

**PART A
INVITATION TO BID (QUOTATIONS)**

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE (DEPARTMENT OF ECONOMIC DEVELOPMENT ENVIRONMENT AND TOURISM)					
BID NUMBER:	EDET/QUOT 00596/2023	CLOSING DATE:	20/03/2024	CLOSING TIME:	11H00
DESCRIPTION	APPOINTMENT OF A SERVICE PROVIDER TO CONDUCT BIOCHEMICAL ANALYSIS OF FAECAL SAMPLES FROM STATE OWNED NATURE RESERVES FOR A PERIOD OF THREE YEARS				
THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (SBD7).					

BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE
QUOTATIONS BOX(BLUE BOX) SITUATED AT (STREET ADDRESS)

Limpopo Economic Development ,Environment and Tourism					
Evridiki Towers					
19 Biccard Street					
Polokwane					
SUPPLIER INFORMATION					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
		TCS PIN:		OR	CSD No:
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES ENCLOSE PROOF]		ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES ANSWER PART B:3 BELOW]	
SIGNATURE OF BIDDER			DATE		
CAPACITY UNDER WHICH THIS BID IS SIGNED (Attach proof of authority to sign this bid; e.g. resolution of directors, etc.)					
TOTAL NUMBER OF ITEMS OFFERED			TOTAL BID PRICE (ALL INCLUSIVE)	R	
IN CASES OF PRICE INCONSISTANCIES BETWEEN AN ATTACHED QUOTATION AND SBD1. THE PRICE ON THE SBD1 WILL TAKE PREVAIL.					
BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:			TECHNICAL INFORMATION MAY BE DIRECTED TO:		
DEPARTMENT/ PUBLIC ENTITY	ECONOMIC DEVELOPMENT		CONTACT PERSON	Mr C J BLIGNAUT	
CONTACT PERSON	MOKOMA T.		TELEPHONE NUMBER	082 442 8877	
TELEPHONE NUMBER	015 293 8767		FACSIMILE NUMBER		
FACSIMILE NUMBER			E-MAIL ADDRESS		
E-MAIL ADDRESS	MokomaT@ledet.gov.za				

PART B

TERMS AND CONDITIONS FOR BIDDING

1. BID SUBMISSION:

- 1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
- 1.2. ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED-(NOT TO BE RE-TYPED) OR ONLINE
- 1.3. BIDDERS MUST REGISTER ON THE CENTRAL SUPPLIER DATABASE (CSD) TO UPLOAD MANDATORY INFORMATION NAMELY: (BUSINESS REGISTRATION/ DIRECTORSHIP/ MEMBERSHIP/IDENTITY NUMBERS; TAX COMPLIANCE STATUS; AND BANKING INFORMATION FOR VERIFICATION PURPOSES).
- 1.4. A COPY OF THE CSD REPORT SHOULD BE SUBMITTED WITH THE RESPONSE TO THE INVITATION
- 1.5. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT 2000 AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2022, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER LEGISLATION OR SPECIAL CONDITIONS OF CONTRACT.
 - PREFERENCE POINTS WILL NOT BE APPLIED FOR BIDS BELOW R30 000.00
 - BIDS WITH A VALUE OF R30 000.00 TO R49 999 999.99, THE 80/20 PREFERENTIAL SYSTEM WILL BE APPLICABLE
 - BIDS WITH A VALUE OF R50 000 000.00 AND ABOVE WILL BE EVALUATED ON A 90/10 PREFERENCE SYSTEM
- 1.6. IF A BIDDER IS ON PERSAL BUT NOT A GOVERNMENT EMPLOYEE AS DEFINED, EVIDENCE TO THAT EFFECT SHOULD BE SUBMITTED, FAILURE WHICH THE INFORMATION ON CSD WILL PREVAIL
- 1.7. PRICE (S) QUOTED MUST BE VALID FOR ATLEAST 90 (NINETY) DAYS FROM CLOSING DATE OF QUOTATION
- 1.8. PRICES MUST BE FIRM AND VAT INCLUSIVE (WHERE APPLICABLE)
- 1.9. A FIRM DELIVERY DATE MUST BE INDICATED (AS PER REQUEST)
- 1.10. THE FOLLOWING STANDARD BIDDING DOCUMENTS (SBD'S) MUST BE COMPLETED AND SUBMITTED ;

SBD	DESCRIPTION	WHEN TO USE
SBD 1	INVITATION TO BID	COMPULSORY
SBD 3.1	FIRM PRICE(PURCHASES)	ONLY THE RELEVANT ONE WILL BE PROVIDED WITH THE BIDDING DOCUMENT.THE PROVIDED ONE MUST BE COMPLETED AND RETURNED.
SBD 3.2	NON-FIRM PRICES (PURCHASES)	
SBD 3.3	PRICE SCHEDULE FOR PROFESSIONAL SERVICES(CONSULTING)	
SBD 4	DECLARATION OF INTEREST	COMPULSORY
SBD 6.1	PREFERENCE CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022	REQUIRED TO CLAIM BBBEE POINTS, IF NOT COMPLETED, BBBEE POINTS WILL NOT BE ALLOCATED.
SBD6.2	DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS	WILL ONLY BE PROVIDED IF IT IS REQUIRED. IF NOT PROVIDED,ASSUME THAT IT IS NOT REQUIRED.

- 1.11. THE SUCCESSFUL BIDDER WILL BE ONE SCORING THE HIGHEST POINTS
- 1.12. THE BIDDER ACCEPTS THE GENERAL CONDITIONS OF CONTRACT (GCC'S) WHICH CAN BE FOUND ON THE PROVINCIAL/NATIONAL TREASURY WEBSITE, ON THE DEPARTMENTAL WEBSITE AND CAN BE REQUESTED FROM THE DEPARTMENT OF A LOCAL SCM ADVICE CENTER.
- 1.13. BIDS THAT DO NOT COMPLY TO SPECIFICATIONS WILL NOT BE CONSIDERED. ALL ITEMS ON THE SPECIFICATIONS SHOULD BE INCLUDED IN THE QUOTATION.
- 1.14. ALL AMENDMENTS MADE SHOULD BE SIGNED FOR.
- 1.15. THE USE OF CORRECTION FLUID IS NOT ACCEPTED
- 1.16. THE DEPARTMENT RESERVES THE RIGHT TO CONDUCT A PHYSICAL INSPECTION TO CONFIRM CLAIMS MADE IN THE BID.

