Dr B. Nomvete

Commission for Lineal Delimitation  $P.O.\ Box\ 307$ 

Isando

1600

COMMISSION ON REGIONS

Ref:1 /11/..â\200\231.â\200\231./25.1

Att : Dr B. Nomvete

5th July

Dear Dr Nomvete,

Attached please find a summary proposal which | have been asked to forward to you on behalf of Mr John Williams of the Steering Committee of the Hoedspruit District Development Association.

The 3 documents referred to in the first paragraph of the attached summary, are to be sent to you under separate cover this week.

Should you not receive them timeously, please call Mrs Anne Morgan on (01528) 35114.

Yours sincerely,

A T

SALLY STROMNES
COMMUNICATIONS CONSULTANT

GRAPPLEGROUP

O0gilvy Centre Fifth Street Sandton 2199 PO Box 782253 Sandton 2146 South Africa Telephone: (011) 783 7390/4 Facsimile: (011) 783 0618

Grapplegroup Design (Pty) Ltd RegistrationNo.84/06946/07 Directors: J.Anderson R.L.Clucas P.L.Curtis(British) M.D.Schermoly (Managing) (USA) A.Teege r

SUMMARY OF BOUNDARY PROPOSALS FOR REGION "G"

PREPARED BY i The Hoedspruit Steering Committee for Regional Development This summary makes provision for inclusion of the following documents :  $-1 \hat{a}200231$ Executive Summary (June 1993)

- 2. Hoedspruit DDA Pilot Study (October 1992)
- 3. Minutes of Steering Committee meeting (June 1993)

BACKGROUND

In the above mentioned documents the Hoedspruit Committee have drawn attention to :  $\ -$ 

- 1. The necessity for BIOREGIONAL PLANNING for the Escarpment and Lowveld Bioregions (appendix  ${\rm IA}$ ,  ${\rm IB}$ ).
- 2. The urgent attention of RESOURCE MANAGEMENTS with particular attention to the WATER RESOURCE in the Bioregion (appendix Il)
- o The desirability of forming INTERNATIONAL BIOSPHERE RESERVES (UNESCO) within the Region (appendix 111).
- 4. The RATIFICATION of these principles by the M.D.M. $\hat{a}\200\235S$  IN THE PROCESS, and during the formation of Development Forums has been initiated (appendix IV and IV.2).

THE BOUNDARY PROPOSAL

a. Includes the incorporation of the whole Lowveld and Escarpment region into Development Region G (appendix I).

Following the Bioregional planning principles namely the provision for the management of CATCHMENTS it is further proposed: -

- b. That the Lowveld and Escarpment region be divided and that the Escarpment region be divided into SUB REGIONS or DISTRICTS (appendix  $\mid$  I.B) and that these
- c. Be DEMARCATED BY CATCHMENTS namely along the catchments of the -

LUVUBU/MUTALE SELATI

SABIE

NKOMATI DWARS RIVIER LETABA

(See Appendix Il)

2623

### cO USION

It is estimated that the GDP of this proposed region is approximately 78% of the GDP of the whole existing Region G, and the management of the resources falling within this proposed boundary is vitally important for a sustainable future development of the Region.

Water resource is the number one priority and without control of the catchments, correct management (IEM) cannot be implemented. This will adversely effect -

FORESTRY AGRICULTURE INDUSTRY TOURISM

To underpin development in this region it is the committee  $\hat{a}$ 00\231s opinion that a revisio n of the boundaries is imperative.

JULY 1993

2624

PRESENT R.D.A.C.

DEVELOPMENT

BOUNDARIES OF : - REGIDN @ ZIMBABWE

. â\200\230 MOZAMBIQUE K PROPOSED INCORPORATION \] OF COMPLETE LOWVELD AND ESCARPMENT BIOREGION INTO REGION G

BOTSWANA

BOPHUTHATSWANA

Vv'1 XIAN3ddV

PROPOSED DISTRICTS
OF THE LOWVELD
AND.ESCARPMENT

BIOREGION ®

243/6

APPENDIX I.B

```
OF REGION ®
i
S,
W= i
SHINGWEDZI
s oonss LETABA RIVERwouâ\204¢
e N
Pt
SELATI CATCHMENT
РеВ
o WLETSITELE
& > s
.e"mNEENWJ«w"' GRAVELOTTE
7
5
{
Μ
0
Ζ
Α
Μ
В
Ι
Q
U
Ε
o, B
LI )
HOEDSPRUIT
e,
BLYDE RIVER
Ρ
ÂŞ
i)
ÂS
```

LOWVELD AND ESCARPMENT

BIOREGION -

```
е
' @ACORNHOEK
I â\200\230\â\200\230Mâ\200\230\'
i
g
\hat{a}\200\235\hat{A}«-,m,,)\hat{a}\200\230
.}â\200\230 §.
i PILGRIMS REST
BUSHBUCK RIDGE
GRASKOP® ®
& &
P Sy
LYDENBURG @ el
® saBi
\'\\#"\.\'\.
® \WHITE RIVER
Η
0
ey, NELSPRUIT
3 :wâ\200\230«vw,,\\«_
Sy
0
spasen,
SWAZILAND
APPENDIX 11
```

# III XIANTddV

8/278

L] - A (] A
s l=I=]a]=Ts sl z][sl5]> =
2 2 U @ GIYANI
U RA
0 slz{[s]= 0
> TZANEEN

. GRAVELOTTE

Selati River

Olifants River

PHALABORWA

HOEDSPRUIT

Blyde River

OHRIGSTAD

Blyde River

So, L4 'I'.,

SKUKUZA

Ll

~

- 0

1

12

13

14

WOLKBERG SERALA WILDERNESS AREA (CATEGORY 1)

LEGALAMETSI NATURE RESERVE (Proclaimed 1991) (CATEGORY IV)

OLIFANTS RIVER NATURE RESERVE (Proposed) (CATEGORY IV)

SWADINI MANUTSA PROTECTED NATURAL ENVIRONMENT (Proposed) (CATEGORY V)

BLYDE RIVER NATURE RESERVE (Proclaimed 1965) (CATEGORY II)

MARIEPSKOP BOTANICAL RESERVE (Proposed) (CATEGORY I)

SABI SAND GAME RESERVE (Proclaimed 1955) (CATEGORY IV)

MANYELETI GAME RESERVE (CATEGORY IV)

TIMBAVATI

(Proclaimed 1956) (CATEGORY IV)

UMBABAT NATURE RESERVE (Proclaimed 1956) (CATEGORY IV)

KLASERIE NATURE RESERVE (Proclaimed 1972) (CATEGORY V)

LETABA NATURE RESERVE (Proposed) (CATEGORY 1V)

KRUGER NATIONAL PARK (Proclaimed 1926) (CATEGORY II)

OLIFANTS LIMPOPO TRANS FRONTIER PEACE PARK PROPOSAL (SANF 1991) (CATEGORY X)

FOITNOTE:

Al the above communities are incorporated in the Rwedspruit proposal, fo form Cluster Biospere Reserves i the Savanna/Montane Regions of the Central District.

