, SOUTH AFRICA. Scientist Hydrobiology.

Managing of the Umgeni Water Hydrobiology water analytical laboratory as well as the conducting of specialist investigations around aquatic, water quality and terrestrial resources.

1992 to 1995: UMGENI WATER, KWAZULU/NATAL, SOUTH AFRICA. Water Research Commission, Research Scientist

1988 to 1990: UNIVERSITY OF NATAL, DURBAN, BIOLOGICAL SCIENCES DEPARTMENT, KWAZULU/NATAL Researcher

This position involved terrestrial ecological research on vegetation dynamics within the Hluhluwe Game Reserve (KZN) - particularly investigating the problems of bush encroachment there. An MSc was gained from this work.

OVERSEAS ASSIGNMENTS:

Lesotho, Namibia, Ethiopia, Botswana, Democratic Republic of Congo, Egypt, Kenya,

LANGUAGES AND DEGREE OF PROFICIENCY

Language	Reading	Writing	Speaking
English	excellent	excellent	excellent

Publications:

Dickens CWS & Graham PM. 1995. The rupture of algae during abstraction from a reservoir and the effects on water quality. J Water SRT – Aqua Vol 44 (1) 29-37

Dickens CWS & Graham PM. 1998. Biomonitoring for effective management of wastewater discharges and the health of the river environment. Aquatic Ecosystem Health and Management. Vol 1, 199-217.

Graham PM, Dickens CWS & Mbowe S. 1998. Modelling the water quality in impoundments within the Umgeni Water operational area and the consequences for potable water treatment costs. WRC Report No 615/1/98

Dickens CWS & Graham PM. 2002. The South African Scoring System (SASS) Version 5 Rapid Bioassessment Method for Rivers. African Journal of Aquatic Sciences. Vol 27 1-10.

WRC 2002. State of the Rivers Report - uMgeni River and neighbouring rivers and streams. WRC Report TT 2002/02

Graham PM, Dickens CWS & Taylor RJ. 2004. miniSASS – A novel technique for community participation in river health monitoring and management. African Journal of Aquatic Sciences. Vol 29 (1), 25-35.

Dickens CWS, Graham PM, de Winnaar G, Hodgson K, Tiba F, Sikhakhane S, Sekwele R, & van Niekerk K. 2008. The impacts of high winter flow releases from an impoundment on in-stream ecological processes. WRC Report No 1307/1/08.

SEMINARS AND TRAINING GIVEN:

Application of the River Health Programme & Aquatic Biomonitoring to Integrated Catchment Management. University of KwaZulu Natal, MSc Course work programme. Visiting lecture series.

Piloting of biological monitoring tools and techniques in selected countries of the Nile Basin. International training course presented at Kisumu, Kenya for the Nile Basin Transboundary Environmental Action Programme, part of the Nile Basin Initiative. 2007 & 2008.

SUMMARY CURRICULUM VITAE FOR DR. MCEWARD MURIMBIKA

NAME : Dr. McEdward MURIMBIKA
DATE OF BIRTH : 27 November 1971
PREFERED LANGUAGE OF OFFICIAL COMMUNICATION: English
TELEPHONE : +27 15 297 8066 (Bus.)
CELL PHONE : 083 613 6530
FAX : +27 15 297 0059 (Bus);
E-MAIL : blackroxes@yahoo.co.uk
ADDRESS : P.O. Box 2202 Halfway House, 1685

EDUCATION SUMMARY

Institution	Degree(s) or Diploma(s) obtained
University of Witwatersrand	Ph.D. [Archaeology] (Wits Univ. 2005)
Univ. of Bergen, Norway	Master of Philosophy (M.Phil.), Univ. of Bergen, Norway.
Univ. of Brussels, Belgium	International Graduate Certificate in African Archaeology, Bruxessel University, Brussels, Belgium, 1998
Univ. of Zimbabwe	BA Hons. & BA Univ. of Zimbabwe, Harare, Zimbabwe (1994)

SUMMARY OF PROFESSIONAL EXPERIENCE

I have worked in the archaeology research field and heritage resources management for more than 15 years. I currently serve on the Limpopo Provincial Statutory Body, the Limpopo Provincial Heritage Agency Council [LIHRA] (2007-2009). I also served on the Gauteng Provincial Heritage Agency Council in 2005-6 before stepping down. I am an accredited Professional Archaeologist [Principal Investigator] and Heritage Specialist Consultant [Accredited by the South African Heritage Resources Agency [SAHRA], Amafa KwaZulu Natal and the Association of Professional Archaeologists in Southern Africa (ASAPA)]. In the past three years I served as a Heritage Specialist and Senior Scientist at Nzumbululo Heritage Solutions [a private Applied Research firm specialising in Heritage and Environmental Management [EIA processes, Scoping, Environmental Management Planning, Geo-technical services Archaeological & Heritage resources management, Heritage and Cultural tourism planning and tourism product development], where I coordinated a division with a team of Environmentalists, Heritage experts, Project Engineers and Managers and technical staff. I served the Natal Museum as the Principal of the Institute for Cultural Resources Management [ICRM] from 2004 to 2005. Between 2000 and 2004 I was a Researcher in the Archaeological Resources Management Unit at the University of Witwatersrand. I arrived at Wits from University of Bergen, in Norway where I served as a Graduate Researcher in the Institute of Archaeology between 1997 and 1999. I had a brief study stint in Brussels, Belgium in 1998 where I obtained a graduate certificate in African Archaeology. I began my career in Cultural Heritage Resources Management as a Junior Researcher and then Assistant Lecturer in Archaeology Unit at the University of Zimbabwe.

SUMMARY OF PREVIOUS WORK EXPERIENCE

From: 2005. **Employer:** Nzumbululo Heritage Solutions, **Positions Held:** Senior Scientist / Professional Archaeologist & Heritage Specialist. Have conducted more than 300 Phase 1 and 2 Heritage study projects including grave relocations, management plans and heritage development planning and research in past 3 years.

From: August 2004 to May 2005. **Employer:** Natal Museum, Pietermaritzburg; **Positions Held:** **Principal**, Institute for Cultural Resources Management (ICRM), Natal Museum, KwaZulu Natal Province.

From: February 2000 to July 2004. **Employer:** Archaeological Resources Management Unit, School of Geography, Archaeology & Environmental Studies, University of the Witwatersrand. **Positions Held:** Research Officer.

From: October 1997 to March 1998. **Employer:** Institute of African Archaeology, Archaeology Dept., Univ. of Bergen, Norway. **Positions Held:** Graduate Researcher

From: January 1999 to November 1999. **Employer:** Institute of African Archaeology, Archaeology Dept, Univ. of Bergen, Norway. **Positions Held:** Graduate Research Fellow in African Archaeology.

From: May 1997 to July 1997. **Employer:** British Institute in Eastern Africa, Nairobi, Kenya. **Positions Held:** Researcher [Visiting]

From: January 1997 to April 1997. **Employer:** Archaeology Unit, History Department, University of Zimbabwe. **Positions Held:** Teaching Assistant

From: January 1996 to December 1996. **Employer:** National Museums and Monuments of Zimbabwe, Bulawayo, Zimbabwe. **Positions Held:** Cadet Curator & Monuments Inspector.

From: January 1991 to December 1995. **Employer:** Archaeology Unit, University of Zimbabwe. **Positions Held:** Research Assistant.

SELECTED RECENT RESEARCH EXPERIENCE & CONSULTANCIES

March 2008: Archaeologist & Principal Heritage Specialist for the Archaeological and Heritage Impact Assessment for five (5) Substations for Eskom Transmission between Sishen and Saldanha in the Northern Cape to Western Cape Provinces.

January 2008 to present: Completed more than 40 Archaeological and Heritage Impact Assessment studies for linear developments for Department of Transport (KZN), Eskom (Eastern Region, KZN) Eskom Northern Region (Limpopo) and Water reticulation projects for Capricorn and Nkangala Districts in Limpopo and Mpumalanga respectively.

September 2006 – June 2007: Archaeologist & Principal Heritage Specialist for the development of an Integrated Cultural Resources Management Plan for Nkangala District Municipality in Mpumalanga Province.

April 2007 – October 2007: Archaeologist & Principal Heritage Specialist for the Archaeological and Cultural Resources Management Plan project commissioned by the Capricorn District Municipality Limpopo Province

June 2006 –February 2007: Archaeologist & Principal Heritage Specialist for the Addo Elephant National Park Archaeological Heritage Mapping Project in Eastern Cape Province. The study was commissioned by the SANParks and World Bank

2006 – 2007: I have conducted more than 300 individual Archaeological Impact Assessment Studies for private clients such as Eskom, Road Agency Limpopo, Department of Transport (KwaZulu Natal and Limpopo Provinces), Local and District Municipalities nation wide.

Nov. 2002 – May 2003: Field Director - Mapungubwe Cultural Landscape World Heritage Site, K2 Rehabilitation and Documentation Programme, Phases II, Vhembe-Dongola (Limpopo) National Park, Limpopo Province, South Africa – Client Univ. of Witwatersrand.

July-December 2001: Field Director - Archaeological excavations and site rehabilitation for World Heritage Nomination proposal documentation for K2 site, Limpopo Province, South Africa.

PUBLICATIONS

Murimbika, M. 2004. *Communing with the dead: an Ethnoarchaeological interpretation of Shona mortuary practices*. British Archaeological Reports International Series, 1210: 181 – 188.

Huffman, TN. & M. Murimbika. 2003 (December Issue). *Shona ethnography and Late Iron Age burials* Journal of African Studies, Vol.1 (2): 237-246.

Murimbika, M. Forthcoming. *Heritage on Target Sanction: Archaeology and donor aid in the Third World Countries: The case of Zimbabwe's World Heritage Sites*. In World Archaeological Congress 5 Publication (in review).

SELECT CONFERENCE PAPERS

March 25 – 29 2008, Bi-annual Conference for the Association of Professional Archaeologist in Southern Africa [ASAPA] Cape Town. Paper presented: *Voluntary dormancy of systematic elimination: South African Archaeology in the era of Transformation*

June 26 – 29 2004, Bi-annual Conference for the Society for Africanist Archaeologist, Bergen Norway. Paper presented: *Shifting kraals and changing uses of central spaces: Site spatial analysis for the K2 site in the Limpopo Valley.*

April 2004, Southern African Association of Archaeologists (SA3) Biannual Conference, Kimberly: Poster Presentation *in absentia – Archaeological Resources Management and Development.*

June 2003: World Archaeological Congress 5, Washington DC, USA. Papers presented:

Violated sepulchres? The quest for a proper place for indigenous dead and immortal remains in the new South Africa.