TAX COMPLIANCE REQUIREMENTS

- 2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS. THE DEPARTMENT WILL NOT DO BUSINESS WITH A BIDDER WHOSE TAX AFFAIRS ARE NOT IN ORDER REGARDLESS OF AMOUNT.
- 2.2 A BIDDER WHO SUBMITS CSD DOCUMENTS INDICATING THAT THEIR TAX AFFAIRS ARE NOT IN ORDER WILL NOT BE GIVEN AN

<p>OPPORTUNITY TO GET THEIR MATTERS SORTED WITH SARS</p> <p>2.3 APPLICATION FOR TAX COMPLIANCE STATUS (TCS) OR PIN MAY ALSO BE MADE VIA E-FILING. IN ORDER TO USE THIS PROVISION, TAXPAYERS WILL NEED TO REGISTER WITH SARS AS E-FILERS THROUGH THE WEBSITE WWW.SARS.GOV.ZA.</p> <p>2.4 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE PROOF OF TCS / PIN / CSD NUMBER.</p> <p>2.5 WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.</p>	
<p>QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS</p>	
<p>3.1. IS THE BIDDER A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?</p> <p>3.2. DOES THE BIDDER HAVE A BRANCH IN THE RSA?</p> <p>3.3. DOES THE BIDDER HAVE A PERMANENT ESTABLISHMENT IN THE RSA?</p> <p>3.4. DOES THE BIDDER HAVE ANY SOURCE OF INCOME IN THE RSA?</p>	<p><input type="checkbox"/> YES <input type="checkbox"/> NO</p> <p><input type="checkbox"/> YES <input type="checkbox"/> NO</p> <p><input type="checkbox"/> YES <input type="checkbox"/> NO</p> <p><input type="checkbox"/> YES <input type="checkbox"/> NO</p>
<p>IF THE ANSWER IS "NO" TO ALL OF THE ABOVE, THEN, IT IS NOT A REQUIREMENT TO OBTAIN A TAX COMPLIANCE STATUS / TAX COMPLIANCE SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 ABOVE.</p>	

NB: FAILURE TO PROVIDE ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.

SIGNATURE OF BIDDER:

CAPACITY UNDER WHICH THIS BID IS SIGNED:

DATE:.....

PRICING SCHEDULE – FIRM PRICES (PURCHASES)

NOTE: ONLY FIRM PRICES WILL BE ACCEPTED. NON-FIRM PRICES (INCLUDING PRICES SUBJECT TO RATES OF EXCHANGE VARIATIONS) WILL NOT BE CONSIDERED

IN CASES WHERE DIFFERENT DELIVERY POINTS INFLUENCE THE PRICING, A SEPARATE PRICING SCHEDULE MUST BE SUBMITTED FOR EACH DELIVERY POINT

Name of bidder.....	Bid number: EDET/QUT00596/2023
Closing Time 11:00	Closing date: 20/03/2024

OFFER TO BE VALID FOR...60...DAYS FROM THE CLOSING DATE OF BID.

ITEM NO.	QUANTITY	DESCRIPTION	BID PRICE IN RSA CURRENCY ** (ALL APPLICABLE TAXES INCLUDED)
...01.....	03 YEARS....	BIOCHEMICAL ANALYSIS	R.....

- Required by:LEDET.....
- At: VARIOUS NATURE RESERVES
...LIMPOPO
- Brand and model
- Country of origin
- Does the offer comply with the specification(s)? *YES/NO
- If not to specification, indicate deviation(s)
- Period required for delivery
*Delivery: Firm/not firm
- Delivery basis

Note: All delivery costs must be included in the bid price, for delivery at the prescribed destination.

** "all applicable taxes" includes value- added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies.

*Delete if not applicable

BIDDER'S DISCLOSURE

1. PURPOSE OF THE FORM

Any person (natural or juristic) may make an offer or offers in terms of this invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.

Where a person/s are listed in the Register for Tender Defaulters and / or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.

2. Bidder's declaration

2.1 Is the bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest¹ in the enterprise, employed by the state? **YES/NO**

2.1.1 If so, furnish particulars of the names, individual identity numbers, and, if applicable, state employee numbers of sole proprietor/ directors / trustees / shareholders / members/ partners or any person having a controlling interest in the enterprise, in table below.

Full Name	Identity Number	Name of State institution

2.2 Do you, or any person connected with the bidder, have a relationship

¹ the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise.

with any person who is employed by the procuring institution? **YES/NO**

2.2.1 If so, furnish particulars:

.....

2.3 Does the bidder or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise whether or not they are bidding for this contract? **YES/NO**

2.3.1 If so, furnish particulars:

.....

3 DECLARATION

I, _____ the _____ undersigned,
 (name)..... in
 submitting the accompanying bid, do hereby make the following
 statements that I certify to be true and complete in every respect:

- 3.1 I have read and I understand the contents of this disclosure;
- 3.2 I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;
- 3.3 The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium² will not be construed as collusive bidding.
- 3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.
- 3.4 The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
- 3.5 There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring

² Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.

- 3.6 I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

I CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 1, 2 and 3 ABOVE IS CORRECT.

I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF PARAGRAPH 6 OF PFMA SCM INSTRUCTION 03 OF 2021/22 ON PREVENTING AND COMBATING ABUSE IN THE SUPPLY CHAIN MANAGEMENT SYSTEM SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....
Signature	Date
.....
Position	Name of bidder

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022

This preference form must form part of all tenders invited. It contains general information and serves as a claim form for preference points for specific goals.

NB: BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER AND PREFERENTIAL PROCUREMENT REGULATIONS, 2022

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to invitations to tender:

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2 **To be completed by the organ of state**

(delete whichever is not applicable for this tender).

- a) The applicable preference point system for this tender is the 90/10 preference point system.
- b) The applicable preference point system for this tender is the 80/20 preference point system.
- c) Either the 90/10 or 80/20 preference point system will be applicable in this tender. The lowest/ highest acceptable tender will be used to determine the accurate system once tenders are received.

1.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:

- (a) Price; and
- (b) Specific Goals.

1.4 **To be completed by the organ of state:**

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	80
SPECIFIC GOALS	20
Total points for Price and SPECIFIC GOALS	100

- 1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.
- 1.6 The organ of state reserves the right to require of a tenderer, either before a tender is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the organ of state.

2. DEFINITIONS

- (a) **“tender”** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;
- (b) **“price”** means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;
- (c) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;
- (d) **“tender for income-generating contracts”** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and
- (e) **“the Act”** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

3.1.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

A maximum of 80 or 90 points is allocated for price on the following basis:

$$\begin{array}{ccc}
 \text{80/20} & \text{or} & \text{90/10} \\
 \\
 Ps = 80 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right) & \text{or} & Ps = 90 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)
 \end{array}$$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

3.2. FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT

3.2.1. POINTS AWARDED FOR PRICE

A maximum of 80 or 90 points is allocated for price on the following basis:

$$\begin{array}{ccc} 80/20 & \text{or} & 90/10 \\ P_s = 80 \left(1 + \frac{P_t - P_{max}}{P_{max}} \right) & \text{or} & P_s = 90 \left(1 + \frac{P_t - P_{max}}{P_{max}} \right) \end{array}$$

Where

- P_s = Points scored for price of tender under consideration
 P_t = Price of tender under consideration
 P_{max} = Price of highest acceptable tender

4. POINTS AWARDED FOR SPECIFIC GOALS

- 4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:
- 4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—
- (a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or
 - (b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,
- then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

Table 1: Specific goals for the tender and points claimed are indicated per the table below.

(Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.

Note to tenderers: The tenderer must indicate how they claim points for each preference point system.)