(Lategory IX)

PRESENT POLITICO -

ETHNIC BOUNDRIES
OF THE LOWVELD AND

ESCARPMENT BIOREGION

TIMBAVATI/KLASERIE SABI SAND/MANYELETI

LEBOWA

KANGWANE GAZANKULU

VENDA

262 /7

APPENDIX IV.I

PROPOSED DEVELOPMENT
CANTONS OF THE CENTRAL |
" DISTRICT OF THE LOWVELD |
BIOREGION (PARTLY DRAWN)

APPENDIX IV.IT

~end- 26310

® EXECUTIVE SUMMARY

HOEDSPRUIT DISTRICT DEVELOPMENT ASSOCIATION (DDA)

HOEDSPRUIT WARD
OF SUB-REGION 5
OF PLANNING REGION 25

OF

REGIONAL DEVELOPMENT ASSOCIATION (RDA) REGION  ${\sf G}$ 

PILOT STUDY RELATING TO

- = THE PARTICIPATION OF THE ASSOCIATION IN THE PLANNING AND DEVELOPMENT OF THE DISTRICT
- = PLANNING PROCEDURES AND MECHANISMS TO BE CONSIDERED IN THE FUTURE
- = DEVELOPMENT AND PLANNING PROJECTS THE DDA COULD PARTICIPATE IN

PREPARED BY:

HOEDSPRUIT DDA STEERING COMMITTEE

.,.. N T

DENNIS MOSS . - PARTNERSHIP

17 MARKET STREET & 371

FAX: 02231-5393 STELLENBOSCH 7600 2 02231-70124 L ARCHITEC TS URBAN AND REGIONAL PLANNERS [ANDSCABE ARCHITECTS |

GEOGRAPHICAL INFORMATION DATA PLANS BY:

MESSRS G.1.S. LAB - PRETORIA UNIVERSITY AND MESSRS WILLEM VAN RIET LANDSCAPE ARCHITECTS

OUR REF: N2284 JUNE 1993

FOR DISCUSSION PURPOSES ONLY

## GLOSSARY OF ABBREVIATIONS:

IUCN International Union For The Conservation Of Nature UNEP United Nations Environmental Programme

 ${\tt UNESCO\ United\ Nations\ Education\ Scientific\ And\ Cultural\ Organisation}$ 

WWF World Wide Life Fund For Nature WCS World Conservation Strategy

NGO Non-Governmental Organisation

CBO Community Based Organisation

NCS National Conservation Strategy

MAB Man And The Biosphere Programme

UNCED United Nations Conference On Environment And Development

DDA District Development Association

RDAC Regional Development Advisory Council

RSC Regional Services Council

NRDAC National Regional Development Advisory Council

GIS Geographical Information Systems

#### . BACKGROUND AND BRIEF

During September 1991 this office was appointed by Hoedspruit DDA to assist the Association with the preparation of a "Pilot Studyâ $\200\235$  that would serve as a guide to the DDA relating to their role and possible contribution to the planning and development of the Hoedspruit district.

Messrs Willem van Riet Landscape Architects and Messrs GIS Lab of Pretoria were appointed as specialist consultants to assist with the preparation of a Geographical Information Systems (GIS) data-base for the pilot study.

The pilot study report was prepared during the period October 1991 to October 1992 and was funded by the N-Tvi RSC, through the N-Tvl Rural Council with support of the RDAC Region G.

In essence the pilot study served to:

= provide an overview of legislation, organizational structures (both government and non-government), procedures and mechanisms that members of the DDA need to assist them in their participation in the planning process;

provide an overview of the international planning and development trends and programmes relating to balancing the interest of nature conservation with development, i.e. promoting sustainable development;

make preliminary recommendations relating to planning and development that could be considered in the future.

The above issues are addressed under Section | to Section IV of the report, namely:

SECTION I: The Planning Environment; International and National trends; Organizational Structures and Mechanisms: Planning Procedures and Methodologies

SECTION II: Regional Planning Policy and Trends

SECTION III: The Role of Hoedspruit DDA in the planning of the region with reference to:

- 1. Environmental Planning Considerations
- ~.2. .Agricultural Development
- 3. Tourism Promotion

SECTION 1V: Conclusions And Recommendations

## TABLE OF CONTENTS

Page

GLOSSARY OF ABBREVIATIONS i

BACKGROUND AND BRIEF ii

SECTION

THE PLANNING ENVIRONMENT: INTERNATIONAL

AND NATIONAL TRENDS; ORGANISATIONAL

STRUCTURES AND MECHANISMS : PLANNING

PROCEDURES AND METHODOLOGIES 1

SECTION II

REGIONAL PLANNING POLICY AND TRENDS 4

SECTION 11

THE ROLE OF HOEDSPRUIT DDA IN THE PLANNING OF THE REGION  $10\,$ 

SECTION IV CONCLUSIONS AND RECOMMENDATIONS 15

REFERENCES 18

\*

#### SECTION 1

THE PLANNING ENVIRONMENT; ORGANISATIONAL STRUCTURES AND MECHANISMS: PLANNING PROCEDURES AND METHODOLOGIES

For anyone involved in planning for the future it is important to evaluate possible future national and international trends and to consider the possible impact thereof on their areas of interest.

Ninety percent of all population growth is taking place in "Third World" countries, all of whom have experienced a steady decline in per capita income for the past twenty years. Over the past 20 years world industrial output has increased by 100% but this growth takes place in countries that are already wealthy, i.e. "First World" industrialised countries. In poor countries population growth exceeds capital growth and a pattern has developed of growing bigger whilst becoming poorer.

In essence, the challenge is to \*manage and direct growth in order to achieve sustainable development. It is from this position that policy makers, planners and communities need to consider their role, and the methods that they could employ, to make a positive contribution towards such a sustainable development process.

The practical realities in South Africa today are that there is no overall policy and/or strategy in place in terms of which sustainable development can be achieved.

Economic growth of the past has been achieved at considerable expense to the natural environment and therefore did not support sustainability. Population growth in South Africa has been much greater than economic growth for many years now. This has led to an intolerable position of increasing poverty and natural resource loss.