Heritage on Target Sanction: Archaeology and donor aid in the Third World Countries: The case of Zimbabwe's World Heritage Sites.

May 2003, State and Culture Conference, University of Edmonton, Canada. Paper Presented *in absentia: Reburial and Repatriation of Human Remains in South Africa.*

July 2002: Southern African Association of Archaeologists (SA3) Biannual Conference, Cape Town, South Africa. Papers presented:

Archaeological Site Management practice: K2 site rehabilitation project;

Shona ethnography and Late Iron Age burials (jointly with Prof. TN Huffman).

May 2002 Society of Africanist Archaeologists Conference, Tucson, Arizona: Joint paper presentation with Prof. TN Huffman: *Ethnography and Late Iron Age Burials in Southern Africa.*

August-September 2001: African Archaeology in Global Perspective Conference, Bergen, Norway. Paper presented: *Communing with the Dead: Shona mortuary practices.*

SELECTED SAMPLES OF UNPUBLISHED ARCHAEOLOGICAL & HIA RESEARCH REPORTS

Murimbika, M. February 2008. *Archaeological & Cultural Heritage Impact Assessment Study for DOT Access Roads Bergville, Estcourt, and Ladysmith in KZN Province.* Pietermaritzburg: HeSSA

Murimbika, M. February 2008. *Archaeological & Cultural Heritage Impact Assessment Study for Eskom Transmission Sishen-Saldanha Powerline Substations.* Cape Town, Western Cap/ Northern Cape Provinces.

Murimbika, M. March 2008. *Archaeological & Cultural Heritage Impact Assessment Study for Eskom Nondela Substation and Powerline, Drakensberg, in KZN Province.* Pietermaritzburg: HeSSA

Murimbika, M. February 2008. *Archaeological & Cultural Heritage Impact Assessment Study for 41 Distribution powerlines for Eskom Northern Region.* Limpopo.

Murimbika, M. October 2007. *Archaeological Resources Management Plan Report for Capricorn District Municipality, Limpopo Province, South Africa.* Polokwane: Nzumbululo Heritage Solutions.

Murimbika, M. July 2007. *Integrated Cultural Resources Management Plan Report for Nkangala District Municipality, Mpumalanga Province, South Africa.* Polokwane: Nzumbululo Heritage Solutions.

Murimbika, M. March 2007. *Integrated Archaeological Resources Management Plan for Addo Elephant National Park, Eastern Cape Province, South Africa.* Polokwane: Nzumbululo Heritage Solutions.

Murimbika, M. March 2007. *Integrated Cultural Resources Management Plan Report for Nkangala District Municipality, Mpumalanga Province, South Africa.* Polokwane: Nzumbululo Heritage Solutions.

Murimbika, M. April 2005. *Cultural Heritage Impact Assessment Study for Oliphants River Water Resources Development Project, Limpopo/Mpumalanga Provinces*. Pietermaritzburg: ICRM/ Nzumbululo H. S.

PROFESSIONAL BOADIES AND ASSOCIATIONS:

- Member: **Limpopo Heritage Resources Agency Council** (Appointed to Provincial Statutory Body for the 2007 – 2009 term)
- Member: Gauteng **Provincial Heritage Resources Agency Council** (nominated and appointed to Statutory Body from the 2006 – 2008 term – stepped down 2007)
- Member: **Association of Southern African Professional Archaeologists (ASAPA) Practice No. 194**
- Accredited Principal Investigator: **Cultural Resources Management Section - ASAPA Practice No. 194**
- Associate (observer Status): **International Committee on Archaeological Heritage Management**
- Member: **South African Heritage Resources Agency (SAHRA) Limpopo Review Committee**
- Accredited Principal Archaeologist & Heritage Resources Management Practitioner **Amafa KwaZulu Natal**
- Member: **Society of Africanist Archaeologists (SAfA)**
- Member: **World Archaeological Congress (WAC)**.
- Member – 2000 to 2003: **Archaeological Task Group (ATG)** (Culture and Heritage Advisory Committee to the JMC of the SANParks Board).

REFEREES

1. Professor T. N. Huffman

School of Geography, Archaeology,
& Environmental Studies, University of
the Witwatersrand, P. Bag 3 WITS, 2050.
South Africa.

Tel: +27 11 7176042/45;

Fax: +27 11 3391620;

Email: Thomas.huffman@wits.ac.za

2. Ms M. W. Maina

Deputy Director: Dept of Public Work,
Roads & Transport (Gauteng)

Cell Phone: 083 640 5638;

Tel: 011 355 9568

Fax: 011 355 9365

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3. Gavin Whitelaw

Archaeology & Anthropology Department,
Natal Museum; P. Bag 9070;
Pietermaritzburg, 3200

Tel: 033 345 1404;

Fax: 033 345 0561

Cell: 076 270 8174;

Email: whitelawg@nmsa.org

4. Eng. Newton Chirowa

CEO: Mukhaha Consulting Engineers

345 Postnet, P. Bag 9307,
Polokwane

Tel: +27 15 297 8066

Fax: +27 15 297 0059

Email: Newton@hessa.co.za

SELECTED DETAILS FOR SAMPLE PROJECTS BY Dr. M. MURIMBIKA

Assignment Name: Environmental Impact Assessment for 5 Substations & Powerlines in Northern Cape to Western Cape Provinces	Approx. value of contract in ZAR: R2.2 Million Value of Archaeological and HIA contract by Dr. Murimbika in ZAR: R98,000.00
Country: South Africa Location within Country: Northern Cape to Western Cape Provinces	Duration of Assignment (Months): 12 Months Contract
Name of Client: Nzumbululo Heritage Solutions on behalf of ESKOM Transmission	Total No. of Staff-Months of the assignment: 2
Start Date: February 2008 Completion Date: March 2008	No. of Professional Staff-months provided by associated Consultants: Six [6]
Name of Associated Consultant (If any): Variable per assignment	Name of Senior Professional Staff involved and functions performed: <ul style="list-style-type: none"> Dr. McEdward Murimbika – Professional Archaeologist
Narrative Description of Project: Nzumbululo Heritage Solutions is contracted by ESKOM Transmission to provide EIA services for substation and powerline development projects in the Northern Cape and Western Cape Provinces for a period of 12 months. This would involve environmental assessment, project management, public participation coordination, specialist input coordination and liaison with compliant agencies such as government environmental departments. Nzumbululo Heritage Solutions subcontracted Dr. M Murimbika to conduct the HIA study	
Description of Actual services provided by Dr. M. Murimbika within the assignment: Dr. Murimbika was responsible for the Archaeological, palaeontological and heritage impact assessment studies during scoping, EIA and EMP phases. He will also be responsible for monitoring the project during construction phase as stipulated by the Heritage Authority, SAHRA. The process involved field research, production field study HIA reports,	

Assignment Name: EIA & HIA studies for Eskom Distribution Powerlines (Northern Region)	Approx. value of contract in ZAR: R3 Million over 2 years Value of Archaeological and HIA contract services for Dr. M. Murimbika ZAR: R300,000.00 over 2 years
Country: South Africa Location within Country: Northern Cape to Western Cape Provinces	Duration of Assignment (Months): 24 Months Contract
Name of Client: Nzumbululo Heritage Solutions on behalf of ESKOM Transmission	Total No. of Staff-Months of the assignment: N/A
Start Date: February 2008 Completion Date: March 2008	No. of Professional Staff-months provided by associated Consultants: Six [6]
Name of Associated Consultant (If any): Variable per assignment	Name of Senior Professional Staff involved and functions performed: <ul style="list-style-type: none"> Dr. McEdward Murimbika – Professional Archaeologist
Narrative Description of Project: Nzumbululo Heritage Solutions is contracted by ESKOM Transmission to provide EIA services for substation and powerline development projects in the Northern Cape and Western Cape Provinces for a period of one years. This would involve environmental assessment, project management, public participation coordination, specialist input coordination and liaison with compliant agencies such as government environmental departments. Nzumbululo Heritage Solutions subcontracted Dr. M Murimbika to conduct the HIA study	

Description of Actual services provided by Dr. M. Murimbika within the assignment: Dr. Murimbika was responsible for the Archaeological, palaeontological and heritage impact assessment studies during scoping, EIA and EMP phases. He also responsible for monitoring the project during construction phase as stipulated by the Heritage Authority, SAHRA. The process involved field research, production field study HIA technical reports as well as conservation plan as part of the project EMP.

Assignment Name: EIA & HIA studies for DOT, KZN	Approx. value of contract in ZAR: R378,000.00 Value of Archaeological and HIA contract for Dr. M. Murimbika ZAR: R300,000.00 over 2 years
Country: South Africa Location within Country: Northern Cape to Western Cape Provinces	Duration of Assignment (Months): 12 Months Contract
Name of Client: INR & DOT, Estcourt Cost Centre, KZN	Total No. of Staff-Months of the assignment: N/A
Start Date: February 2008 Completion Date: March 2008	No. of Professional Staff-months provided by associated Consultants: N/A
Name of Associated Consultant (If any): Subcontracted by INR	Name of Senior Professional Staff involved and functions performed: <ul style="list-style-type: none"> Dr. McEdward Murimbika – Professional Archaeologist / Heritage Expert
Narrative Description of Project: INR is contracted by DOT, KNZ to provide EIA services for substation and road development projects in the KZN for a period of one year. This would involve environmental assessment, project management, public participation coordination, specialist input coordination and liaison with compliant agencies such as government environmental departments. INR subcontracted Dr. M Murimbika to conduct the HIA study for 14 of the roads under their projects	
Description of Actual services provided by Dr. M. Murimbika within the assignment: Dr. Murimbika was responsible for the Archaeological, palaeontological and heritage impact assessment studies during scoping, EIA and EMP phases. He will also be responsible for monitoring the project during construction phase as stipulated by the Heritage Authority, SAHRA. The process involved field research, production field study HIA reports and approvals by Amafa, KZN.	