The specific goals allocated points in terms of this tender		Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (80/20 system) (To be completed by the tenderer)
PREFERENTIAL GOALS			
HDI'S			
1	Black People	5	
2	Women	3	
3	Persons with Disability	2	
SPECIFIC GOALS			
1	Youth	2	
2	Small, Medium and Micro Enterprises (SMMEs)	2	
3	Cooperatives	2	
4	Enterprise Located in Limpopo Province	4	
TOTAL		20	

Tenderers are required to furnish below documentary proof to the satisfaction of the Department that the claims for preferential goals are correct:-

- Certified copy of Certificate/ confirmation is Disability Status.
- Latest Municipal Account or Local Authority Letter (Tribal Authority).
- Certified copy of valid UIF registration certificate.

DECLARATION WITH REGARD TO COMPANY/FIRM

4.3. Name of company/firm.....

4.4. Company registration number:

4.5. TYPE OF COMPANY/ FIRM

- ☐ Partnership/Joint Venture / Consortium
- ☐ One-person business/sole propriety
- ☐ Close corporation
- ☐ Public Company
- ☐ Personal Liability Company
- ☐ (Pty) Limited
- ☐ Non-Profit Company
- ☐ State Owned Company

[TICK APPLICABLE BOX]

4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I acknowledge that:

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
 - (a) disqualify the person from the tendering process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
 - (e) forward the matter for criminal prosecution, if deemed necessary.

.....
SIGNATURE(S) OF TENDERER(S)

SURNAME AND NAME:

DATE:

ADDRESS:

.....

.....

.....

THE NATIONAL TREASURY

Republic of South Africa



GOVERNMENT PROCUREMENT: GENERAL CONDITIONS OF CONTRACT

July 2010

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THE NATIONAL TREASURY

Republic of South Africa



GOVERNMENT PROCUREMENT: GENERAL CONDITIONS OF CONTRACT

July 2010

GOVERNMENT PROCUREMENT

GENERAL CONDITIONS OF CONTRACT **July 2010**

NOTES

The purpose of this document is to:

- (i) Draw special attention to certain general conditions applicable to government bids, contracts and orders; and
- (ii) To ensure that clients be familiar with regard to the rights and obligations of all parties involved in doing business with government.

In this document words in the singular also mean in the plural and vice versa and words in the masculine also mean in the feminine and neuter.

- The General Conditions of Contract will form part of all bid documents and may not be amended.
- Special Conditions of Contract (SCC) relevant to a specific bid, should be compiled separately for every bid (if applicable) and will supplement the General Conditions of Contract. Whenever there is a conflict, the provisions in the SCC shall prevail.

TABLE OF CLAUSES

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33.	National Industrial Participation Programme (NIPP)
34.	Prohibition of restrictive practices

General Conditions of Contract

1. Definitions

1. The following terms shall be interpreted as indicated:
 - 1.1 "Closing time" means the date and hour specified in the bidding documents for the receipt of bids.
 - 1.2 "Contract" means the written agreement entered into between the purchaser and the supplier, as recorded in the contract form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
 - 1.3 "Contract price" means the price payable to the supplier under the contract for the full and proper performance of his contractual obligations.
 - 1.4 "Corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution.
 - 1.5 "Countervailing duties" are imposed in cases where an enterprise abroad is subsidized by its government and encouraged to market its products internationally.
 - 1.6 "Country of origin" means the place where the goods were mined, grown or produced or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.
 - 1.7 "Day" means calendar day.
 - 1.8 "Delivery" means delivery in compliance of the conditions of the contract or order.
 - 1.9 "Delivery ex stock" means immediate delivery directly from stock actually on hand.
 - 1.10 "Delivery into consignees store or to his site" means delivered and unloaded in the specified store or depot or on the specified site in compliance with the conditions of the contract or order, the supplier bearing all risks and charges involved until the supplies are so delivered and a valid receipt is obtained.
 - 1.11 "Dumping" occurs when a private enterprise abroad market its goods on own initiative in the RSA at lower prices than that of the country of origin and which have the potential to harm the local industries in the

RSA.

- 1.12 "Force majeure" means an event beyond the control of the supplier and not involving the supplier's fault or negligence and not foreseeable. Such events may include, but is not restricted to, acts of the purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.
- 1.13 "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any bidder, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the bidder of the benefits of free and open competition.
- 1.14 "GCC" means the General Conditions of Contract.
- 1.15 "Goods" means all of the equipment, machinery, and/or other materials that the supplier is required to supply to the purchaser under the contract.
- 1.16 "Imported content" means that portion of the bidding price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or his subcontractors) and which costs are inclusive of the costs abroad, plus freight and other direct importation costs such as landing costs, dock dues, import duty, sales duty or other similar tax or duty at the South African place of entry as well as transportation and handling charges to the factory in the Republic where the supplies covered by the bid will be manufactured.
- 1.17 "Local content" means that portion of the bidding price which is not included in the imported content provided that local manufacture does take place.
- 1.18 "Manufacture" means the production of products in a factory using labour, materials, components and machinery and includes other related value-adding activities.
- 1.19 "Order" means an official written order issued for the supply of goods or works or the rendering of a service.
- 1.20 "Project site," where applicable, means the place indicated in bidding documents.
- 1.21 "Purchaser" means the organization purchasing the goods.
- 1.22 "Republic" means the Republic of South Africa.
- 1.23 "SCC" means the Special Conditions of Contract.
- 1.24 "Services" means those functional services ancillary to the supply of the goods, such as transportation and any other incidental services, such as installation, commissioning, provision of technical assistance, training, catering, gardening, security, maintenance and other such

obligations of the supplier covered under the contract.

- 1.25 “Written” or “in writing” means handwritten in ink or any form of electronic or mechanical writing.

2. Application

- 2.1 ~~These general conditions are applicable to all bids, contracts and orders including bids for functional and professional services, sales, hiring, letting and the granting or acquiring of rights, but excluding immovable property, unless otherwise indicated in the bidding documents.~~

- 2.2 Where applicable, special conditions of contract are also laid down to cover specific supplies, services or works.

- 2.3 Where such special conditions of contract are in conflict with these general conditions, the special conditions shall apply.

3. General

- 3.1 Unless otherwise indicated in the bidding documents, the purchaser shall not be liable for any expense incurred in the preparation and submission of a bid. Where applicable a non-refundable fee for documents may be charged.

- 3.2 With certain exceptions, invitations to bid are only published in the Government Tender Bulletin. The Government Tender Bulletin may be obtained directly from the Government Printer, Private Bag X85, Pretoria 0001, or accessed electronically from www.treasury.gov.za

4. Standards

- 4.1 The goods supplied shall conform to the standards mentioned in the bidding documents and specifications.

5. Use of contract documents and information; inspection.

- 5.1 The supplier shall not, without the purchaser’s prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the purchaser in connection therewith, to any person other than a person employed by the supplier in the performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.

- 5.2 The supplier shall not, without the purchaser’s prior written consent, make use of any document or information mentioned in GCC clause 5.1 except for purposes of performing the contract.

- 5.3 Any document, other than the contract itself mentioned in GCC clause 5.1 shall remain the property of the purchaser and shall be returned (all copies) to the purchaser on completion of the supplier’s performance under the contract if so required by the purchaser.

- 5.4 The supplier shall permit the purchaser to inspect the supplier’s records relating to the performance of the supplier and to have them audited by auditors appointed by the purchaser, if so required by the purchaser.