There is evidence that a sense of urgency and understanding is developing on a national scale, that planning and development policies will have to be aimed at attaining sustainable development, and that South Africa will have to emerge from its international isolation to achieve this.

Spatial and socio-economic planning and implementation takes place within the framework of at least 30 Acts and Provincial Ordinances.

Considering the environmental significance of the Lowveld area, the most important Acts as they relate to the preparation of the Pilot Study, are the Physical Planning Act (125/1991), the Environment Conservation Act (73/1989) and the National Parks Board Act (57/1976). Of great importance also, are the TPA Ordinances on Land-Use Planning and Nature Conservation.

The Physical Planning Act makes provision for planning to be undertaken on three levels, namely; National, Regional and Local.

The 1991 IUCN/UNEP/WWF World Conservation Strategy defines "sustainable developmentâ\200\235 as "... improving the quality of human life while living within the carrying.

capacity of supporting ecosystemsâ\200\235

The following options for the protection of the environment exists in South Africa.

#### FORMAL PROTECTION

Protected Natural Environments Private Nature Reserves National Monuments

Mountain Catchment Areas Contractual National Parks

### INFORMAL PROTECTION

- = Natural Heritage Sites
- = Sites of Conservation Significance
- = Conservancies

Planning for the future requires that mechanisms be created to facilitate dialogue and communication.

In this regard the following needs to be highlighted:

- = Statutory structures
- = Non-statutory planning initiatives
- = Strategic Planning methodologies

Hoedspruit DDA is one of more than a hundred districts in the country, which together, are grouped into 44 planning regions which in turn are grouped together in 9 development regions A to |. Hoedspruit DDA falls within Region G. This regional planning structure created for private sector participation by government is linked to the Cabinet through the Minister of

Finance, through the Provincial Administration's Regional Services Councils and the local authorities as is illustrated on the diagram below.

ORGANOGRAM OF PRIVATE SECTOR INPUT REGARDING DEVELOPMENT \*

B \a\200\230Jmmm OF FINANCE j MINISTER OF MANPOWER, LOCAL

```
REGIONAL AND LAND \/ GOVERNMENT AND NATIONAL
[nw\c lklllc]i¬\20211111olull ILMâ\200\230VM'"_] I cAPE PROVINCE ] [ NATAL ] I mnam-VAnJ
JTITT
0 \ 0 = = 1 = ]
DDA I:m\]lmllml oDA DDA
*BODIES REPRESENTED ON DDA Autrwmj châ\200\230â\200\234.ï¬\202â\200\230ï¬\202m 1 I MaNAGEME
NT ] .?â\200\230:'5â\200\230.{'.â\200\230,'"::â\200\235
Private Beactor - interest groups end !
organised commemca and indusuy, Town R Services
and State Depertmente for epe:
LEGEND:
NRDAC N Reglonel LEGEND:
Advioury Gouned RSCASA + Reglonel Services
RDAC : Reglonal Development s s en
Advaary Counen RSC < Reglonsl Services
RDA s Regionel Development Association Boglen
DDA . Disuict Development Association
sC - + Btending Committese
* Adapted from the inetitute for SA Ecologiet's Bulletin 10(2)1991
```

MINISTER OF

. Non-government organisations and community-based organisations have prepared, or are preparing, alternative mechanisms and structures to those of government as they relate to national and regional development planning.

Especially important in this regard was the establishment of a national development forum by the Mass Democratic Movements (ANC, COSATU, Civics and others) on 6-8 September 1991 and the proposals of the ANC's constitutional committee for the establishment of 10 development regions in South Africa along the lines of the 1910 boundaries.

Looking at the future, greater emphasis would therefore be placed on the role of communities in the decision-making process.

This report briefly describes the basic principles of strategic planning that could be employed to facilitate participative planning.

It is shown that strategic planning requires a structured methodology and a team approach, and that the process itself is more important than the final product.

Specifically it is highlighted that the planning process plays a critical role in: = Providing an integrated picture of the community's current position and

future prospects.

- o Identifying trends and directions that shape the community and help to establish a sense of direction.
- = Positioning the community to see its opportunities and to act, rather than merely react to change.
- ® Allocating limited resources to the most pressing issues.
- $\hat{A}$ ® ldentifying those actions, policies and investments that would have the greatest impact on the future status of the community.
- = Ensuring that activities have a longer term focus and direction regardless of changing leadership and erupting crises.
- = Providing a mechanism for public/private sector co-operation.

### ® sectonn REGIONAL PLANNING POLICY AND TRENDS

It is universally accepted that democratic and efficient government is based on sound regional planning, and that the criteria for the demarcation of regions must be nationally acceptable to function effectively.

Under paragraphs 1.2 and 1.3 of the report an outline of Government and Non-Government regional development policies are provided.

The demarcation of development and planning regions in South Africa is fundamentally integrated into a debate relating to a new constitutional dispensation for South Africa. The criteria in terms of which such demarcation will take place, the organisational structures and statutory prescriptions that would govern it, etc., still need to be formulated and agreed upon.

During 1988 Government stated that the National Physical Development Plan (NPDP) of 1975 forms the physical basis of government's regional development strategy. (Nine development regions, 44 planning regions, etc. as is referred to above).

In a statement during 1992, the State President put forward new considerations regarding regional functions, policy, considerations for the demarcation of regions. Regional policy is fundamental to the negotiation process presently underway.

All the major non-government organisations (NGQ's) and/or political parties have, to a greater and lesser degree, put forward proposals relating to regional development and planning. Central to all the considerations and proposals is that regions would play a decisive role in any new constitutional dispensation, whether a centralist form of government is favoured, or whether a federal system is favoured.

Considering the universally accepted goal to promote sustainable development, it is clear that the role of the environment and specifically maintaining biological diversity, will have to be considered as important factors and criteria in establishing regional planning policy. Due to this country's political isolation on an international front, policy mechanisms and structures that have been established on international level, have by and large passed us by.

Economic growth of the past has been achieved at considerable expense to the natural environment in South Africa. Population growth has been much greater than economic growth for many years now which has led to the intolerable situation of increased poverty and natural resource loss.

From political and public debate, it is evident that there is broad agreement

on the basic principles relating to nature conservation and the need to support sustainable development policies and programmes.

In the South African Government's UNCED report (Dept. of Environmental Affairs, CSIR: UNCED Report, 1992) "An Agenda for Action:; Strategies and Recommendationsâ\200\235, it is mentioned that an agenda for a strategy for sustainable development will still require extensive debate across the full spectrum of opinion in South Africa. In addition, it is trusted that the sustainable development principles will at least be debated as part of the process of constitutional reform. In the report the objective is set that every effort should be made to develop and debate the different technical components that a national policy will require.