Assignment Name: Heritage Conservation Management Plans for Capricorn District, Limpopo	Approx. value of contract in ZAR: R750,000.00 Value of Archaeological and HIA contract for Dr. Murimbika in ZAR: R102,000.00
Country: South Africa Location within Country: Northern Cape to Western Cape Provinces	Duration of Assignment (Months): 14 Months Contract
Name of Client: Capricorn District Municipality	Total No. of Staff-Months of the assignment: N/A
Start Date: June 2007 Completion Date: March 2008	No. of Professional Staff-months provided by associated Consultants: n/a
Name of Associated Consultant (If any): Variable per assignment	Name of Senior Professional Staff involved and functions performed: <ul style="list-style-type: none"> Dr. McEdward Murimbika – Professional Archaeologist

Narrative Description of Project: Nzumbululo Heritage Solutions is contracted by Capricorn District to provide conservation management plans for the selected municipalities for the district. Nzumbululo subcontracted Dr. M. Murimbika to develop the Heritage Conservation Management Plans for the CDM.

Description of Actual services provided by Dr. M. Murimbika within the assignment: Dr. Murimbika was responsible for the Archaeological, palaeontological and Physical Cultural heritage property studies for the Management Plans, production of relevant reports and overall ICRMP.

MENNO KLAPWIJK

LANDSCAPE ARCHITECT AND ENVIRONMENTAL PLANNER

PRESENT POSITION IN FIRM: Principal – Cave Klapwijk and Associates

DATE OF BIRTH: 9 June 1954

NATIONALITY: South African

LANGUAGE: Mother Tongue: English
Others: Afrikaans

ACADEMIC QUALIFICATIONS: 1983 : B.Sc. (Landscape Architecture) Texas A&M University, USA.
1986 : Environmental Impact Assessment, Graduate School of Business, University of Cape Town.

PROFESSIONAL QUALIFICATION: Registered Landscape Architect

KEY FIELDS OF EXPERIENCE: Particular aspects of experience include:

- Site / master planning and development.
- Landscape design for corporate headquarters, office and industrial parks, housing developments, hotels, plazas and pedestrian malls.
- Recreation planning.
- Planning and design for conservation areas, natural resource areas, nature reserves and game farms.
- Integrated environmental assessment and planning for existing and future land uses.
- Visual impact assessment.
- Mining and quarry reclamation and development planning and design.

PROFESSIONAL REGISTRATION AND MEMBERSHIP: **Registered:** South African Council for Landscape Architecture (SACLAP)
Member: Institute of Landscape Architects of South Africa (ILASA).
Member: American Society of Landscape Architects (ASLA).
Member: International Association of Impact Assessors (SA).
Associate: Institute of Waste Management.

YEARS OF EXPERIENCE AND CAREER SUMMARY: Twenty six years as landscape architect and environmental planner in the United States of America, Angola, Namibia, Botswana, Lesotho, Swaziland, Mozambique and South Africa

1989 - present: Cave Klapwijk and Associates, Pretoria - Principal

1988 - 1989: Plan Associates, Pretoria - Senior Landscape Architect, Associate.

1983 - 1988: Chris Mulder Associates Inc., Pretoria - Senior Landscape Architect.

1982 - 1983: Austin and Landphair (SHWC), Landscape Architects, College Station, Texas.

ADVISORY POSITIONS:

- Executive Central Council Member (Institute of Landscape Architects of South Africa) (1986-1991).
- Elected member of the Board of Control for Landscape Architects of South Africa (1995 – 2001)
- City Council of Pretoria, ILASA representative on Town Planning and Aesthetics Committee (1987 - 2001).
- External Examiner, Department of Landscape Architecture, University of Pretoria (1985 - present).

Peer Reviewer for:

- Shell Ultra City, Johannesburg for CSIR
- Alpha Cement Factory, Saldanha for Mark Wood Consultants
- Coega IDZ and Harbour, Port Elizabeth for African Environmental Solutions

PROFESSIONAL AWARDS AND COMPETITIONS:

- 2007 • Institute of Landscape Architects of South Africa (ILASA) Award of Excellence: Category Environmental Planning: **Taung Skull World Heritage Site**
- 2001 • Institute of Landscape Architects of South Africa (ILASA) National Award of Merit: Category Environmental Planning: **Driekoppies Dam**
- 1997 • SAACE Construction World: **Olifants-Sand Water Transfer Scheme**
- 1996 • Premier and National Awards from the Concrete Manufacturer's Association for paving design: **Hatfield Plaza**.
- 1995 • EPPIC National Premium Award: **Venetia Balance**.
• South African Landscape Contractors Institute (SALI). Silver Award: **Bentel Abramson Head Office** (with Eksklusiewe Tuine).
• South African Landscape Contractors Institute (SALI). Silver Award: **AFCOL Head Office** (with Eksklusiewe Tuine).
- 1994 • South African Landscape Contractors Institute (SALI). Gold Award: **Hampton Park** (with Eksklusiewe Tuine).
• South African Landscape Contractors Institute (SALI). Silver Award: **Gilooly's View** (with Eksklusiewe Tuine).
- 1992 • Institute of Landscape Architects of South Africa (ILASA). Commendation: **Tourism RSA**.
- 1991 • Institute of Landscape Architects of South Africa. National Award of Merit: Category Environmental Planning: **Limpopo (Greefswald) Government Water Scheme**.
• First place in design competition for the **Chris Barnard Health Centre** (with H. Taljaard Carter and Partners).
- 1987 • American Society of Landscape Architects. Honour Award: Category Planning and Research: **Songimvelo Natural Resource Areas** (with CMAI).
- 1986 • Commendation: Design competition for **Bloemfontein Urban River Front**.
- 1983 • Sigma Lambda Alpha Landscape Architecture Academic Honour Society (USA).
• Merit Award for academic excellence, Texas Chapter ASLA.
- 1982 • Faculty Award, Texas A&M University.
- 1981 • Faculty Award, University of Pretoria.
- 1980 • ILASA Student Award.
- 1979 • ILASA Student Award.

RANDALL B. GROSS

Profession: Economic, Development, & Strategic Planning Consultant
Position: Director/CEO
Expertise: *Local Economic & Community Development; Public Policy Analysis; Development Economics - Project Market & Financial Feasibility; Tourism Development; Economic & Fiscal Impact Analysis; Strategic Planning; Labour Force Economics; Public-Private Partnerships; Planning & Transportation Economics; Capacity-Building & Training*

Randall Gross has 20 years' experience providing strategic economic and development consulting services for local, regional and national governments; private companies; and non-profit agencies. He has worked closely with local government officials from the U.S., Russia, South Africa and other countries on 400 projects to enhance their capacity for sustainable community and economic development, citizen participation, asset management, and policy formation.

Mr. Gross brings particular expertise in market and development feasibility analysis to test the economic viability of projects; fiscal and economic impact analysis to gauge public costs and benefits; and public policy analysis to evaluate and monitor policy decisions. He also provides comprehensive implementation strategies that form the bases for industrial & economic development, tourism, and community revitalization.

Among his high-profile projects, he identified trade and investment opportunities in South Africa as Lead Consultant for the Gore-Mbeki trade talks; and he assisted the Development Bank of Southern Africa (DBSA) in conceptualizing the region's first economic development corridor. Recently, he assisted Gauteng Province with financial & CED work for the Cradle of Humankind World Heritage Site. In the Philippines, he worked with a world-renowned architect in determining the feasibility of the country's first "new urbanist" planned development. He worked with Airports Company South Africa on an economic development strategy for Cape Town International Airport environs. In Mozambique, he assessed the economic viability of redevelopment of a rail line and prepared an economic development strategy for the Zambezi River Valley.

In addition to his economic analyses, Mr. Gross helps build capacity through hands-on strategic planning and training worldwide. In London, Mr. Gross established the research program for BURA, the British Urban Regeneration Association. On USAID-funded projects, he has provided training in economic development, citizen participation, and urban revitalization for local government officials. He has trained South African local officials in financing infrastructure through Municipal Service Partnerships.

Mr. Gross is founder of a Division of the 30,000-member American Planning Association (APA), and was elected in 2004 to the National Capital APA Board as well as to the Board of the Georgetown Public Policy Institute. He was a speaker at the 2003 World Summit for Sustainable Development. He has worked in local government, deciding property tax appeals cases in Chicago for the world's largest tax appeals agency. He also worked for state and federal government and in the non-profit sector, before entering consulting.

Education

Masters in Public Policy, Georgetown University. – Washington, DC
BA Arts & Sciences, Northwestern Univ. (Poli. Sci. & Urban Studies) – Chicago, IL
Certificate in Urban Politics, Northwestern University.

Professional Experience

Director, Randall Gross / Development Economics, Washington, DC (1997--) & **Director, African Development Economic Consultants (ADEC), Johannesburg (2003-)**. Consultant specializing in development economics, municipal finance, and strategic planning. Provides economic and tourism development strategies, policy analysis, fiscal & economic impact assessments, targeted industrial and employment generation strategies, property development feasibility analyses, and community revitalization strategies. Provides training and management services for local governments. Clients are local, regional and national governments; universities; private developers; and non-profit agencies.

Senior Associate, Hammer, Siler, George Assoc., Silver Spring, MD (1988-1997). Managed, directed and/or consulted on over 110 economic consulting assignments for public and private clients ranging from the Town of Appalachia to the U.S. Department of Defense and XEROX Corporation. Specialized in project feasibility & fiscal impacts, urban revitalization, military base reuse, university research & technology development, tourism & economic development strategies. Assisted governments with program budgeting, financing strategies & asset management. Planned/managed conference events, directed membership development & edited newsletter as founder and chairman of APA Division.

Editor / Research Assistant, The Independent Sector, Washington, DC (1988). Edited *Research in Progress*, the international compendium of research on the not-for-profit and voluntary sectors. Identified and assessed research activities relating to the management, tax & legal status, development, financing, & impacts of NGOs & non-profits throughout the world.

Research Assistant, U.S. National Endowment for the Arts, Washington, DC (1987). Provided modeling & policy analysis for the National Survey of Public Participation in the Arts.

Case Analyst & Assistant to the Commissioner, Cook County Board of Appeals, Chicago, IL (1985-1986). Decided over 100 individual property tax appeals cases ranging from single family homes to large commercial investment properties. Conducted citizen outreach as Board representative. Wrote press releases and acted as Media Liaison. Managed tax impact and investment studies. Assisted with program policy and strategy as Assistant to Commissioner.

Research Director, Democratic Campaign for Illinois State Treasurer, Chicago (1986). Managed/directed research on consumer banking & financial institution policy. Assisted in determining campaign strategy & electioneering. Developed the Illinois Citizens Insurance Board to represent insurance consumers before State government.