6. Patent rights

- 6.1 The supplier shall indemnify the purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the goods or any part thereof by the purchaser.

7. Performance security

- 7.1 Within thirty (30) days of receipt of the notification of contract award, the successful bidder shall furnish to the purchaser the performance security of the amount specified in SCC.
- ~~7.2 The proceeds of the performance security shall be payable to the purchaser as compensation for any loss resulting from the supplier's failure to complete his obligations under the contract.~~
- 7.3 The performance security shall be denominated in the currency of the contract, or in a freely convertible currency acceptable to the purchaser and shall be in one of the following forms:
- (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the purchaser's country or abroad, acceptable to the purchaser, in the form provided in the bidding documents or another form acceptable to the purchaser; or
 - (b) a cashier's or certified cheque
- 7.4 The performance security will be discharged by the purchaser and returned to the supplier not later than thirty (30) days following the date of completion of the supplier's performance obligations under the contract, including any warranty obligations, unless otherwise specified in SCC.

8. Inspections, tests and analyses

- 8.1 All pre-bidding testing will be for the account of the bidder.
- 8.2 If it is a bid condition that supplies to be produced or services to be rendered should at any stage during production or execution or on completion be subject to inspection, the premises of the bidder or contractor shall be open, at all reasonable hours, for inspection by a representative of the Department or an organization acting on behalf of the Department.
- 8.3 If there are no inspection requirements indicated in the bidding documents and no mention is made in the contract, but during the contract period it is decided that inspections shall be carried out, the purchaser shall itself make the necessary arrangements, including payment arrangements with the testing authority concerned.
- 8.4 If the inspections, tests and analyses referred to in clauses 8.2 and 8.3 show the supplies to be in accordance with the contract requirements, the cost of the inspections, tests and analyses shall be defrayed by the purchaser.
- 8.5 Where the supplies or services referred to in clauses 8.2 and 8.3 do not comply with the contract requirements, irrespective of whether such supplies or services are accepted or not, the cost in connection with these inspections, tests or analyses shall be defrayed by the supplier.
- 8.6 Supplies and services which are referred to in clauses 8.2 and 8.3 and which do not comply with the contract requirements may be rejected.
- 8.7 Any contract supplies may on or after delivery be inspected, tested or

analyzed and may be rejected if found not to comply with the requirements of the contract. Such rejected supplies shall be held at the cost and risk of the supplier who shall, when called upon, remove them immediately at his own cost and forthwith substitute them with supplies which do comply with the requirements of the contract. ~~Failing such removal the rejected supplies shall be returned at the suppliers cost and risk.~~ Should the supplier fail to provide the substitute supplies forthwith, the purchaser may, without giving the supplier further opportunity to substitute the rejected supplies, purchase such supplies as may be necessary at the expense of the supplier.

- 8.8 The provisions of clauses 8.4 to 8.7 shall not prejudice the right of the purchaser to cancel the contract on account of a breach of the conditions thereof, or to act in terms of Clause 23 of GCC.

9. Packing

- 9.1 The supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing, case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.
- 9.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the contract, including additional requirements, if any, specified in SCC, and in any subsequent instructions ordered by the purchaser.

10. Delivery and documents

- 10.1 Delivery of the goods shall be made by the supplier in accordance with the terms specified in the contract. The details of shipping and/or other documents to be furnished by the supplier are specified in SCC.
- 10.2 Documents to be submitted by the supplier are specified in SCC.

11. Insurance

- 11.1 The goods supplied under the contract shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in the SCC.

12. Transportation

- 12.1 Should a price other than an all-inclusive delivered price be required, this shall be specified in the SCC.

13. Incidental services

- 13.1 The supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:
- (a) performance or supervision of on-site assembly and/or commissioning of the supplied goods;
 - (b) furnishing of tools required for assembly and/or maintenance of the supplied goods;
 - (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied goods;

- (d) performance or supervision or maintenance and/or repair of the supplied goods, for a period of time agreed by the parties, provided that this service shall not relieve the supplier of any warranty obligations under this contract; and
- (e) training of the purchaser's personnel, at the supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied goods.

13.2 Prices charged by the supplier for incidental services, if not included in the contract price for the goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the supplier for similar services.

14. Spare parts

14.1 As specified in SCC, the supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the supplier:

- (a) such spare parts as the purchaser may elect to purchase from the supplier, provided that this election shall not relieve the supplier of any warranty obligations under the contract; and
- (b) in the event of termination of production of the spare parts:
 - (i) Advance notification to the purchaser of the pending termination, in sufficient time to permit the purchaser to procure needed requirements; and
 - (ii) following such termination, furnishing at no cost to the purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.

15. Warranty

15.1 The supplier warrants that the goods supplied under the contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the contract. The supplier further warrants that all goods supplied under this contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the purchaser's specifications) or from any act or omission of the supplier, that may develop under normal use of the supplied goods in the conditions prevailing in the country of final destination.

15.2 This warranty shall remain valid for twelve (12) months after the goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the contract, or for eighteen (18) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise in SCC.

15.3 The purchaser shall promptly notify the supplier in writing of any claims arising under this warranty.

15.4 Upon receipt of such notice, the supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective goods or parts thereof, without costs to the purchaser.

15.5 If the supplier, having been notified, fails to remedy the defect(s) within the period specified in SCC, the purchaser may proceed to take

such remedial action as may be necessary, at the supplier's risk and expense and without prejudice to any other rights which the purchaser may have against the supplier under the contract.

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|---|---|
| 16. Payment | 16.1 The method and conditions of payment to be made to the supplier under this contract shall be specified in SCC. |
| | 16.2 The supplier shall furnish the purchaser with an invoice accompanied by a copy of the delivery note and upon fulfillment of other obligations stipulated in the contract. |
| | 16.3 Payments shall be made promptly by the purchaser, but in no case later than thirty (30) days after submission of an invoice or claim by the supplier. |
| | 16.4 Payment will be made in Rand unless otherwise stipulated in SCC. |
| 17. Prices | 17.1 Prices charged by the supplier for goods delivered and services performed under the contract shall not vary from the prices quoted by the supplier in his bid, with the exception of any price adjustments authorized in SCC or in the purchaser's request for bid validity extension, as the case may be. |
| 18. Contract amendments | 18.1 No variation in or modification of the terms of the contract shall be made except by written amendment signed by the parties concerned. |
| 19. Assignment | 19.1 The supplier shall not assign, in whole or in part, its obligations to perform under the contract, except with the purchaser's prior written consent. |
| 20. Subcontracts | 20.1 The supplier shall notify the purchaser in writing of all subcontracts awarded under this contracts if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the supplier from any liability or obligation under the contract. |
| 21. Delays in the supplier's performance | 21.1 Delivery of the goods and performance of services shall be made by the supplier in accordance with the time schedule prescribed by the purchaser in the contract. |
| | 21.2 If at any time during performance of the contract, the supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the goods and performance of services, the supplier shall promptly notify the purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the supplier's notice, the purchaser shall evaluate the situation and may at his discretion extend the supplier's time for performance, with or without the imposition of penalties, in which case the extension shall be ratified by the parties by amendment of contract. |
| | 21.3 No provision in a contract shall be deemed to prohibit the obtaining of supplies or services from a national department, provincial department, or a local authority. |
| | 21.4 The right is reserved to procure outside of the contract small quantities or to have minor essential services executed if an emergency arises, the |

supplier's point of supply is not situated at or near the place where the supplies are required, or the supplier's services are not readily available.