In the President's Council report "National Environmental Management Policy (1991), it is stressed that South Africa should integrate conservation and economic planning to emphasize their interdependence and common objectives. In addition, South Africa should develop a coherent environmental policy and more effective legislation and administrative procedures (par. 4.3.12 of the Council's report). It is also stressed that there is a special need to integrate environmental management into national, regional and local structures, which in turn should be framed in optimal development strategies (par. 4.3.13 of the Council's report). "Environmental objectives should be closely associated with regional and sub-regional development frameworks".

In the President's Council report it is stated (par. 4.3.21) that: "The ultimate aim of resource management is to achieve the highest possible level of human well-being over long term horizons. A policy designed to meet this aim could be termed "Sustainable Development Policyâ\200\235 (par. 4.3.22).

Conservation-based policies and strategies in South Africa are also strongly influenced by many political organisations, NGO's, community interest groups, institutions and individuals.

In the introduction to the ANC Environmental Policy and Goals (Mayibuye Iâ $\200\231$  Afrika), the ANC states that it would "adopt policies to ensure adequate protection, conservation and restoration of the environment.

The ANC undertakes to put into practice a conservation strategy based on the following elements:

\* The integration of rural development and conservation, including the development and marketing of wild plant and animal products; the domestication of wild species; and the development of wildlife-based tourism.

The expansion of the current system of National Parks and protected areas in an effort to increase the land set aside for conservation from the current 4% to the recommended 10%, with the overall objective being a network of protected areas designed to cover the complete spectrum of wildlife species and habitats.

Similarly, as is also reported in UNCED, the Inkatha Freedom party (IFP) in "A Policy to Preserve Qur Heritage: Where The IFP stand on the Environment  $200\235$  (1991), subscribes to the following three premises:

'® Mankind is an integral part of nature and is utterly dependent upon the Earth for his well-being as Nature is the source of life.

B The basic needs of all people for food, shelter and clothing should be met, all people should have an equal opportunity to improve their quality of life. These opportunities must be achieved in harmony with and not at the expense of our natural environment.

L We hold this world in trust for our children. We should give them a world that is no less diverse and productive than the one we have inherited.

The Democratic Party (DP) calls for a holistic and integrated approach: "Political boundaries should be of secondary importance to a global approach in the protection of natural systems and the preservation of an ecological balance. "

The Conservative Party (CP) views the situation as follows.

"Serious cultural differences exist between the various races. The CP sees development regarding a future new South African constitution, which will ensure the true freedom of all South Africaâ\200\231s people, only along the lines of separate development. Naturally our national environmental system will be based on this principle.â\200\235 The CP sees no contradiction between this approach and its commitment to maintaining all forms of life in South Africa in line with the World Conservation Strategy of 1980."

From the above, it can be safely deduced that there is a broad-based agreement in South Africa regarding the conservation/sustainable development challenges facing the country and on the principles that need to be adopted to address these challenges. One can expect the few differences that may exist to be resolved in the process of resolving sociopolitical differences.

It is clear that there is a strong positive correlation between South African thinking and that of the international community.

In the foreword to the Second World Conservation Strategy "Caring For The Earth, A Strategy For Sustainable Livingâ $200\235$  (1991), it is stated that the complexities that the world is facing, have become clearer since 1980 and the need to act has become more pressing.

"Caring For The Earth" provides unambiguous direction for world and national conservation-based development strategies and action plans.

In Chapter 1 of "Caring For The Earthâ\200\235 nine principles of a sustainable ..society are identified and described.

- I. Respect and care for the community of life.
- Il. Improve the quality of human life.
- Ill. Conserve the Earth's vitality and diversity.
- IV. Minimize the depletion of non-renewable resources.
- V. Keep within the Earth's carrying capacity.
- VI. Change personal attitudes and practices.
- VII. Enable communities to care for their own environments.
- VIII. Provide a national framework for integrating development and conservation.
- IX. Create a global alliance.
- In Caring for the Earth actions are listed that are aimed at achieving these ideals, namely: |
- = Develop strategies for sustainability, and implement them directly and through regional and local planning
- = Conclude new international agreements to help achieve global sustainability
- o Prepare and adopt a Universal Declaration and Covenant on Sustainability
- ® Undertake national and sub-national strategies for sustainability
- = Build up the global alliance

In the T7hird Draft of the Global Diversity Strategy (WRI/IUCN/UNEP), it is stated that in planning for the future, effort will have to be tailored to both ecological processes and the needs and perceptions of local communities. This integrative approach is termed  $\hat{a}\200\234Bioregional$  Management $\hat{a}\200\235$  (or Bioregional planning).

A Bioregion is defined by the IUCN/WRI/UNEP as a land and water territory whose limits are defined not by political boundaries, but by the geographical limits of human communities and ecological systems.

The building blocks for bioregional management and planning is considered by the WRI as UNESCO's "Man and the Biosphere Programmeâ\200\235 (MAB). "The MAB programme is a nationally based international programme of research, training, demonstration and information dissemination aimed at providing the scientific basis and the trained personnel needed to deal with problems relative to rational utilisation and conservation of resources and resource systems and, to human settlementsâ\200\235.

"The MAB programme emphasizes research for solving problems: it thus involves research by multi-disciplinary teams on the interaction between ecological and social systems; field training; and the application of a systems approach to understanding the relationship between the natural and human components of development and environmental management. "

. Biospheres are defined by UNESCO as follows - "Biosphere reserves are protected areas of representative terrestrial and coastal environments which have been internationally recognised under the UNESCO MARB programme for their value in conserving and providing the scientific knowledge, skills and human values to support sustainable development. Biosphere reserves are united to form a worldwide network which facilitates sharing of information relevant to the conservation management of natural and managed ecosystemsâ\200\235.

The sketch below illustrates the concept.

CORE AREA (STRICTLY PROTECTED)

EE= BUFFER ZONE (STRICTLY DELINEATED)
[ transmon ARea

HUMAN SETTLEMENTS

R RESEARCH STATION OR EXPERIMENT M MONITORING

E EDUCATION & TRAINING

T TOURISM & RECREATION

A schematic zonation of a Dbiosphere reserve (From a "Practical Guide to MAB" - UNESCO 1987)

. The ideal biosphere reserve consists of one or more core conservation areas surrounded by a buffer zone and transition zones. The zones around the core serve to integrate the reserve with ecosystems, land-use, socioeconomical and cultural systems of the bioregion within which it is located.