Professional Memberships and Honors

Division Chair, American Planning Association (APA), 1998-2003
Committee Member, American Economic Development Council (AEDC), 1996-1998
Nominated for Loeb Fellowship, Harvard University, 2000
Elected Board Member, National Capital American Planning Assn 2004-;
Elected Board Member, Georgetown Public Policy Institute 2004-
Project of the Year (Pen Lucy Neighbourhood), Neighbourhood Design Center (NDC), 1995
Editor, International Council for Urban Economic Development (CUED)
Base Reuse Newsletter, 1996-1997
Annual Project Award (Transit-Oriented Development), National Capital Chapter APA, 2001

Steven Edward Piper
Curriculum Vitae
(January 2006)

Steven Edward Piper was born in Durban where he spent most of his life. His schooling was in Westville and at Kearsney College. He studied at the Universities of KwaZulu-Natal (B.Sc. Chemical Engineering), Witwatersrand (M.Sc. *cum laude* Applied Statistics) and Cape Town (Ph.D. Applied Mathematics). Initially he worked in industry but soon developed an interest in ornithology, both as an avocation and later as a vocation. He joined the University of KwaZulu-Natal in 1977 where he stayed for 28 years as a Lecturer, Senior Lecturer and Associate Professor holding posts in Mathematical Statistics, Surveying and Mapping, Psychology and Biological and Conservation Sciences. About the time he joined the University of KwaZulu-Natal he initiated two long-term demographic studies, one of the Cape Griffon Vulture (*Gyps coprotheres*) and the other of the Long-tailed Wagtail (*Motacilla clara*) and these have run for 28 and 29 years respectively. He has published over 30 papers in the scholarly literature, many in his specialisations and also with other scientists, many of these arising out of collaborations with scientists in southern Africa and abroad. His scholarship was recognised when he was asked to contribute the bulk of the vulture and wagtail species texts for the new ornithological reference work "*Roberts – birds of southern Africa VIIth Ed.*". He is now retired but continues his association with the University of KwaZulu-Natal by supervising students, conducting research and publishing papers.

Biographical details

Name: Steven Edward Piper.
Born: Durban, 28th February 1945.
Married: Andrea Berruti, 23rd February 1967 (a UKZN graduate).
Children: Laurence Edward Piper and Tanya Lynne Piper (both UKZN graduates).
Residence: 12 Woodford Road, Underberg, 3257, KwaZulu-Natal.
Postal: P.O. Box 654, Underberg, 3257, KwaZulu-Natal.
Telephone: 033 7011 741.
Facsimile: 033 7011 741.
Cellular: 072 599 7490.

Education

Primary: Westville School, 1951 to 1958.
Secondary: Kearsney College, 1959 to 1962.
Tertiary: University of KwaZulu-Natal, B.Sc. Chemical Engineering, 1963 to 1967.
University of Witwatersrand, M.Sc. Applied Statistics under supervision of Prof. Tony Starfield, 1973 to 1978 (part time), degree awarded *cum laude*.
University of Cape Town, Ph.D. Applied Mathematics under supervision of Prof. Doug Butterworth, 1983 to 1994 (part time).

Employment

University of Natal, Department of Chemical Engineering, Graduate Assistant and Tutor, 1st January to 31st December 1968.

Natal Technical College, Department of Science, Part-time lecturer, Mathematics, 1st January to 31st December 1968.

National Institute for Metallurgy, Johannesburg. (Never did find out!). 1st January to 30th June 1969.

African Explosives and Chemical Industries, Operations Research Analyst. 1st July to 30th November 1969.

Rhodesian Oxygen, Operations Research Analyst. 1st December 1969 to 30th October 1970.

African Oxygen, Operations Research Analyst. 1st November 1970 to 31st December 1972.

Hewlett-Packard, Software Support Engineer (half day). 1st January 1973 to 31st December 1973.

University of Witwatersrand, Department of Botany, Tutor, 1st August to 31st December 1973 (The exact dates are not certain).

University of Cape Town, Department of Applied Mathematics, Junior Lecturer, 1st January 1974 to 31st December 1975. Also, School of Environmental Studies, Tutor in Human Demography.

Unilever Group, Durban. Operations Research Analyst. 1st January 1976 to 31st December 1976.

Independent Software Consultant. 1st January to (about) 31st July 1977.

University of KwaZulu-Natal. Department of Mathematical Statistics, Temporary lecturer. 1st August 1977 to 31st December 1978.

Department of Land Surveying (later Surveying and Mapping), Permanent, Senior Lecturer. 1st January 1979 to 30th June 2000.

Department of Psychology. Senior Lecturer and later Associate Professor. 1st July 2000 to 31st December 1996.

Department of Zoology (later School of Botany and Zoology and still later School of Biological and Conservation Sciences), Associate Professor. 1st January 1997 to 31st July 2005.

Publications

The publications listed below have been grouped so that like is with like and in approximate order of importance to academic ‘bean counters’.

Refereed journal articles

Anderson, D. M., S. E. Piper and G. E. Swan (2005). Non-steroidal anti-inflammatory drug use in South Africa and possible effects on vultures. *South African Journal of Science* **101**: 112-114.

Boudreau, S., M. J. Lawes, S. E. Piper and L. J. Phadima (2005). Subsistence harvesting of pole-size understorey species from Ongoye Forest Reserve, South Africa: species preference, harvest intensity and implications for understorey tree dynamics. *Forest Ecology and Management* **216**: 149-165.

Boshoff, A. F. and S. E. Piper (1992). Temporal and spatial variations in community indices of waterbirds at a coastal wetland, southern Cape Province. *South African Journal of Wildlife Research* **22**: 17-25.

- Boshoff, A. F. and S. E. Piper (1993). An ordination study of the waterbird community of a coastal wetland, southern Cape Province. *South African Journal of Wildlife Management* **23**(1): 17-25.
- Boshoff, A. F., A. Palmer and S. E. Piper (1991). Spatial and temporal abundance, patterns of water birds in the southern Cape Province. Part I: Diving and surface predators. *Ostrich* **62**(3&4): 156-177.
- Boshoff, A. F., A. Palmer and S. E. Piper (1991). Spatial and temporal abundance, patterns of water birds in the southern Cape Province. Part II: Waterfowl. *Ostrich* **62**(3&4): 178 -196.
- Boshoff, A. F., A. Palmer and S. E. Piper (1991). Spatial and temporal abundance, patterns of water birds in the southern Cape Province. Part III: Wading Birds. *Ostrich* **62**(3&4): 197-214.
- Brown, C. J. and S. E. Piper (1988). Status of the Cape Vulture in the Natal Drakensberg and their cliff site selection. *Ostrich* **59**: 126-136.
- Evans, L. B. and S. E. Piper (1981). Bone abnormalities in the Cape Vulture (*Gyps coprotheres*). *Journal of the South African Veterinary Association* **52**(1): 67-68.
- Fincham, R. and S. Piper (1991). (D) Urbanisation data. *Indicator SA* **8**(2): 51-54.
- Henzi, S. P., J. E. Lycett and S. E. Piper (1997). Fission and troop size in a mountain baboon population. *Animal Behaviour* **53**: 525-535.
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- Lawes, M. J. and S. E. Piper (1992). Activity patterns in free-ranging Samango Monkeys (*Cercopithecus mitis erythrarchus* Peters, 1852) at the Southern Range limit. *Folia Primatologica* **59**: 186-202.
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Dissertation and thesis

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David George Allan - CV

1 ACADEMIC QUALIFICATIONS

B.A. (legal, Wits) 1981.

B.Sc. Honours (zoology, Wits) 1985 (first class pass).

M.Sc. (zoology, UCT) 1994 (awarded with distinction).

2 RELEVANT EMPLOYMENT

Summary

1979	former Transvaal Provincial Division of Nature Conservation
1982-1987	former Transvaal Provincial Division of Nature Conservation
1987-1990	Percy FitzPatrick Institute of African Ornithology, University of Cape Town
1990-1996	Avian Demography Unit, University of Cape Town
1996-present	Durban Natural Science Museum

2.1 Transvaal Provincial Division of Nature Conservation

I was employed by the then Transvaal Division of Nature Conservation (TDNC) in 1979 as a Nature Conservation Officer assisting Dr W.R. Tarboton with a survey of the status and conservation of birds of prey in the Transvaal. I was re-employed by TDNC in July 1982, after two years full-time study, again as an NCO assisting Dr Tarboton with a survey of the threatened birds of the Transvaal, especially Bald Ibis, Wattled Crane and other highveld grassland species, and with the Transvaal bird atlas. In February 1985 I was promoted to Nature Conservation Scientist on completion of my BSc Honours. My new post was examining the conservation status of the pan wetland ecosystems in the Transvaal highveld and this included a large amount of waterbird censusing.

2.2 Percy FitzPatrick Institute of African Ornithology

I left TNCD in April 1987 to take up a Research Officer position at the Percy FitzPatrick Institute of African Ornithology at the University of Cape Town studying the ecology and conservation of the Blue Crane and large bustards in southern Africa for an MSc degree in Zoology and remained there until March 1990. My thesis was entitled "Aspects of the biology and conservation status of the Blue Crane *Anthropoides paradiseus*, and the Ludwig's *Neotis ludwigii* and Stanley's *N. denhami stanleyi* bustards in southern Africa".

2.3 Avian Demography Unit

I was employed as a Senior Scientific Officer at the Avian Demography Unit (ADU), University of Cape Town in April 1990. My major responsibilities with the ADU included the Southern African Bird Atlas Project (SABAP), for which I was initially the professional fieldworker and latterly became involved with the vetting of the data, and the editing and writing of the text. The team of editors of *The Atlas of Southern African Birds* were jointly awarded the John F.W. Herschell Medal of the Royal Society of South Africa. This gold medal is awarded for "outstanding contributions to science in southern Africa, especially of a multi-disciplinary nature". I was also the project manager, working with an assistant, co-ordinating the Important Bird Areas (IBAs) Programme in southern Africa for BirdLife International.

While at the ADU I was also involved in the baseline biological survey (birds) at the Katse Dam site in Lesotho (Lesotho Highlands Water Scheme) and was the team leader of the subsequent monitoring scheme managing a small team of ornithologists involved with this effort (mainly while at the Durban Natural Science Museum). I was also the team leader of the baseline biological survey (birds) at the Mohale Dam site. I initiated a successful pilot study for the Co-ordinated Avifaunal Road Counts

(CAR) project and this effort was subsequently expanded nation-wide. I was also charged with revitalizing the Southern African Ornithological Society's nest record card scheme (NERCS) and produced a draft booklet, nest record card and colony record sheet for this project.