21.5 Except as provided under GCC Clause 25, a delay by the supplier in ~~the performance of its delivery obligations shall render the supplier~~ liable to the imposition of penalties, pursuant to GCC Clause 22, unless an extension of time is agreed upon pursuant to GCC Clause 21.2 without the application of penalties.

21.6 Upon any delay beyond the delivery period in the case of a supplies contract, the purchaser shall, without canceling the contract, be entitled to purchase supplies of a similar quality and up to the same quantity in substitution of the goods not supplied in conformity with the contract and to return any goods delivered later at the supplier's expense and risk, or to cancel the contract and buy such goods as may be required to complete the contract and without prejudice to his other rights, be entitled to claim damages from the supplier.

22. Penalties

22.1 Subject to GCC Clause 25, if the supplier fails to deliver any or all of the goods or to perform the services within the period(s) specified in the contract, the purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, as a penalty, a sum calculated on the delivered price of the delayed goods or unperformed services using the current prime interest rate calculated for each day of the delay until actual delivery or performance. The purchaser may also consider termination of the contract pursuant to GCC Clause 23.

23. Termination for default

23.1 The purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate this contract in whole or in part:

- (a) if the supplier fails to deliver any or all of the goods within the period(s) specified in the contract, or within any extension thereof granted by the purchaser pursuant to GCC Clause 21.2;
- (b) if the Supplier fails to perform any other obligation(s) under the contract; or
- (c) if the supplier, in the judgment of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

23.2 In the event the purchaser terminates the contract in whole or in part, the purchaser may procure, upon such terms and in such manner as it deems appropriate, goods, works or services similar to those undelivered, and the supplier shall be liable to the purchaser for any excess costs for such similar goods, works or services. However, the supplier shall continue performance of the contract to the extent not terminated.

23.3 Where the purchaser terminates the contract in whole or in part, the purchaser may decide to impose a restriction penalty on the supplier by prohibiting such supplier from doing business with the public sector for a period not exceeding 10 years.

23.4 If a purchaser intends imposing a restriction on a supplier or any

person associated with the supplier, the supplier will be allowed a time period of not more than fourteen (14) days to provide reasons why the envisaged restriction should not be imposed. Should the supplier fail to respond within the stipulated fourteen (14) days the purchaser may regard the intended penalty as not objected against and may impose it on the supplier.

23.5 Any restriction imposed on any person by the Accounting Officer / Authority will, at the discretion of the Accounting Officer / Authority, also be applicable to any other enterprise or any partner, manager, director or other person who wholly or partly exercises or exercised or may exercise control over the enterprise of the first-mentioned person, and with which enterprise or person the first-mentioned person, is or was in the opinion of the Accounting Officer / Authority actively associated.

23.6 If a restriction is imposed, the purchaser must, within five (5) working days of such imposition, furnish the National Treasury, with the following information:

- (i) the name and address of the supplier and / or person restricted by the purchaser;
- (ii) the date of commencement of the restriction
- (iii) the period of restriction; and
- (iv) the reasons for the restriction.

These details will be loaded in the National Treasury's central database of suppliers or persons prohibited from doing business with the public sector.

23.7 If a court of law convicts a person of an offence as contemplated in sections 12 or 13 of the Prevention and Combating of Corrupt Activities Act, No. 12 of 2004, the court may also rule that such person's name be endorsed on the Register for Tender Defaulters. When a person's name has been endorsed on the Register, the person will be prohibited from doing business with the public sector for a period not less than five years and not more than 10 years. The National Treasury is empowered to determine the period of restriction and each case will be dealt with on its own merits. According to section 32 of the Act the Register must be open to the public. The Register can be perused on the National Treasury website.

24. Anti-dumping and countervailing duties and rights

24.1 When, after the date of bid, provisional payments are required, or anti-dumping or countervailing duties are imposed, or the amount of a provisional payment or anti-dumping or countervailing right is increased in respect of any dumped or subsidized import, the State is not liable for any amount so required or imposed, or for the amount of any such increase. When, after the said date, such a provisional payment is no longer required or any such anti-dumping or countervailing right is abolished, or where the amount of such provisional payment or any such right is reduced, any such favourable difference shall on demand be paid forthwith by the contractor to the State or the State may deduct such amounts from moneys (if any) which may otherwise be due to the contractor in regard to supplies or services which he delivered or rendered, or is to deliver or render in terms of the contract or any other contract or any other amount which

may be due to him

25. Force Majeure

- 25.1 Notwithstanding the provisions of GCC Clauses 22 and 23, the supplier shall not be liable for forfeiture of its performance security, damages, or termination for default if and to the extent that his delay in performance or other failure to perform his obligations under the contract is the result of an event of force majeure.
- 25.2 If a force majeure situation arises, the supplier shall promptly notify the purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the force majeure event.

26. Termination for insolvency

- 26.1 The purchaser may at any time terminate the contract by giving written notice to the supplier if the supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the purchaser.

27. Settlement of Disputes

- 27.1 If any dispute or difference of any kind whatsoever arises between the purchaser and the supplier in connection with or arising out of the contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.
- 27.2 If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the purchaser or the supplier may give notice to the other party of his intention to commence with mediation. No mediation in respect of this matter may be commenced unless such notice is given to the other party.
- 27.3 Should it not be possible to settle a dispute by means of mediation, it may be settled in a South African court of law.
- 27.4 Mediation proceedings shall be conducted in accordance with the rules of procedure specified in the SCC.
- 27.5 Notwithstanding any reference to mediation and/or court proceedings herein,
- (a) the parties shall continue to perform their respective obligations under the contract unless they otherwise agree; and
 - (b) the purchaser shall pay the supplier any monies due the supplier.

28. Limitation of liability

- 28.1 Except in cases of criminal negligence or willful misconduct, and in the case of infringement pursuant to Clause 6;
- (a) the supplier shall not be liable to the purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the supplier to pay penalties and/or damages to the purchaser; and

		(b) the aggregate liability of the supplier to the purchaser, whether under the contract, in tort or otherwise, shall not exceed the total contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.
29. Governing language	29.1	The contract shall be written in English. All correspondence and other documents pertaining to the contract that is exchanged by the parties shall also be written in English.
30. Applicable law	30.1	The contract shall be interpreted in accordance with South African laws, unless otherwise specified in SCC.
31. Notices	31.1	Every written acceptance of a bid shall be posted to the supplier concerned by registered or certified mail and any other notice to him shall be posted by ordinary mail to the address furnished in his bid or to the address notified later by him in writing and such posting shall be deemed to be proper service of such notice
	31.2	The time mentioned in the contract documents for performing any act after such aforesaid notice has been given, shall be reckoned from the date of posting of such notice.
32. Taxes and duties	32.1	A foreign supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the purchaser's country.
	32.2	A local supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted goods to the purchaser.
	32.3	No contract shall be concluded with any bidder whose tax matters are not in order. Prior to the award of a bid the Department must be in possession of a tax clearance certificate, submitted by the bidder. This certificate must be an original issued by the South African Revenue Services.
33. National Industrial Participation Programme (NIP)	33.1	The NIP Programme administered by the Department of Trade and Industry shall be applicable to all contracts that are subject to the NIP obligation.
34 Prohibition of Restrictive practices	34.1	In terms of section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, an agreement between, or concerted practice by, firms, or a decision by an association of firms, is prohibited if it is between parties in a horizontal relationship and if a bidder (s) is / are or a contractor(s) was / were involved in collusive bidding (or bid rigging).
	34.2	If a bidder(s) or contractor(s), based on reasonable grounds or evidence obtained by the purchaser, has / have engaged in the restrictive practice referred to above, the purchaser may refer the matter to the Competition Commission for investigation and possible imposition of administrative penalties as contemplated in the Competition Act No. 89 of 1998.