By way of illustration 12 potential biosphere reserves in Southern Africa are identified in the report, namely:

The Fynbos cluster biosphere
Richtersveld cluster biosphere
Central Karoo biosphere
Augrabies cluster biosphere
Drakensberg cluster biosphere
South-Cape forest biosphere
Coastal forest cluster biosphere
Lowveld cluster biosphere
Addo cluster biosphere
Tangkwa Karoo cluster biosphere
Vaalbos biosphere

Golden Gate cluster biosphere

The scientific advisory panel for biosphere reserves has highlighted three main concerns that should be present in a biosphere reserve concept, namely:

Conservation Concern

The need to reinforce the conservation of genetic resources and ecosystems and the maintenance of biological diversity;

Logistic Concern

The need to set up a well identified international network of areas directly related to MAB field research and monitoring activities including the accompanying training and information exchange;

Development Concern

The need to associate concretely, environmental protection and land resources development as a governing principle for research and education activities of the MAB programme.

The objective of the MAB programme is to cover all 193 biogeographical provinces of the world. {More than 300 Biospheres have already been established). At present approximately 125 (65%) of these provinces are covered by the MAB programme. Four (6 biomes) of these provinces are situated in South Africa and are not included in the MAB programme, viz. Fynbos Biome, Bushveld (Savanha), Desert and Semi-Desert and Mixed Mountains and Highlands.

® secrionm
THE ROLE OF HOEDSPRUIT DDA IN THE PLANNING OF THE REGION

In Section II of the report the focus shifts to the Hoedspruit district and the relevance of the issues raised under Sections | and II, especially as they relate to the three priorities identified by the DDA; namely environment and agricultural and tourism development.

In this section it is pointed out that the following needs to be considered: Environmental Planning Considerations

Considering the potential value of bio-regional planning, the potential for the establishment of a Biosphere in the Lowveld with Kruger National Park as the Core Area and portions of the private nature reserves on its western boundary as Buffer Zones or Transition Areas could become a viable option. In the light of the general debate relating to the demarcation of regions in South Africa, as is described under Sections | and Il, it is considered that the establishment of a bioregion for the area as illustrated on the map below, could be realized.

In the longer term the proposed extension of the bioregion to the east could be considered by incorporating Mozambique territory as has been extensively investigated by the Southern African Nature Foundation. Although it is accepted that the establishment of such a bioregion may be premature if considered against the background of the constitutional process the country is going through, and this country's present exclusion from international bodies such as the United Nations etc., it is nevertheless proposed that a start be made by employing these bioregional planning principles at this stage in planning for the future. For the purpose of illustrating the principles relating to the establishment of a biosphere in the Hoedspruit district, the map included below has been prepared showing the different zonations that could be established in the

= Core Area
The Kruger National Park

vicinity of Hoedspruit town, namely:

- = Buffer Zone
- The Private Nature Reserves to the west of the Park
- = Transition Zone 1:

This area primarily consists of private land immediately adjacent to the Buffer Zone.

10

#### . L] Transition Zone 2:

In the Hoedspruit district, Transition Zone 2 could, in principle, include the agricultural areas. Throughout the agricultural areas of the Lowveld there are patches of natural vegetation amongst the agriculturally developed lands which protect plants and habitats. The river courses of the area form corridors of natural vegetation which can be used to link larger patches of natural vegetation. By building up a conservation awareness amongst the population of this area, these small conservation—worthy corridors and patches can be protected within agricultural areas. These patches would then be included into, and add impetus, to a biosphere reserve.

### o Transition Zone 3:

Since towns like Hoedspruit are situated in close proximity to the core areas of the Savanna biosphere, the wildlife of these areas, especially birds, frequently enter the towns. It would be advantageous therefore, not to exclude the biosphere from the town but rather to include the town into the biosphere as a Transition Zone 3. This would mean that the residents of these towns could be made more aware of their environment, and could be encouraged to plant indigenous plants in their gardens. This would extend the range of the indigenous birds, etc. into the towns, thereby reducing the impact of the town on the environment.

```
A =
[ ool VENDAâ\200\235 L&
g - â\200\224 Y
T = NORTHERN DISTRICT
G~

Zngigianoc f
= 4
39) /7. .
% }_,\\. ke Thacaâ\200\235 /YT
[ o

R 7
â\200\234f?h"-â\200\230â\200\224â\200\234 A'â\200\235, e S x... "
```

Mo e

KRGUGER

Thmanie

X S

£ e e N S X PHALABORWA: Lo
STRTOPRA \_CGT-"." R\ R vaf,. A
oY {2 CENTRAL DISTRICT }5Â\$< 38
9 .+ cvows HOEDSPRUIT TS8R</pre>

```
. a & ) i
x 2 2 10 3 - - :
Kl *AQ et A=y S
TlAysaBE P il 5
- 0
: p( v s J'g
' .NATl'g; (IIAâ\200\230\:ER :
Az 75 @44 NATIONAL PARK ; - 2
=l AW e -
A\ 4 i^2201\hat{a}200231\hat{a}200234\hat{a}200230\% iy MO
A NELSPRT Ly X L e
= e (77 st)
T "h - el 1"\' 2 . V' - H A
et SOUTHERN DISTRICTY IS\ |/
\hat{a}\200\231;th . " o
S BARBERTON \hat{A}£ 1. SerZ an N
\tilde{}, i T u.- s N 1 Y, 1\ \ a B
(Tt 4 gwane, o \: D
74 - -:- S Butoman - a\200\230A "'e "a\200\234% ga\200\230:
o - w A z - N \hat{a} \langle 200 \rangle \langle 230 \rangle (-
i o AN S (N 2
R s THESIE AN T e
15\ irsasane u}*kzrg?' R S
ONCEPT DIAGRAM OF
CENTRAL SAVANNA BIOREGION
11
Dennis Moss Partnership Inc
```