I left the ADU at the end of May 1996 to take up my current employment as Curator of Birds at the Durban Natural Science Museum. I recently served a nine-month stint as Acting Director of the Museum (Feb-Oct 2010).

3 SUMMARY OF HONORARY POSITIONS, EDITORSHIPS, MEETINGS ATTENDED, LECTURESHIPS AND OTHER ORAL PRESENTATIONS, ENVIRONMENTAL IMPACT ASSESSMENTS AND PUBLICATIONS

I hold, or have held, 34 honorary positions associated with ornithology, including membership the BirdLife International African Important Bird Areas Steering Committee 1994-1996, Chairmanship of the BirdLife South Africa Scientific Committee 1996-1998, Honorary Research Associate, University of Cape Town 1996-present, membership of the Local Organising Committee for the 22nd International Ornithological Congress held in Durban in 1998, AND Chairmanship of BirdLife Port Natal 2001-2003. At present I serve on the following honorary bodies: Vice-Chairman, eThekweni Avian Influenza Pandemic Preparedness Plan Committee, February (2006 – present), Member, KwaZulu-Natal Regional Rarities Committee (2006 – present), Member, Bearded Vulture Task Force, Bird of Prey Working Group of the Endangered Wildlife Trust (006 – present), Member, Steering Committee, Southern African Bird Atlas Project (2007- present), Member, BirdLife South Africa National Rarities Committee (2007 – present), and Member, BirdLife South Africa List Committee (2010 – present).

I was the senior editor of the *Journal of African Raptor Biology* during the period 1992-1997, overseeing the production of 8 editions. I was the editor of *KZN Birds* (the newsletter of the KwaZulu-Natal Branches of BirdLife South Africa) during the period 2004-2007, overseeing the production of 13 editions. I am currently editor of the *Durban Museum Novitates* (a SAPSE-rated journal) and have overseen the production of 10 editions so far. I am the founding editor of *Bustard Beat*, the electronic newsletter of BirdLife South Africa, hosted on their website, and have produced two editions to date.

In September 1997 I presented, as a substitute lecturer, 10 lectures and four practicals to the third-year zoology class at the University of Durban-Westville covering the subject of Avian Biology. In April-May 2002. I presented, again as a substitute lecturer, 15 lectures and six practicals to a third-year class at the same university covering the subject of Conservation Biology. Both of these courses were part of the formal curriculum and were included in the respective examinations for the degree. I have co-supervised one doctoral student and am currently supervising one Masters student. I have acted as an examiner for several Masters theses. I have refereed numerous scientific papers for a wide variety of journals. I have also reviewed numerous funding applications (e.g. for the South African National Research Foundation and WWF-SA).

The summary of my publications, totalling some 449 publications to date, and almost exclusively on ornithology, is as follows:

- Second of seven editors of the two-volume scientific book: *The atlas of southern African birds*, published in August 1997.
- Co-author of a book-length scientific monograph on birds of prey.
- One book foreword.
- Four chapters in scientific books.
- Fifty-nine scientific papers in refereed journals.
- Forty-seven species accounts in: *The atlas of southern African birds*.
- Twenty-nine species accounts in: *Roberts' birds of southern Africa. Seventh edition* (in press)
- Thirteen species accounts in: *The Eskom red data book of birds of South Africa, Lesotho and Swaziland*.

- Eight species accounts in the *Handbook of the Birds of the World Vol. 14* (helmet-shrikes).
- Two species accounts in: *Big birds on farms: Mazda CAR report 1993-2002*.
- One species account: *Bird families of the world: ducks, geese and swans*.
- Six scientific abstracts.
- Two popular books on birds of prey.
- Four chapters in popular books.
- Three popular booklets.
- One-hundred-and-sixteen popular articles in magazines.
- One-hundred-and-two popular articles in informal newsletters.
- Six obituaries (covering Dr P.A. Clancey)
- Twenty-nine book reviews.
- Eight newspaper articles.
- Six articles in popular electronic newsletters

In addition, I also authored 67 species accounts in the *Roberts' multimedia birds of southern Africa, version 3*, a cd-rom presentation, and was primarily responsible for producing 906 bird distribution maps covering southern Africa for *The field companion to Roberts' birds of southern Africa, 2nd edition*.

I have attended 50 scientific or conservation meetings, some of which I have convened myself or acted as a session chairman, and at most meetings I have given oral presentations, which were frequently also subsequently published in the proceedings of the meetings or elsewhere. I have had eight posters presented at scientific meetings.

I have presented numerous popular course and talks/lectures over the past 30 years or so to a wide variety of audiences (30 courses and 124 talks/lectures alone in the period since I arrived at the Museum in July 1996 to date).

I have also been extensively involved in environmental impact assessment and monitoring projects, and similar formal assessments, having tackled 63 of these to date, along with producing their associated detailed reports.

Full lists of these honorary positions, editorships, publications, scientific meetings attended, lectureships and other oral presentations can be provided.

4 AVIAN ENVIRONMENTAL IMPACT ASSESSMENTS AND SIMILAR FORMAL REPORTS

- 1987. Report on the Blue Swallow in South Africa and Swaziland. Contract from Endangered Wildlife Trust.
- 1989. Potential nuclear power station site between Pearly Beach and Quoin Point in the southern Cape. Contract from Environmental Evaluation Unit, University of Cape Town, for Eskom.
- 1989. Conservation value of the Macassar Dune system near Cape Town. Contract from local authority with Mr Barrie Low of the University of the Western Cape.
- 1990. Residential development at Jakkalsfontein on the Cape west coast. Contract from developers EMATEK, CSIR and sub-contracted to Mr Barrie Low of the University of the Western Cape.
- 1990. Heavy mineral sands mine on the Cape west coast. Contract from Environmental Evaluation Unit, University of Cape Town.
- 1993. Potential impact of residential development on the north banks of Rietvlei, Western Cape. Contract from Environmental Evaluation Unit, University of Cape Town.
- 1993. Ecological management plan for Rietvlei wetland near Cape Town. Contract from Southern African Nature Foundation with EMATEK, CSIR.
- 1993. Katse Dam site baseline biological survey in Lesotho Contract from Loxton, Venn & Associates for Lesotho Highlands Development Authority.
- 1994. Potential impact of a powerline construction in Natal. Contract from Eskom.
- 1994. Potential impact of a gold mine in Mali on migratory birds. Contract from Anglo American

Corporation.

- 1994. Potential impact of a powerline construction between De Aar and Beaufort West in the Karoo. Contract from Eskom.
- 1995. Investigation of the impact of potential vanadium poisoning on bird populations at an Mpumalanga Province vanadium processing plant. Contract from the South African Department of Agriculture.
- 1995. Bird atlas-based investigation of Red-billed Quelea and non-target species. Contract from the South African Department of Agriculture.
- 1995. Assessment of the avifauna of Yzerfontein Pan, north of Cape Town. Contract from Salt Lake Syndicate.
- 1995. Bird atlas-based investigation of the impact of commercial afforestation on bird populations in Mpumalanga Province. Contract from the Division of Forest Science and Technology, Council for Scientific and Industrial Research.
- 1995. Assessment of the Mazonod-Mohale Dam powerline in Lesotho, examining routing, line marking and the mitigation of potential bird collisions with this line. Contract from Mark Wood Consultants, on behalf of the Lesotho Highlands Development Authority.
- 1996. Application for Ramsar status for Rietvlei Wetland Reserve, Western Cape. On behalf of Milnerton Municipality.
- 1996. Mohale Dam baseline biological survey in Lesotho, including a downstream survey. Contract from AfriDev Consultants for Lesotho Highlands Development Authority.
- 1997. Potential impact of water extraction on the Kavango River (Namibia) and Okavango Delta (Botswana). Contract from AfriDev Consultants, through South African Council for Scientific and Industrial Research and for Namibian Dept of Water Affairs.
- 1998. Report on priorities for bird conservation in South Africa. Contract from BirdLife South Africa.
- 1998. Assessment of bird populations at Clairwood Racecourse, Durban, associated with a casino licence application. Contract from Institute of Natural Resources, University of KwaZulu-Natal, for Stocks & Stocks.
- 1998. Maguga Dam baseline biological survey on the Komati River in Swaziland. Contract from AfriDev Consultants for Komati Basin Water Authority.
- 1998. Crude oil pipeline between Durban and Vrede joint venture. Contract from Mark Wood Consultants, for SASOL.
- 1998. Ecotourism assessment of Coutada 4 hunting concession in Mozambique. Contract from Peace Parks Foundation, Cape Town, and Suimo Project Development and Project Management, Xai-Xai and Maputo.
- 1999. Assessment of the waterbirds of Durban Bay relevant to helicopter pilot service. Contract from GFJ Consulting Engineers and Project Managers through Eyethu Engineers for Portnet.
- 1999. Assessment of Grootvlei Pan, Gauteng, as part of road routing investigation. Contract from Envirobiz Africa through Cave, Klapwijk & Associates for N3TC.
- 1999. Potential impact of a proposed music festival on large breeding birds in Shongweni Resources Reserve, KwaZulu-Natal. Contract from Wildlife and Environment Society of South Africa and Msinsi Holdings.
- 2000. Gas pipeline between Komatipoort and Secunda. Contract from Mark Wood Consultants, for SASOL.
- 2001. Katse Dam site biological monitoring survey in Lesotho (Contract from AfriDev Consultants for Lesotho Highlands Development Authority).
- 2002. Assessment of waterbird populations in the Richards Bay area for ecotourism potential. Contract from BirdLife South Africa through Rio Tinto.
- 2003. South African White-winged Flufftail (*Sarothrura ayresii*) Action Plan. Contract from BirdLife South Africa.
- 2004. Survey of potential bird-powerline interactions along proposed new Benedict powerline in southern Zululand, KwaZulu-Natal. Contract from iSineke Developments for Eskom.
- 2004. Assessment of bird populations on the farm Boschoek in the KwaZulu-Natal Midlands relevant to a proposed housing development. Contract from David Totman & Associates.
- 2004. Proposed dredging of the Victoria Embankment yacht basin marina, Durban Harbour: avian considerations. Contract from Dr Roger Horner for eThekweni Municipality.
- 2005. Assessment of Vodacom's proposed Hella Hella mast site on Blue Swallows. Contract from

David Totman & Associates for Vodacom.