- 34.3 If a bidder(s) or contractor(s), has / have been found guilty by the Competition Commission of the restrictive practice referred to above, the purchaser may, in addition and without prejudice to any other remedy provided for, invalidate the bid(s) for such item(s) offered, and / or terminate the contract in whole or part, and / or ~~restrict the bidder(s) or contractor(s) from conducting business with~~ the public sector for a period not exceeding ten (10) years and / or claim damages from the bidder(s) or contractor(s) concerned.



LIMPOPO

PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
ECONOMIC DEVELOPMENT, ENVIRONMENT & TOURISM

TERMS OF REFERENCE

FOR

**APPOINTMENT OF SERVICE PROVIDER TO
CONDUCT BIOCHEMICAL ANALYSIS OF
FAECAL SAMPLES FROM STATE OWNED
NATURE RESERVES FOR THE PERIOD OF
THREE YEARS.**

1. BACKGROUND

The Department of Economic Development, Environment and Tourism manage and administer 43 nature reserves. A number of State Owned Nature Reserves (hereafter referred to as "reserves") host populations of game that require active management.

Regular faecal analysis may be used to provide information on the quality of diet available to herbivores under different environmental and management conditions (Grant *et al.*, 2000). Faecal nitrogen (N_f) concentrations of between 13 and 16 gram per kilogram (g/kg) (Leslie & Starkey, 1985; Irwin *et al.*, 1993; Wrench *et al.*, 1997), are above a threshold level that indicates a dietary deficiency which may precipitate nutritional stress in animals (Grant *et al.*, 2000). Faecal nitrogen (N_f) concentrations of around 12 g/kg may therefore be associated with deficiencies severe enough to cause a visible decline in body condition (Grant *et al.*, 2000). Faecal phosphorus (P_f) concentrations of between 1.9 and 2.0 g/kg (Moir, 1996; Wrench *et al.*, 1997), over a long period of time would indicate a deficiency that may lead to low reproductive rates in a particular species.

Faecal analysis could therefore be used to assess whether applied stocking densities will allow grazers, and probably mixed feeders such as impala (*Aepyceros melampus*), to select for a diet of sufficient quality for maintenance (Grant *et al.*, 2000). This is also the case for available phosphorus (P) in browsers, but faecal nitrogen (N_f) in browsers cannot be interpreted without considering ADL and ADIN concentrations (Grant *et al.*, 2000). Faecal analysis can also be used as an adjunct to conventional vegetation monitoring methods to determine whether an area will fulfil the nutritional requirements of different herbivores (Grant *et al.*, 2000).

Grant *et al.* (2000) suggests a combined long-term approach using faecal analysis as an adjunct to vegetation monitoring for the management (via de-stocking or food supplementation) of wild herbivores. For this purpose, faecal samples of the most common herbivores should be evaluated regularly to represent different seasons, different soil types and different management approaches (Grant *et al.*, 2000).

By using the information available, Grant *et al.* (2000), propose that thresholds of potential concern (TPC's) (Rodgers & Biggs, 1999), will be reached when faecal phosphorus (P_f) and/or faecal nitrogen (N_f) concentrations drop below 2.0 and 13 gram per Dry Matter Kilogram (g/DM kg) respectively. A Threshold of Potential Concern is reached when such low concentrations are recorded for three consecutive seasons or where there is a biologically significant downward trend over three years (Grant *et al.*, 2000).

Such information will facilitate decision making regarding management intervention, such as de-stocking, feed supplementation, determining nutritional stress during animal capture and translocation, as well as highlighting future directions for research (Grant *et al.*, 2000).

A more detailed literature survey substantiating the need for faecal- nitrogen (N_f) and phosphorus (P_f) analysis is provided in appendix A: "*Nitrogen and phosphorus concentration in faeces: an indicator of range quality as a practical adjunct to existing range evaluation methods.*"

2. OBJECTIVES OF THE PROJECT

To conduct Biochemical Analysis of faecal samples of selected game species collected from five reserves, i.e. Musina, Langjan, Blouberg, Percy Fyfe and Nylsvley to determine faecal nitrogen (N_f) and phosphorus (P_f) concentrations.

3. SCOPE OF THE PROJECT

3.1. RESERVES

Table 1 provides a list of the State Owned- and Managed Reserves from where faecal samples will be collected for submission to a designated laboratory for Biochemical Analysis.

Table 1 Reserves and corresponding species selected to collect faecal samples to be submitted to a scientific institution for Biochemical Analysis

RESERVE	SPECIES
Musina	Burchell's zebra (<i>Equus quagga</i>)
	Giraffe (<i>Giraffa camelopardalis</i>)
	Kudu (<i>Tragelaphus strepsiceros</i>)
	Eland (<i>Taurotragus oryx</i>)
	Impala (<i>Aepyceros melampus</i>)
Langjan	Burchell's zebra
	Kudu
	Giraffe
	Blue wildebeest (<i>Connochaetes taurinus</i>)
	Gemsbok (<i>Oryx gazella</i>)
	Waterbuck (<i>Kobus ellipsiprymnus</i>)
	Eland
Blouberg	Buffalo (<i>Syncerus caffer</i>)
	Burchell's zebra
	Giraffe
	Kudu
	Impala
Percy Fyfe Blue Wildebeest Camp	Blue wildebeest
	Impala
Percy Fyfe Roan Camp	Kudu
	Roan antelope (<i>Hippotragus equinus</i>)
	Buffalo
Percy Fyfe - Tsessebe Camp	Tsessebe (<i>Damaliscus lunatus</i>)
Nylsvley - Main Section	Burchell's zebra
	Kudu
	Blue wildebeest
	Roan antelope
	Tsessebe
	Waterbuck

3.2. RESPONSIBILITIES

- 3.2.1. Sample- collection and submission to a scientific institution are the responsibility of Biodiversity Management.
- 3.2.2. A scientific institution must be sourced to conduct Biochemical analysis of faecal samples.
- 3.2.3. Table 2 provides the estimated numbers of samples to be submitted per cycle for each reserve.

Table 2 Estimated number of samples for each reserve to be submitted for Biochemical analysis.