## KRUGER

```
NATIONAL
Α
7/
\//\1\\"/\'\1,? =
2 2\
Ρ
7\ a2\ N\=
ZNTENT
\.â\200\230! //$\7,'//_'_!|_
'.-/ MY TS
\\-\\3â\200\234 R L ,:I/I:â\200\224II:'â\200\234
t\tilde{A}©.'\[lg _\dark{a}\200\235\alpha\200\224-_\dark{a}\200\235;
S N
2275
W =\ =)
Ι
RALESIT
2 /7 X
NN NS
\4
```

```
е
SN
Ν
6 DG PR SLL SN R /A RN i) \// DR 0
NV, &= WO N\ = B A =2 T =/ W% Mg A
N, ! . P > W <o i, wwie W, - : W/ 25 . LOg o W P e
N, ": YJ) '/ %z =% 7 e, 1 R Y} v
¢ R 3 - N ", ) o~
1 N a0 B y My ) o KU o (] e SE OV e,
e, N ' A d o, (N, ) o, - \hat{A}¥ Y s, NMa, " 2 ]
p B i B g 11 % A = X e M, Sy, b S, M, U
R T Y & 5 I ^{\sim} SV, ) LS "â\200\230 5 A, My, g, S &
2 * W=\ D e \hat{A}¥ 2o e
1 phlas ROLL7 i : 1= Al 5 /\hat{a}\200\230 71i7-.-: s, e, M WSS S, W v
WM RRUN o, \hat{A}SIF(('\)= W= 7S = /7\ :, <!1 TN, !u wMie, e, 2 S e WMo, e, o
vl WM, T S Wl N N A AN A WeSe b, e A I e AT :Pl
T, ).\ln. R . N \hat{a}\200\234;;\\/ \+ 7~ (R0 > AN W, - oy, TRANWO M, e t,
d 9 . e, W b TP o o,
2. N7, h _I, e W, N oo, a\200\230, \\l," it e,
w W, oW, T
```

WM N Tk RS

we s F s e,

W,

```
B DI Rl
i '\ .\\h# M, ., "â\200\234h" \ o = 7= \ //\§..-/ â\200\224 b
; 4 S i ol £ 3 ,\ W=, EWN N, ;
n \setminus Y ) e oM, Sk
111
la, Ry
wivy,
VR W, \hat{a} \ 200 \ 234, \ Kl,' NS
S Mo o e ey G I ok Weas e, B Mo, f
Y i, \ i -\(\alpha\200\230\alpha\200\234\frac{1'-}\) ..'\] \(\alpha\204\cdot\alpha\frac{1}{200\234\alpha\200\231-. "\\h\alpha\200\230" T W
 , e a7, RIS ., S, Mo, b 3 .\hat{a}2002301... .'.\hat{a}200234" - .N."\hat{a}200230" Wi, . L
M, e, NI, IR LY LM DR L) e, S, W, " T \hat{A}© e, A RSB oMo, \Y) \hat{a}\200\230o Dk 3
! N . gV es o \tilde{} 3 e W, e RV TSN | LS \backslash W, N e, /N
SV, L e, o s e, MU, M., ST N W \hat{a}^200^234^111, \hat{a}^200^230 44, o 111, i 8\ n; s, S W, = e, Ry
 RLL 00 '\\\1
@ M, B \hat{a}\200\230 TN 1, e, W, My, o % wwlee \hat{A}¢, -
:\ll..,\\ l,â\200\230 e oW, ._\),._ ., Â\\ _.\' 0, M\ e, X RS i e, i X \'l oy, J
NI WM, S WM, T W ., WV T oW
5 o . \Y77 AT W, e . o, 3 W,
V) W, N e R g W, Sy M, e,
M, W, My, AW, e, ey, \setminus Mo, 8 o Sl wi, Mo,
J Y WM g, '- e \setminus oMo, o (s W, WM, o, RN Y %, VRN
R YA \hat{a}\200\230o, ML T, VDN G R g N Ve,
W, M, M, ¢ My,
s M <
se, S, (\hat{A}Y ' = 1.2001, \hat{a} = 2.001, \hat{
h.. Vs 7 \ !
o, Y3 .\hat{a}200\230\\"" Mo v, St Ry ot Al B i . ',(\hat{A}» 5y
: 0 R
LS\ LTS e, ..\I.. M ST a2, \ 8 oy % - ey ~
K . O TN, OM, \setminus 3 B .
bl RV h, 'sl
A L}
```

W,

```
\hat{A} "M\hat{a}\200\234\'} e g, S S A I P D
W, W N, SEOME I G B \\ Vi, S,
A L2 N \setminus Mo g "R, LR VR Y) e Mo, WM, f / % 2 e, e,
s, ¢ ., oM o oM, U . N, K
W, \hat{a}\200\230..\ o, > Wi, YA ._.\\II,.. RO Y2 WM, W, R N / "\hat{a}\200\234 I i M, SV, e, Y/ \hat{a}\200
\23141..\hat{a}\200\234\hat{a}\200\234." e
) ) . \hat{A}¢ o Aty e \hat{a}\200\230 . A, K SN . e,
M, M, :}" R Ry o, N Y, Me, MY, " M, Mo, :'.1 : R\ aWe,, \hat{a}\200\234\hat{a}\200\234. e, N,
â\200\231 RUDS â\200\230â\200\234â\200\230{\\1"â\200\231_ »
e, S (e, \hat{a}\200\230 e, S1 T, auet T, o A RS 7Y awv, \hat{A}Yy S\1 et
e, 22y [} o 4 o oM, i, o d S
..\u..\\ 2 e WM, e, :\u,!)\hat{a}\200\230 M e, DR S w W, \hat{a}\200\234; Wy, o, AW, .,
B d Boe as00,\hat{A}^{\circ} (Y * AR Y " i, Dand e, W/, Qi
Vi, SR B LD W, | e, SR AR R P o
; ok ¥ st VA s SN WM,
W, " \hat{a}\200\231.].\1,' .\hat{a}\200\230\\hat{a}\200\234" o -.\hat{a}\200\230.\hat{a}\200\230 g B S
oMo, 8.
- oM,
Vs, ) "
â\200\234"_-u ".-\ v _\f&a_ e, | S
g ., R
v ¥ A s
Spe ) o R TR LY A A (T i;'llI!!\hat{a}\200\230 L
N, o, M, 1}!!â\200\2301â\200\235â\200\23513â\200\230 e
s b, | _.\ll.., \(\hat{a}\)200\231
. AW
Mo,
```

â\200\230N
\\ll,. i \\h,\_

```
gy
- AW]14

o
gy S aWe,
DIAGRAM ILLUSTRATING POSSIBLE BIOSPHERE ZONES
```

```
â\200\231.\ RYTAN
3
M Wy, ) )
11,â\200\230\
" N
TR oM N4,
e, WMo,
```

```
S D 4, e = e,
```

## â\200\230 Agricultural Development

From the research and observations undertaken by members of the DDA, it would appear as though the income from agricultural production could increase from +R400 million per annum in 1991 to R600 million per annum in 1996.

The very first problem that would arise in achieving these growth objectives, would be the ability of the authorities to provide sufficient water.

Two questions are raised in the report, namely: how could agricultural development of this magnitude be accommodated in context of environmental considerations and what steps could be taken to address the socio-economic needs and aspirations of the community in context of such growth?

As is the case with the environment, it is proposed that the impact of possible growth and development scenarios be considered in context of the biosphere and bioregional principles summarized in Section II.