- 2005. Avian assessment of powerline-route options and potential mitigatory measures relevant to servicing the proposed Balgowan Country Estate residential development. Contract from David Totman & Associates for Eskom.
- 2005. Investigation into the impact of the beach-driving ban on White-fronted Plovers in the Greater St Lucia Wetland Park. Contract from ACER (Africa) Environmental Management Consultants for Ezemvelo KZN Wildlife.
- 2006. Assessment of the status and importance of the waterbirds of the Mdloti and Tongati estuaries, KwaZulu-Natal relevant to reserve determinations. Contract from Marine and Estuarine Research for eThekweni Waste-Water Department.
- 2006. An assessment of the ecosystem benefits supplied by Durban Bay and the implications of port development options. Contract from Transnet-Ethekweni Municipality Planning Initiative.
- Bearded Vulture (*Gypaetus barbatus meridionalis*) population and habitat viability assessment workshop report. Contract from Conservation Breeding Specialist Group (SSC/IUCN) / CBSG Southern Africa through Endangered Wildlife Trust.
- 2007. Assessment of Red Data bird species at the proposed La Mercy international airport site. Contract from Institute for Natural Resources, University of KwaZulu-Natal, for Airports Company of South Africa.
- 2007. Assessment of the status of, and compilation of a monitoring plan for, breeding sites of Bearded and Cape vultures in Lesotho. Contract from Maloti Drakensberg Ecology Consultants for Maloti Drakensberg Transfrontier Project (Lesotho).
- 2008. Interactions between wildlife and the energy and communications industries in southern Africa: identifying future research priorities. Contract from Endangered Wildlife Trust.
- 2008. Avian assessment of powerline-route options and potential mitigatory measures relevant to Umfolozi – Ncwane 88kV line and switching station, and 2 – the proposed Okuku-Hlabisa 24 km 88kV extension and 20MVA 88/22kV substation. Contract from Earth Consulting for Eskom.
- 2008. Avian assessment of powerline-route options and potential mitigatory measures relevant to an 11kV electricity supply line to the home of Mr Patrick Merrick on the farm Albury 14620, Lidgetton, KwaZulu-Natal. Contract from Eskom.
- 2008. Avifaunal screening study – proposed Richards Bay expansions of storage areas and cargo-handling facilities at the dry bulk and multi-purpose terminals. Contract from WSP Environmental (Pty) Ltd for Transnet.
- 2008. Avian assessment of powerline-route options and potential mitigatory measures relevant to servicing Vodacom Ntanyane Hill base station and mast. Contract from Environmental Planning Services for Vodacom.
- 2008. Avian assessment of powerline-route options and potential mitigatory measures relevant to servicing Vodacom Knostrope Pass base station and mast. Contract from Environmental Planning Services for Vodacom.
- 2008. Avian assessment of powerline-route options and potential mitigatory measures relevant to Mathafeni 132/33 kV 20 MVA substation and Mathafeni – Mt Frere 132 kV line. Contract from Earth Consulting for Eskom.
- 2008. Avian assessment of powerline-route options and potential mitigatory measures relevant to Corinth substation and 132 kV feeder line EIA. Contract from iSineke Developments for Eskom.
- 2008. Avifaunal issues relevant to route selection for the proposed N3TC road between Tugela Plaza and Warden. Contract from Cave, Klapwijk & Associates for N3 Toll Concession (N3TC).
- 2008. Avian assessment of powerline-route options and potential mitigatory measures relevant to provision of two 132 kV power lines between Eros 400/132 kV substation, Harding, and Port Edward substation, and the establishment of the new 132 kV substation at Zwelethu. Contract from SiVEST Environmental Division for Eskom.
- 2009. Assessment of the threats faced by South Africa's bustard species. Contract from BirdLife South Africa.
- 2009. Avifaunal assessment for the proposed geotechnical studies to be conducted in the Port of Richards Bay, KwaZulu-Natal. Contract from ACER (Africa) for Transet Capital Projects.
- 2009. Avian mitigation issues relevant to the Environmental Management Plan (EMP) for the hard-surfacing of the upper Sani Pass road (Phase 2). Contract from Arcus Gibb for Department of

Transport.

- 2009. Powerline servicing Vodacom Mfekayi proposed Vodacom cellular communications mast and base station: avifaunal screening report. Contract from Environmental Planning Services for Vodacom.
- 2009. Fikesuthi Mountain proposed Vodacom cellular communications mast, base station and servicing power line: avifaunal screening report. Contract from Environmental Planning Services for Vodacom.
- 2009. Baynesfield Estate proposed Vodacom cellular communications mast, base station and servicing power line: avifaunal screening report. Contract from Environmental Planning Services for Vodacom.
- 2009. Proposed provision of a 132 kV powerline from Ndwedwe substation to Appelbosch substation, and upgrading of appelbosch 33/11 substation to a 132/22 kV 20 MVA substation on a new site. Contract from SiVEST Environmental Division for Eskom.
- 2010. Ongoye Forest Important Bird Area - assessment and status report, July 2010. Contract from BirdLife South Africa.
- 2010. The avifauna of the King Shaka International Airport during the construction phase. Contract from Institute for Natural Resources for Airports Company of South Africa (ACSA).
- 2010. The status and importance of the waterbirds of the Mzimkulu estuary, KwaZulu-Natal. Contract from Marine and Estuarine Research for Department of Environmental Affairs.
- 2010. Avifaunal assessment of De Beers Pass Route Alternative A. Contract from Cave, Klapwijk & Associates for N3 Toll Concession (N3TC).

5 EXTERNAL PEER REVIEWS OF ENVIRONMENTAL IMPACT ASSESSMENT REPORTS

- ALLAN, D.G. 2008. External peer review of: avifauna specialist report as part of environmental impact assessment for Eskom transmission's proposed Majuba – Venus 765 kV transmission power line. *Durban Natural Science Museum Bird Department Research Report* 30: 1-7. (Contract from ACER (Africa) for Eskom)
- ALLAN, D.G. 2009. External peer review of: avifauna specialist report as part of environmental impact assessment for Eskom transmission's proposed Ariadne – Eros 400/132 kV multi-circuit transmission power line. *Durban Natural Science Museum Bird Department Research Report* 34: 1-10. (Contract from ACER (Africa) for Eskom)
- ALLAN, D.G. 2010. External peer review of: avifauna specialist report as part of environmental impact assessment for Eskom transmission's proposed Venus – Sigma 765 kV transmission line (EIA: 12/12/20/1397/3) and Sigma – Hector 2 X 400 kV transmission lines (EIA: 12/12/20/1397/3).
- ALLAN, D.G. 2010. External peer review of: avifauna specialist report as part of environmental impact assessment for Eskom transmission's proposed construction of the Sigma sub-station (EIA: 12/12/20/1397/2).

CURRICULUM VITAE

Proposed role in the project:

1. **Family name:** Maasdorp
2. **First names:** Gavin Grant
3. **Date of birth:** 5 December 1937
4. **Nationality:** South African
5. **Education:**

Institution:	Degree(s) or Diploma(s) obtained:
University of Natal	M. Com., Ph.D. (title of Ph.D. thesis – Transportation and Development in a Small Peripheral Country: A Case Study in Swaziland).

6. Language skills:

Language	Reading	Speaking	Writing
English	5	5	5
Afrikaans	5	5	5

7. Membership of professional bodies:

- Economic Society of South Africa.
- Economic History Society of Southern Africa.
- Chartered Institute of Transport and Logistics.

8. Other skills: Computer literate

9. Present position: Director, Imani Development International Ltd., Mauritius, 2006- Director, Imani Development (SA) (Pty) Ltd., Durban, 1996- Emeritus Professor, University of Natal, 1998-

10. Years within the firm: 14 years

11. Key qualifications:

- Ph.D. in economics
- 45 years experience in consultancy and research management including all countries from South Africa north to Kenya

12. Professional experience:

Date:	Location	Company	Position	Job Description
1996-date	Durban	Imani Development	Director	Economic Consultant
1986-2006	Mbabane, Swaziland	Capricorn Africa Economic Associates Ltd	Managing Director	Economic Consultant
1982-97	Durban	University of Natal	Professor and Director	Economic Research Unit
1976-81	Durban	University of Natal	Associate Professor	Economic Research Unit
1969-75	Durban	University of Natal	Senior Research Fellow	Economic Research Unit
1964-69	Durban	University of Natal	Research Fellow	Economic Research Unit
1961-64	Durban	Mobil Oil (SA) (Pty) Ltd.	Assistant Branch Credit Manager	Credit control
1958-61	Durban	Consolidated Stevedoring and Forwarding Agency SA) (Pty) Ltd.	Assistant Accountant	Accounting Dept

13. Specific experience:

(a) Transport

1969-71: Team leader, Swaziland Transportation Study (road feasibility studies, rail link feasibility studies and airport feasibility study) for the Second National Development Plan (for the Ministry of Works, Power and Communications).

1972: Team leader, Feasibility Study of Alternative Routes for the Manzini-Siphofaneni Road (for the Ministry of Works, Power and Communications).

1975-76: Consultant, Pre-feasibility Study of Rail Link between Phuzumoya and Golela (for Swaziland Railway).

1976-77: Team leader, Feasibility Studies of Road Development for the Third National Development Plan, Swaziland, (for the Ministry of Works, Power and Communications).

1978-79: Member of South West Africa (Namibia) Transport Commission, taking evidence and investigating all aspects of transportation in that territory.

1979-80: Economic consultant in study team of Messrs. VKE (Swaziland) Inc. - Feasibility Study of Mbabane-Manzini Highway (for Ministry of Works, Power and Communications).

1980: Team leader, Feasibility Study of Alternative Tarred Routes between the Manzini-Siteki Road and the Northern Sugar Area (for Swaziland National Trust Commission and Ministry of Works, Power and Communications).

1980: Prepared comments for Ministry of Works, Power and Communications on report by Japanese consultants regarding a new airport in the Swaziland Lowveld.

1981: Team leader, Reappraisal of Road Projects: Siteki Turnoff-Lomahasha, Mafutseni-Mliba and Ngwavuma River-Lavumisa (for the Ministry of Works, Power and Communications).

1981-82: Team leader, Feasibility Studies of Road Development for the Fourth National Development Plan, Swaziland, (for the Ministry of Works, Power and Communications).

1982: Team leader, Cost-benefit Analysis of Hlane Road (for the Swaziland National Trust Commission).

1987: Team leader, Feasibility Studies of Road Development for the Fifth National Development Plan, Swaziland, (for the Ministry of Works and Communications).