RESERVE	ESTIMATED NUMBER OF SAMPLES
Musina	5
Langjan	7
Blouberg	5
Percy Fyfe	6
Nylsvley	6
TOTAL	29

3.3. TIME SCHEDULES

- 3.3.1. Faecal samples are to be collected by Biodiversity Management officials and submitted for Biochemical analysis for the period 01 April 2024 to 31 March 2027.
- 3.3.2. Results of a Biochemical analysis to be provided to the Department at the end of July and December each year, after faecal samples are provided by the start- and end of the raining season (end of May and October each year).
- 3.3.3. A detailed time schedules are provided in Table 3.

Table 3 Time schedule of the proposed activities of the project.

FINANCIAL YEAR 1	APRIL 2024	MAY 2024	JUNE 2024	JULY 2024	AUG. 2024	SEP. 2024	OCT. 2024	NOV. 2024	DEC. 2024	JAN. 2025	FEB. 2025	MART. 2025
Faecal Sample Collection (FSC)						FSC	FSC					
Biochemical Analysis (BA)								BA	BA			
Deliverable 1 (D 1)									D 1			
Payment 1 (P 1)									P 1			
FINANCIAL YEAR 2	APRIL 2025	MAY 2025	JUNE 2025	JULY 2025	AUG. 2025	SEP. 2025	OCT. 2025	NOV. 2025	DEC. 2025	JAN. 2026	FEB. 2026	MART. 2026
Faecal Sample Collection (FSC)	FSC	FSC				FSC	FSC					
Biochemical Analysis (BA)			BA	BA				BA	BA			
Deliverable 2 and 3 (D 2 & 3)				D 2					D 3			
Payment 2 and 3 (P 2 & P 3)				P 2					P 3			
FINANCIAL YEAR 3	APRIL 2026	MAY 2026	JUNE 2026	JULY 2026	AUG. 2026	SEP. 2026	OCT. 2026	NOV. 2026	DEC. 2026	JAN. 2027	FEB. 2027	MART. 2027
Faecal Sample Collection (FSC)	FSC	FSC				FSC	FSC					
Biochemical Analysis (BA)			BA	BA				BA	BA			
Deliverable 4 and 5 (D 4 & 5)				D 4					D 5			
Payment 4 and 5 (P 4 & 5)				P 4					P 5			

SEASON 1	SEASON 2	SEASON 3
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3.4. DELIVERABLES 1 - 5

3.4.1. Each deliverable includes Biochemical Analysis results of approximately 30 sampling bags.

3.4.2. Due dates for each deliverable are:

- a) 31 December 2024
- b) 31 July 2025
- c) 31 December 2025
- d) 31 July 2026
- e) 31 December 2026

4. SERVICE PROVIDER REQUIREMENTS

4.1. The Service Provider must be a designated laboratory institution that is able to conduct Biochemical Analysis on faecal samples in order to determine faecal Nitrogen (N_f) and Phosphorus (P_f) concentrations.

4.2. Table 4 must be included, to provide a cost estimate of the project:

Table 4 Cost per sample bag to conduct a Biochemical Analysis of faecal- Nitrogen (N_f) and Phosphorus (P_f) concentrations

DELIVERABLE 1	COST PER SAMPLE BAG	NUMBER OF SAMPLE BAGS	TOTAL COST
1		30	
2		30	
3		30	
4		30	
5		30	

5. EVALUATION FOR APPOINTMENT

A service level agreement shall be developed and thereafter a contract shall be concluded between the preferred service provider and the Department of Economic Development, Environment and Tourism.

5.1. EVALUATION CRITERIA

5.1.1. Phase 2: Price and Preferential Points Scoring System

5.1.2. **80/20 Preference point system [(for acquisition of goods or services for a Rand value up to R50 million (all applicable taxes included))]**

The following formula must be used to calculate the points for price of tenders/procurement with the rand value above R2000.00 up to R50 000 000.00, inclusive of all applicable taxes:

$$Ps = 80 \left(1 - \frac{Pt - Pmin}{Pmin} \right)$$

Where:

Ps = Points scored for price of bid under consideration

Pt = Rand value of tender consideration

Pmin = Rand value of lowest acceptable tender

- a. A maximum of **20 points** will be awarded in accordance with the table below.
- b. The points scored by a tenderer in respect of the specific goals above must be added to the points scored for price and the total must be rounded off to the nearest two decimal places.
- c. Only the tender with the highest number of points scored may be selected for an award.

5.1.3. Preferential Points for Specific Goals:

NO.	PREFERENTIAL GOALS	POINTS	MEANS OF VERIFICATION
	HDI'S		
1	Black People	5	CSD report and/or copy of company CIPC registration certificate
2	Women	3	CSD report
3	Persons with Disability	2	Original or Certified Copy of certificate/confirmation of Disability Status
	SPECIFIC GOALS		
1	Youth	2	CSD report
2	Small, Medium and Micro Enterprises (SMMEs)	2	Certified copy of valid UIF registration providing number of company's employees.
3	Cooperatives	2	CSD report and/or copy of company CIPC registration certificate
4	Enterprises located in Limpopo Province	4	Recent Municipal account <u>or</u> Local Authority Letter for confirmation of Local Address (<i>not older than 3 months</i>)

TOTAL	20	
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NB:

- a. Non-submission of the above documents will lead to a zero (0) points on specific goals.
- b. SMME's size or class are measured in terms of the Total full-time paid employees and as per below table:

Size or Class of <u>enterprise</u>	Total full-time paid employees
Micro	0-10
Small	11-50
Medium	51-250

6. PRICING INSTRUCTIONS

- 6.1. Prices should include all costs and applicable taxes, and / or any additional costs that the bidder may have.
- 6.2. The onus / responsibility lies with the service provider to ensure that they have taken all the costs and escalations into consideration when compiling bid prices.
- 6.3. Prices based on currencies other than the South African Rand, the exchange rate utilised, and the date of the exchange rate must be clearly indicated
- 6.4. Arithmetic errors will be rectified on the following basis: If there is a discrepancy between the unit price and the total price that is obtained by multiplying and/or adding the unit price and quantity, the unit price shall prevail. If the bidder does not accept the correction of errors, its bid may be rejected.

7. NEGOTIATIONS

- 7.1. The department reserves the right to negotiate price with recommendable bidders.

8. UNSATISFACTORY PERFORMANCE

- 8.1. Unsatisfactory performance occurs when performance is not in accordance with the contract conditions.
- 8.2. The departmental official shall warn the contractor in writing that action will be taken in accordance with the contract conditions unless the

contractor complies with the contract conditions and delivers satisfactory supplies or services within a specified reasonable time (7 days minimum). If the contractor does not perform satisfactorily despite the warning, the official will:

- Take action in terms of its delegated powers; and
- ~~Make a recommendation to the Accounting Officer for cancellation of the contract/Official Purchase Order concerned.~~

- 8.3. When correspondence is addressed to the contractor, reference will be made to the contract/Official Purchase Order number/item number/s and an explanation of the complaint.