## Tourism Promotion

Much is being said about the increasing role of tourism in the South African economy. It is estimated that approximately 1,0 million foreign tourists visited S.A. during 1990 (approximately 50% of these tourists were from Africa). In this time the tourism sector of the economy generated an estimated R2,500 million (SATOUR) and provided more than 300 000 employment opportunities.

The main attraction for tourists visiting South Africa is the environment and natural features, with big game by far the most important attraction. The latter has particular interest to the Hoedspruit district.

Considering the fact that the tourism industry is the fastest growing industry in the world (estimated at 5% per annum), and that the growth in eco-tourism as a sector of the tourism industry both domestic and foreign, could be considered one of the pillars of the Hoedspruit district's economy, it stands to reason that the DDA should focus on enhancing the potential of this sector of the district's economy.

In the report attention is drawn to the findings of the Board of Trade and Industry "Investigation Into The Tourism Industryâ\200\235 (1992), the recommendations of SATOUR and the Development Bank in their report "Strategic Framework For Tourism Development In South Africaâ\200\235 and the Government's commitments as per the "White Paper On Tourismâ\200\235 of 1992 in order to formulate local policy and strategy.

Of particular importance is the provisions made in the White paper for an "Action Plan" to be driven by the South African Tourism Board in close co-

operation with the private sector (especially the Tourism Liason Council and Regional Tourism Bodies).

13

In terms of this Action Plan, statutory public bodies and administrators will maintain control of the countries Unique Selling Features (USF) and conservation areas are to be classified into the following categories for the purpose of environmental management and tourism development.

Category A: Conservation areas classified as national parks and national botanical gardens

Category B . Other parks, nature conservation areas and botanical gardens of regional importance  $\,$ 

## OTHER CONSERVATION AREAS

Category D : Areas in the hands of the private sector

In particular provision is also made for the following in the White paper.

- The Department of Environment Affairs will be responsible for classifying these areas according to a clear set of guidelines, many of which are already internationally recognised.

Government will consider the allocation of additional funds to enable the Department of Environment Affairs to appoint suitably qualified personnel to carry out the tasks flowing from the White Paper.

The Department of Environment Affairs will investigate the possibility of closer co-operation between the National Parks Board, other nature conservation authorities and the Board of the National Botanical Institute responsible for the management of the National Botanical Gardens, in view of the latter's important contribution to international tourism through research and protection of South Africa's flora.

The Industrial Development Corporation (IDC) will finance the cost of land, infrastructure and accommodation involved in projects for the expansion of tourist facilities within, or adjacent to parks of the National Parks Board, the Natal Parks Board, the Conservation Authorities of the provinces and self-governing states and private enterprise. Financing will be available for the establishment of facilities, including hotels, relying on parks and reserves for the viability of their undertakings. Applications will be considered on a project-by-project basis subject to the

- establishment of .commercial viability and the promotion of commercialisation based on sound business principles, including, where appropriate, the involvement of private enterprise. The financing of accommodation facilities will be at normal IDC rates and financial packages will be structured to accommodate the requirements of individual projects. Risk sharing will be considered to actively promote development undertakings by both private enterprise and the conservation authorities.

# SECTION IV CONCLUSIONS AND RECOMMENDATIONS

In determining the actions and options relating to the involvement of Hoedspruit DDA in planning for the future of the district, the following considerations were put forward in the report.

The planning process will be guided by the constitutional/transition process.

In order for the Association's contribution to the planning of the district to be constructive, the Association will have to co-operate and be involved in present and future planning initiatives of Community Based Organisations (CBO'S) in the district.

As a constituted part of the Regional and National Development Advisory bodies to government, the Association will have to direct its actions through the RDAC (G) to the Northern Transvaal Regional Services Council.

The Association will have to obtain clarity on the organisational and statutory planning structure within which the Association could function as far as forward planning is concerned. In this regard, the following main options could be considered, namely:

 $\hat{A}$ ® The preparation of a formal Structure Plan for the district in terms of the Physical Planning Act of 1991.

Extending the scope of the strategic planning study "Towards a Coherent Development Strategy for Region G" to include Hoedspruit District as a more detailed and geographically focussed component of the Region G study.

It is considered advantageous that a formal structure plan (or similar) be prepared for the district in the future. However, considering the effects of the constitutional process on the planning process and the need to have broad-based community support for the legislation within which planning takes place, we would advise that a formal structure plan (or similar) be considered only after constitutional agreement has been reached and accepted legislation is in place.

The option to extend the scope of the strategic planning study "Towards a Coherent Development Strategy for Region G" to include Hoedspruit district was considered to be the most favourable option to follow. In terms of the priorities identified by the DDA it was advised that:

" focus be placed on the Environment, Agricultural Development and Tourism as a first phase of study and;

the Region G study addresses the application of Bioregional Planning Principles as per Section Il and Section Il of the report.

It was further advised that Geographic Information Systems (G.1.S.) technology be employed to develop a data base. The information and knowledge gained in the planning study could then be transferred and incorporated into future planning tasks.

Considering the fundamental role that the National Parks Board is playing in conservation and development of the area, and specifically the decisive contribution the Kruger National Park is making to the economic development of the district, it is proposed in the report that this document be submitted to the National Parks Board. It is further recommended that the possibility to establish a standing committee be investigated to facilitate further co-operation between the National Parks Board and the DDA.

Specific Proposals By Hoedspruit DDA

Blyde River Catchment Study:

Hoedspruit DDA has resolved that urgent attention needs to be given to the long term planning of the Blyde River catchment.

This proposed study should include:

(i)

(ii)

(iii)

Planning for Municipal water needs of Hoedspruit, Phalaborwa and Namagale towns and for the needs of the Kruger National Park. Provision in this study must also be made for the future water needs of the Acornhoek Municipal District, with special attention to the Tintswalo Hospital complex.]

The complication of data to quantify irrigation needs of the Blyde Canal System and the proposed Olifants Citrus Irrigation Scheme.

It is our contention that present water facilities and infrastructures are not catering for present needs, let alone future needs, and that a future dam site is needed on the Blyde River, thus enlarging storage capacity and creating a potential hydro-electric generation scheme for the Mapulaneng and Mhala districts of Gazankulu and Lebowa.

The incorporation of the Klaserie River Catchment into this study. This once vital perennial river has all but dried up due to ill advised and inappropriate planning, forestry malpractice and mismanagement. Urgent attention must be given to the management of this resource. Urban Design for Hoedspruit Town:

Upgrading of the airport to include reception, administration and parking facilities.

Landscaping and reticulation of traffic and pedestrians in the town. Establishment of low cost housing development.