1987: Team leader, Traffic Study for Upgrading Matsapha Airport, Swaziland (for Scott Wilson Kirkpatrick and ODA, UK).

1987: Team leader, Traffic Study for Upgrading King Moshoeshoe Airport, Lesotho (for Scott Wilson Kirkpatrick and ODA, UK).

1989: Sub-consultant to Deloitte Haskins and Sells, Harare, on USAID short-term technical assistance to the Ministry of Works and Communications and the Swaziland Railway (prepared a report on transport policy in Swaziland).

1992: Economic consultant in team of ZMCK Ltd., Lusaka, Feasibility Study of Mongu-Kalabo Road (for Government of Zambia).

1993: Economic consultant in team of ZCV Consortium, Mbabane, Swaziland National Transport Policy Study (for Government of Swaziland and GTZ).

1993-94: Team leader, Feasibility Study of Rail Spurs to the Sugar Mills at Big Bend, Mhlume and Simunye and an Alternative Link between Mpaka and Mlawula (for Swaziland Sugar Association and Swaziland Railway).

1995: Participant, transport policy review process (Department of Transport, Pretoria).

1996: Member, working group, KwaZulu-Natal Freight Transport Policy (for TMT Projects (Pty) Ltd.).

1997: Team member, feasibility study of Metsimotlhaba-Kopong-Lentsweletau Road, Botswana (for ZMCK Consulting Engineers).

1998: Team member, Location Study of Gauteng Inland Container Terminal (for Containerlink).

1998: Professional consultant, Feasibility Study of Swaziland-Lothair rail link (for the Swaziland Railway, funded by the British Department for International Development).

1999: Team member, Study on Concessioning of Bloemfontein-Bethlehem Railway Line (for Link Rail).

2000: Team leader, Transport and Economic Development Study of the Coast-to-Coast Corridor (Maputo-Walvis Bay) (for the South African Department of Trade and Industry/Development Bank of Southern Africa).

2000: Team member, Study of the Factors Affecting Usage of the N4 (East) Road Corridor for Freight Transport (for Trans-African Concessions).

2000: Team member, Pre-feasibility Study of an International Cargo Airport at Welkom (for Free State Goldfields Development Foundation).

2001: Team member, Study on a Logistics Platform for the Proposed La Mercy Airport, Durban (for the KwaZulu-Natal Ministry of Economic Development and Tourism/USAID).

2001: Economist, Malawi Transport Sector Review (for ADB).

2002: Team member, Traffic and Revenue Forecasts 2002-19, Nacala Corridor Port and Railways (for Nedcor Investment Bank).

2002: Team leader, Report on Transport Logistics and Infrastructure Framework, Nacala Development Corridor (for Development Bank of Southern Africa).

2003: Joint Team Leader, Walvis Bay Corridor Project (for SADC).

2003: Economic Implications for Durban of the Proposed N2 Toll Plazas in the Prospecton-Amanzintoti Area (for Ethekwini Municipality).

2003: Integrated Transport Plan – Freight Component: Design Phase (for Ethekwini Municipality Transportation and Planning Department).

2003: The Rebuilding of the Rivirivi Railway Bridge – A Financial and Economic Appraisal (for Department of International Development, UK).

2003-04: Economic Impact of Resuscitating Branch Railway Lines in KwaZulu Natal (for KZN Department of Transport).

2003-04: Economic Impact of a Tourism Railway (for Ingwe Municipality).

2004: Feasibility Study of Dundori-Ol Kalou-Njabini Road (C69), Kenya (for CAS Consultants, Nairobi and Kenya Roads Department).

2004: Overview of Economic Benefits Accruing from the Operation of a Seamless Nacala Development Corridor (for Development Bank of Southern Africa).

2004: A Synopsis of, and Key Strategies for, the Freight Transport and Logistics Sector in the Ethekwini Municipality (for Ethekwini Municipality Transport Authority).

2004-05: Team leader, Transport Strategy to Define Competitiveness of the Mtwara Development Corridor (for the DBSA).

2005: Economic Impact of the Otavi-Tsumeb Road (for VKE Namibia).

2005-06: Team leader, Transport Strategy for the Mtwara Development Corridor – Anchor mine-rail-port project (for the DBSA).

2006: Economic and Financial Report – Upgrading of Airports in Kenya (for Netherlands Airport Consultants BV/Stewart Scott International, funded by World Bank).

2006: Economic Impact of the Maritime Sector on the Economy of the Durban Metropolitan Region (for Ethekwini Municipality).

2006: Economic Assessment of Options for the Redevelopment of the Existing Durban International Airport Land and the expansion of the Port (for Ethekwini Municipality).

2006: Economic Feasibility of Alternative Routes for the Transport of Coal from Moatize to Ports (Beira and Nacala) (for HWTSK, funded by the World Bank).

2007: Studies on the Optimisation of the North-South Corridor, and Track and Wagon Maintenance (for Swaziland Railway, funded by Austrian Development Agency).

2007-08: The Impact of the Proposed N2 Wild Coast Toll Road on the South Durban Industrial Basin (for South Durban Industry Consortium).

2007-09: Team leader, Economic Impact Study for the Environmental Impact Report, Knysna N2 Toll Bypass (for Coastal and Environmental Services).

2008: Team leader, Feasibility Study of Proposed Cape Fria-Oshakati-Katima Mulilo Rail Link: Phase 2-Freight Generation (for Windhoek Consulting Engineers Pty Ltd.).

2008-09: Transport economist, Feasibility Study of Developing a Regional Airport at Mkuze (for SSI, funded by DBSA).

2008-09: Team leader, Social and Economic Impact Studies, Proposed George Western Bypass (for Arcus Gibb).

2009: The Economic Role of Transport (for the National Transport Master Plan, commissioned by Aurecon South Africa (Pty) Ltd).

2010: Economist, Feasibility study of Manzini Bypass, Swaziland (for Swaziland Government and

ZMCK)

2010: Team Leader, Ports And Coastal Transport Study, Agulhas And Somali Current Large Marine Ecosystems Project (For United Nations OPS)

2010-11: Team leader, Feasibility and Economic Impact Study of the Upgrading of the Sani Pass and Mokhotlong-Sani Top Roads (for KwaZulu-Natal Department of Transport)

(b) Trade

1980: Consultant, report on economic ties in the SACU (for Anglo-American Corporation)

1989-91: Joint leader of team examining future political and economic relations in Southern Africa with specific responsibility for trade (funded by the Friedrich Ebert Foundation).

1991-92: Joint team leader, study on Rethinking Economic Cooperation in Southern Africa (for the Southern Africa Foundation for Economic Research, funded by the Konrad Adenauer Foundation / USAID/ CIDA).

1993-94: Consultant on economic cooperation and integration in Southern Africa (for Department of Trade and Industry, Pretoria).

1994: Joint coordinator, task force into regional integration in Southern Africa (for African Institute for Policy Analysis, Cape Town).

1994: Regional group leader, PTA/COMESA common external tariff study (for Imani Development and the Commission of the European Communities).

1994-96: Team leader, study on the impact of post-apartheid South Africa on regional economic integration (for the PTA).

1994: Team leader, study on the position of Swaziland in the Southern African Customs Union (for the Swaziland Government and the European Development Fund).

1994: Co-researcher, the Southern African Customs Union (for African Economic Research Consortium, Nairobi).

1995-97: Representative of South African Academic Group, Indian Ocean Rim Trade Integration Initiative (for South African Department of Foreign Affairs).

1995-96: Joint team leader, evaluation of regional organisations in Africa (for Africa Institute of Policy Analysis).

1996: Regional group leader, Phase II of Cross-border Initiative for Trade and Investment in Eastern and Southern Africa (for EU/World Bank).

1996: Team leader, study of SADC Trade Protocol and Free Trade Area (for EU/SADC Secretariat).

1996: Team member, study of the impact of an EU-South Africa free trade area on the economies of the BLNS countries (for EU/BLNS governments).

1997: Deputy project leader, study on tariff schedules for the implementation of the SADC Trade Protocol (for the SADC Secretariat).

1997-98: Team member, study on Harmonisation of External Tariff for Member States of the Indian Ocean Commission (for Cross-Border Initiative).

1997-98: Team member, study on Complementary Policies to Underpin the SADC Free Trade Area (for Commonwealth Secretariat)

1998: Consultant, Transport, Communications and Energy report for the Study on Economic Integration in Southern Africa (for the African Development Bank).

1998: Team member, study on Implications for Mauritius of Tariff Reductions in the Context of the WTO and SADC (for Government of Mauritius Ministry of Foreign Affairs and International Trade).

1998: Team member, study on Impact of Introducing Reciprocity into Trade Relations between the EU and the SADC Region (for the EU).

1998: Team member, study on Aspects of Economic Development and Policy in SADC Member States (for SADC Secretariat, funded by the EU).

1999: Team member, study on the Administrative Structures for the COMESA Common External Tariff (for COMESA Secretariat).

1999: Consultant, A Trade Regime for the EAC (for the Secretariat for East African Cooperation and the EU).

1999: Project leader, study on Agriculture and the new Trade Agenda of the WTO 2000 Negotiations – Interests and Concerns of the SADC Countries (for the World Bank).

1999-2002: Member, Regional Integration Research Programme, COMESA.

2000-01: Team member, study on the Effects of the SA-EU Trade, Development and Cooperation Agreement on the non-SADC COMESA Member States (for COMESA).

2001: Consultant, study on Strategy for SADC in the GATS Negotiations with reference to Transport Services (for Commonwealth Secretariat).

2001: Consultant, Africa Trade and Poverty Programme, Botswana and Mozambique (for IDIL/DFID).

2001: Consultant, Malawi Trade Policy – Regional Trade Agreements (for Malawi Government/DFID).

2002: Consultant, Review of Swaziland’s Membership of COMESA (for Swaziland Government/EU).

2002: Consultant, African Trade & Poverty Programme – Namibia and Swaziland (for IDIL/DFID).

2002: Manager, Global Cost of Business Survey in 12 Southern and Eastern African Countries (for Commonwealth Secretariat).

2002: Manager, Effective Rate of Protection Survey in South Africa, Namibia, Lesotho, Swaziland and Mozambique (for SADC Secretariat).

2003: Team leader, study on the Implications for Swaziland of a SACU-MERCOSUR Free Trade Agreement (for Swaziland Government/EU).

2003: Team leader, study on the Impact and Sustainability of an Economic Partnership Agreement with the EU (for Lesotho Government/ EU).

2004: Issues of Concern in the Southern African Sugar Trade (for the Programme Management Unit: Regional Trade Facilitation Programme).

2004: Team member, Developments in the World Apparel Trade and their implications for Swaziland (for Government of Swaziland and EC).

2005: Team leader, Capacity Building in Support of Preparation of Economic Partnership Agreement - Trinidad and Tobago (for the Government of Trinidad and Tobago and the EPA PMU).

2005: Commentary on the Macroeconomic and Socio-economic Effects of the EU-EPA for Kenya (for Keplotrade).

2005: Joint team leader, Review of the South Africa-EU Trade, Development and Co-operation Agreement Economic Module (for the National Treasury, South Africa, funded by the EC).

2007: Comprehensive EPA Impact Assessment and Sustainability Study for the Kingdom of Swaziland (for PMU TradeCom).

2008: Team leader, Implications of the Comesa Common External Tariff for the Economies of Zambia and Zimbabwe (for Comesa Secretariat).

2009: Study on Swaziland’s Position in the EPA Negotiations with the EU (for Swaziland Ministry of Foreign Affairs and Trade)

2011: Team leader, Impact of the proposed Trilateral Free Trade Area on the Southern African Customs Union (for the SACU Secretariat).

(c) Socio-economic, Environmental, Urban and Regional Studies

1964-66: A Socio-Economic Study of the Indian and African Communities in the Tongaat-Verulam Region (for Tongaat Sugar Company).

1967: A Survey of Indian Housing in Durban (for the Durban Corporation).

1967: Pre-feasibility Study of the Location of a Second Iscor at Richards Bay (for the Zululand Public Bodies Association).

1969: Study on the Location of a Hotel at Umhlanga Rocks (for Anglo-American Corporation).

1969-70: The East Rand Indian Community: A Socio-Economic Survey (for the Benoni Town Council).

1970-1971: Study on the introduction of town and regional planning in Lesotho (for the Lesotho Government).

1975-81: Team leader, study on low-income housing and the informal sector in South Africa (for the Human Sciences Research Council)

1981: The Greater Inanda Planning Area: Economic and Social Aspects (for Horne Glasson and Partners).

1981: Alternative Strategies for Low-income Housing in the Durban Metropolitan Region (for the Human Sciences Research Council).

1983: Deconcentration – The Case for Pinetown/New Germany (for the Natal Chamber of Industries).

1983: Industrial Growth Prospects in Durban-Pinetown and Surrounding Areas (for Natal Chamber of Industries).

1984: Population, Employment and Location of Employment Projections - Durban Metropolitan Region, **1984:** Economic Growth, Employment, Population and Income Distribution in the Durban Metropolitan Region (for the Urban Foundation).

1989: Report of the Economics and Technology Working Group (for the Durban Functional Region Planning Forum, Tongaat-Hulett Group).

1989: The Economy of the Durban Functional Region: Vital Issues and Potential (for the Natal Town and Regional Planning Commission).

1989: Team member preparing comprehensive report on employment in the various sectors of the Swaziland economy (for USAID).

1989: Team member preparing report on the composition of the private sector in Swaziland, its role in the economy, factors favouring or constraining its growth, and policy recommendations for expanding the sector (for USAID).

1991: Member of World Bank Mission to Swaziland (covered education).

1991: Member of Review Team, St Lucia Economic Impact Assessment (for Coastal and Environmental Services).

1992: Team leader, study on Cooperation in Transport and Communications in Southern Africa (for Oxford International Associates/African Development Bank).

1993: Regional Policy in South Africa (for the Urban Foundation).

1994: Public Works Programmes (for the Urban Foundation).

1997: Socio-economic and development impact of casinos (for Afrisun)

1998: Evaluation of casino locations in Greater Durban (for Afrisun)

1998: Consultant, Transport, Communications and Energy report for the Study on Economic Integration in Southern Africa (for the African Development Bank).

1998: Evaluation of effects of a casino at Westville on the Cato Manor area (for Cato Manor Development Association)

1998: Economist, Forestry Resource Scan, Lobito Corridor Spatial Development Initiative (for Crickmay Poyry and Development Bank of Southern Africa).

1998: Economist, Forestry Resource Scan, Beira-Harare Corridor Spatial Development Initiative (for Crickmay Poyry and Development Bank of Southern Africa).

1998: Economist, Pulp Mill, Beira-Economic Scan of Pulp and Paper Mills, (for Crickmay Poyry and Development Bank of Southern Africa).

1998: Economist, Feasibility Study of Forestry projects, Outgrowers' Scheme, Pulp Mill, Particle Board Plant, Chipping Plant and Sawmills in the Beira-Harare, Beira-Blantyre and Lobito Corridors (for Crickmay Poyry and Development Bank of Southern Africa).

1999: Economist, Maloti-Drakensberg Transfrontier Conservation and Development Project (for Associates for Economic Development and the governments of Lesotho and South Africa).

1998: Economist, Feasibility Study of Forestry projects, Outgrowers' Scheme, Pulp Mill, Particle Board Plant, Chipping Plant and Sawmills in the Beira-Harare, Beira-Blantyre and Lobito Corridors (for Crickmay Poyry and Development Bank of Southern Africa).

1998-99: Team Member and Editor, study of Environmentally Sustainable Resource Development in the Maluti District of the Eastern Cape (for Nathan Associates, funded by USAID).

1999: Study on the Quantification of Heavy Vehicle Externalities (for Nathan Associates and the South African Department of Transport).

1999: Team member, Study on Concessioning of Bloemfontein-Bethlehem Railway Line (for Link Rail).

1999-2000: Team leader, Study on Transport Costs in the SADC Development Corridors (for the World Bank)

2000: Team member, Identification of Economic Growth Nodes and the Implications for Infrastructure in the Durban Metropolitan Region (for Durban Metro).

2000: Team member, Macroeconomic perspective on the Proposed N1 Toll Plaza (for ACER Africa)

2000: Team member, Study of the Factors Affecting Usage of the N4 (East) Road Corridor for Freight Transport (for Trans-African Concessions).

2000: Team leader, Study on Socio-economic Role of the South African Sugar Industry (for South African Sugar Association).

2000: Team leader, Transport and Economic Development Study of the Coast-to-Coast Corridor (Maputo-Walvis Bay) (for the South African Department of Trade and Industry/Development Bank of Southern Africa).

2000: Team leader, Coast2Coast Transport and Development Corridor Study (for South African Spatial Development Initiative) (covering five countries including Swaziland).

2001: Team member, Study on a Logistics Platform for the Proposed La Mercy Airport, Durban (for the KwaZulu-Natal Ministry of Economic Development and Tourism/USAID).

2001-02 Team leader, Study on the Impact of RBM's Activities on the Local, Regional and National Economies (for Richards Bay Minerals Sustainable Development Profile).

2002: Team leader, Report on Transport Logistics and Infrastructure Framework, Nacala Development Corridor (for Development Bank of Southern Africa).

2003: Joint Team Leader, Walvis Bay Corridor Project (for SADC).

2003: Integrated Transport Plan – Freight Component: Design Phase (for Ethekewini Municipality Transportation and Planning Department).

2003-04: Cost-benefit Analysis of Frontal and Non-Frontal Dune Development (for Greater St. Lucia Wetland Park Authority).

2005-06: A study reviewing the potential social and economic benefits of the alternative land uses for the Eastern Precinct in Durban (for SiVEST Selatile Moloji).

2006: Impact of the Maritime Sector on the Economy of the Durban Metropolitan Region (for Ethekewini Municipality).

2006: Economic Assessment of Options for the Redevelopment of the Existing Durban International Airport Land and the expansion of the Port (for Ethekewini Municipality).

2007: Peer Reviewer: Macroeconomic Specialist Report on Eskom's Proposed Gamma-Grassridge Transmission Power Lines.

2007: The Impact of the A1 GP World Cup of Motorsport on the Economy of the Ethekewini Municipal Area (for A1 Team South Africa).

2007-09: Team leader, Economic, Agricultural and Tourism Impact Studies for the Environmental Impact Report, Eskom Nuclear Power Station Programme (for Arcus Gibb).

2007-09: Team leader, Economic Impact Study for the Environmental Impact Report, Knysna N2 Toll Bypass (for Coastal and Environmental Services).

2008: Team leader, Economic and Tourism Impacts of the proposed MeerKAT/Square Kilometre Array Telescope Project between Williston and Carnarvon (for Quotec/National Research Foundation).

2008: The Impact of the 2008 A1 GP World Cup of Motorsport on the Economy of the Ethekewini Municipal Area (for A1 GP World Cup of Motorsport).

2008-09: Team leader, Social and Economic Impact Studies, Proposed George Western Bypass (for Arcus Gibb).

2010-11: Team leader, Development Plan and Pre-feasibility Studies of Productive Projects on Delma Island (for Ministry of Presidential Affairs, Emirate of Abu Dhabi).

2011: Team member, Impact of the 2010 Soccer World Cup on the Economy of KwaZulu-Natal (for KwaZulu-Natal Department of Economic Development and Tourism).

(d)Other Infrastructure

1989: Lead economist, Ezulwini Valley Water and Sanitation Project, Swaziland (for Scott Wilson Kirkpatrick, UK).

1991: Economist, Pre-feasibility Study of Mutale River Pumped Storage Scheme (for VKE and Development Bank of Southern Africa).

1992: Lead economist, Pre-feasibility Study of Pongolapoort Dam-Lavumisa Irrigation Project, Swaziland (for Murray Biesenbach and Badenhorst and Governments of South Africa and Swaziland).

1992: Team member, Economic Pre-feasibility Study of Lavumisa Irrigation Project (for Murray Biesenbach and Badenhorst).

1994-95: Supervisor, Study of Effects on Lesotho Economy, Lesotho-Vaal Transfer Project (for Consult 4 and Department of Water Affairs and Forestry, Pretoria).

1994-95: Supervisor, economic study, Tugela-Vaal Transfer Scheme (for WST Consortium and Department of Water Affairs and Forestry, Pretoria).

1997: Socio-economic and development impact of casinos (for Afrisun)

1999-2001: Specialist economist, Project Management Team, Thukela Water Project Feasibility Study (for the Department of Water Affairs and Forestry, Pretoria).

2007: Feasibility Study, Dredging the Mkinkomo Reservoir (for ZMCK and Swaziland Electricity Board).

2009-10: Team leader/consultant, Economic Impact Study of the Sishen West Expansion Project and the Resettlement of Dingleton Households in Kathu (for Sishen Iron-Ore Company Pty Ltd).