Establishment of light industry sites.

16

## ®= Naphuno Irrigation Scheme:

Addressing underdevelopment in neighbouring communities. The existing Olifants River Catchment Study should, in the opinion of Hoedspruit DDA, investigate the incorporation of an irrigation scheme for Naphuno district of Lebowa.

g Enhancement and utilisation of natural areas:

Falling within the Hoedspruit ward is the much discussed potential Contractual National Park west of the Kruger National Park. It is proposed by Hoedspruit DDA that they could assist in deliberations and negotiations aimed at achieving this ideal and to encourage the sustainable utilization of this natural protected area.

o Formal Application to Register a Biosphere Reserve:

Emphasis is placed on steps that need to be taken to lay the foundations for the registration of an internationally recognised biosphere reserve(s) for the district and the region in terms of the guidelines set out under Section II, paragraphs 1.5 and 1.6, and Section I, paragraph 1.2 of the report.

In the report it is recognised that at present, South Africa is excluded from the above-mentioned United Nations Bioregional programmes. However, it could be expected that South Africa would be able to take part in these international programmes in the foreseeable future. It is therefore urgent that the necessary preparatory work be undertaken in this interim period to ensure that the district and the region is able to effectively take part in these internationally recognised programmes when the opportunity arises in the future.

Furthermore, it is stressed that there is an urgent need to make immediate and tangible progress in establishing sound sustainable development

strategies for the region. The United Nations models provide a practical and efficient framework for these strategies.

D.F. MOSS
DENNIS MOSS PARTNERSHIP Inc.

JUNE 1993

17

- 10.
- 11
- 1%
- 13.
- 14.
- 13.
- 16.
- 17.
- 18.

#### REFERENCES

Acocks J.P.H., 1988. Veld Types Of South Africa 3rd edition. Memoirs of the Botanical Survey of South Africa No. 57.

African National Congress. Mayibuye Iâ\200\231 Afrika. Draft Environmental Policy, 1992.

African Wildlife, 1992. Volume 45 No 2.

Arthur Anderson and Company, 1984. Guide to Public - Sector Strategic Planning. Arthur Anderson and Co.

Bernd Von Droste, 1990. The Role Of Biosphere Reserves At A Time Of Increasing Globalization. Journa/ on Science and Management for the Conservation of the Earth.

Burgers, C.J., Fairall, N. and Andrag R.H., 1990 The Fynbos Biome As Biosphere Reserve. Cape Provincial Administration Chief Directorate Nature and Environmental Conservation, Jonkershoek Stellenbosch.

Cape Department of Nature and Environmental Conservation, 1991. T7he Kogelberg: Conservation versus Development

Cape Department of Nature and Environmental Conservation, 1990. Framework for an holistic conservation strategy in the fynbos biome.

Clark, James, 1991. Back to Earth. Southern Book Publishers (Pty) Ltd, Halfway House.

David Western. Why People Manage. Conservation Management

Dennis Moss Partnership Inc. Notes On Sustainable Development. Working Paper No. 2 - April 1992

Department of Environmental Affairs: UNCED Report 1992 and CSIR, Republic of South Africa. Building the Foundations for Sustainable Development. National Report to the United Nations Conference on Environmental Development (UNCED) Rio de Janeiro, June 1992.

Department of Environmental Education, Republic of South Africa. White Paper On Environmental Education, 1989.

IUCN - Species Survival Commission, IUCN - The World Conservation
Union, 1990. Biodiversity in Sub-Saharan Africa and its Islands:
Conservation Management and Sustainable Use. Occasional Paper No. 6.
Gland, Switzerland.

IUCN - The World Conservation Union, UNEP - United Nations
Environmental Programme, WWF - World Wide Fund For Nature, October
1991. Caring for the Earth: A Strategy for Sustainable Living. Gland,
Switzerland.

Joubert D.D., 1973. Sosiologies Gesproke - Die Aard van Sosiologiese Interpretasies. University Publishers (Pty) Ltd., Stellenbosch, Grahamstown.

Mamphela Ramphele (ed) with Chris Mc Dowell, 1991. Restoring the Land. Panos Institute, Panos Publications London.

Meadows, Donella H.; Meadows, Dennis L. Randers Jorgen, 1992. Beyond the Limits. Global Collapse or a Sustainable Future. Eathscan Publications Limited. London.

18

®

20.

4

22.

23.

24.

25.

26.

27

28.

29.

30.

31.

Ministry for Administration and Tourism. Republic of South Africa. White Paper on Tourism, 1992.

Onderstall J., 1984. Transvaal and Escarpment including the Kruger National Park: South African Wild Flower Guide No 4. Botanical Society of South Africa.

President's Council of the Republic of South Africa, 1991. National Environmental Management System.

Ray, James Lee., 1990. Global Politics. Houghton Miffin Company Boston, USA.

Rittel, 1967. Extract from Roger Bodem Urban Design And Planning As Pragmatic Inquiring. Official Journal of the South African Institute of Town and Regional Planning, September 1991.

Siegfried W.R., 1989. Preservation of species in Southern African Nature Reserves. in. Huntly B.J., Biotic Diversity in Southern Africa: Concepts and Conservation. Oxford University Press, Cape Town.

The Economist - May 1992

Third Draft November 1991 by World Resources Institute (WRI) The World Conservation Union (IUCN) United Nations Environmental Programme (UNEP) In consultation with Food and Agricultural Organisation (FAO) United Nations Education, Scientific and Cultural Organisation (UNESCO)

UNESCO, 1984. Action Plan For Biosphere Reserves. Nature and Resources  $20\,(4)$ .

UNESCO, 1987. A Practical Guide To MAB.

UNESCO - United Nations Education Scientific and Cultural Organizations, MAB Secretariat, Division of Ecological Sciences UNESCO, 1987. A Practical Guide to Man and the Biosphere (MAB). Paris, FRANCE: Place de Fontey.

Wildlife Conservation International New York Zoological Society - Oxford University Press 1989

World Resources Institute (WRI), The World Conservation Union (IUCN), United Nations Environmental Programme (UNEP), Canadian Centre for Biodiversity, 1991. Global Biodiversity Strategy Guidelines for Action to Save, Study and Use Earth's Biotic Wealth Sustainably and Equitably. Ottawa, Canada.

19

PRESENT R.D.A.C. DEVELOPMENT

BOUNPARIES OF Slelle | \\Wes

ZIMBABWE

MOZAMBIQUE

OF COMPLETE
AND ESCARPMENT BIOREGION
INTO REGION G
BOTSWANA

PROPOSED NMMN

BOPHUTHATSWANA

VI XIAN3Eddv