9. PENALTIES

- 9.1. Subject to GCC Clause 4, if the Contractor fails to deliver any or all of the goods or to perform the services within the period(s) specified in the contract, the Province shall, without prejudice to its other remedies under the contract, deduct from the contract price, as a penalty, a sum calculated on the delivered price of delayed goods or unperformed services, using the current prime interest rate calculated for each day of the delay until actual delivery or performance. The Department may also consider termination of the contract in terms of the GCC.

10. PAYMENTS

- 10.1. Payments shall be made in terms of the Public Finance Management Act (Act no 1 of 1999) and other related Acts.

11. TECHNICAL ENQUIRIES

Technical enquiries may be directed to the following:

Mr C.J Blignaut

Cell: 082 442 8877

Email: BlignautCJ@ledet.gov.za

12. ADDRESS AND DEADLINE FOR SUBMISSION OF QUOTATION

Proposals by bidder must be submitted in a single sealed envelope and hand deposit into:

The Quotation Box (Blue Box)
Evridiki Towers,
Department of Economic Development, Environment and Tourism
19 Biccard Street
Polokwane
0699

The Department will record all proposals and quotations received by the deadline.

13. SPECIAL CONDITIONS

- 13.1. No material or information derived from the provision of the services under the contract may be used for any purposes other than those of the Department, except where authorised in writing to do so.
- 13.2. Copyright of all documents and electronic aids, software programmes prepared or developed in terms of this appointment shall remain the property of LEDET.
- 13.3. The Department (LEDET) reserves the right to withdraw, amend or cancel the TOR, or reject any or all proposals.
- 13.4. Any proposal submitted by a consortium or joint venture of two or more firms must be accompanied by the consortium formation document or joint venture agreement, as applicable, authenticated by a Notary Public, which sets forth the precise responsibilities of each of the parties thereto. Consortia and joint venture members should be advised that each member would be held jointly and severally liable for the performance of the consortium or joint venture. They must also submit tax clearance certificate from both companies.
- 13.5. Foreign firms providing proposals must become familiar with local conditions and laws and take them into account in preparing their proposals.
- 13.6. The costs of preparing proposals and of negotiating the contract are not reimbursable.
- 13.7. The appointed bidder is subject to signing of Service Level Agreement.
- 13.8. The Department reserves the right to return late bid submissions unopened. Late submissions will be accepted only in exceptional circumstances, Firms may not contact the Department on any matter pertaining to their bid from the time when bids are submitted to the time the contract is awarded. Any effort by a bidder to influence bid evaluation, bid comparisons or bid award decisions in any manner, may result in rejection of the bid concerned.
- 13.9. No bid may be awarded to any bidder whose tax matters have not been declared by SARS to be in order.
- 13.10. Bidders submitting two or more offers under different names without declaring will be disqualified.

13.11. For bidders submitting two or more similar offers, only the lowest offer will be considered.

13.12. An appointed bidder must construct payment structure per phases.

14. CONFIDENTIALITY

All documents and data provided under this contract shall remain the property of the department and shall be treated as confidential.

15. REFERENCES

All References are provided under Appendix A. *"NITROGEN AND PHOSPHORUS CONCENTRATION IN FAECES: AN INDICATOR OF RANGE QUALITY AS A PRACTICAL ADJUNCT TO EXISTING RANGE EVALUATION METHODS"*

1. INTRODUCTION

African savannas are dynamic and food resources change continuously due to changes in the environment (Grant *et al.*, 2000). A sound knowledge of the influence of environmental and management change on food resources will improve the understanding of the capacity of an area to support herbivores under different conditions (Grant *et al.*, 2000). Grant *et al.* (2000) mentions that various techniques have been developed taking environmental aspects such as rainfall into account, as well as looking at the effect of animal numbers and animal feeding class in estimating carrying capacity (Coe *et al.*, 1976; Collinson & Goodman, 1988).

Game ranches have largely had to base their stocking density estimates on rainfall, plant species composition, standing crop, and animal number and type (Peel *et al.*, 1999). Vegetation monitoring techniques seldom reflect the nutritive quality of the vegetation available and are thus of limited value in estimating carrying capacity (Grant *et al.*, 2000).

The fact that the concentration and availability of the nutrients change as the plant matures, further complicates the estimation of dietary quality (Reid & Horvath, 1980).

When attention is directed at forage quality, rather than the quantity of forage available, then protein expressed as nitrogen (N) is commonly the most limiting nutrient for grazers (Owen-Smith & Novellie, 1982; Tainton, 1982; Jarman & Sinclair, 1984; Boutton *et al.*, 1988). Symptoms of phosphorus (P) deficiencies, as reflected in declining reproductive rates in livestock, have not yet been identified in game in southern Africa (Grant *et al.*, 2000). Phosphorus, however, was the most common limiting mineral found in a comprehensive study of South African pastures (Du Toit & Malan, 1940) and in Namibia (Grant *et al.*, 1996). McNaughton and Banyikwa (1995) found that phosphorus and sodium (Na) concentrations were particularly important in discriminating between grazing hot spots and control swards in the Serengeti. Voeten *et al.* (1999) also reported that migration of blue wildebeest (*Connochaetes taurinus*) in the east African savanna to the wet season range could be related to phosphorus requirements during lactation.

Palatability of plants is positively correlated with nitrogen concentrations during the growth season, and with digestibility (Scholes & Walker, 1993). The nitrogen concentration in the selected grazing is therefore higher than the average of the available forage, largely through the selection of green leaf (Holechek *et al.*, 1982; Meissner, 1996).

In the case of browsers, the nutrient intake is restricted by physical and chemical plant defences such as thorns and tannins, thus limiting the availability of nutrients even though the quality of the forage may be high (Owen-Smith & Novellie, 1982; Owen-Smith, 1993). To overcome the effect of these defences, browsers normally limit the intake of plant chemicals by selecting plants with low concentrations of condensed tannin (Cooper & Owen-Smith, 1985). Browsers also increase their feeding time by taking smaller bites (Cooper & Owen-Smith, 1986).

Mixed feeders such as impala (*Aepyceros melampus*), overcome limitations of quantity and quality of available grazing by supplementing their diet with higher quality browse and forbs (Jarman & Sinclair, 1984; Meissner *et al.*, 1996).

Analysing vegetation is thus not only time-consuming and expensive, but often gives an inaccurate estimate of what is available to the herbivore (Holechek, *et al.*, 1982). Chemical composition of faeces as an index of dietary quality has been examined quite extensively (Moir, 1960; Erasmus *et al.*, 1978; Holechek *et al.*, 1982; Leslie & Starkey, 1985; Leite & Stuth, 1990; Wrench *et al.*, 1997). Faecal nitrogen N_f is a more direct measurement of the quality of diet available to the herbivores (Grant *et al.*, 2000). It has been proven to be highly correlated with forage digestibility (Bartiaux-Thill & Oger, 1986), dietary protein concentration (Moir, 1960; Wofford *et al.*, 1985; Irwin *et al.*, 1993), and with changes in live mass of cattle (Grant *et al.*, 1996). Faecal nitrogen concentration is also correlated with changes in dietary phosphorus (Holechek *et al.*, 1982; Leslie & Starkey, 1985; Irwin *et al.*, 1993). Due to the protein precipitating effect of condensed tannins on faecal nitrogen concentrations (Leslie & Starkey, 1985; Owen-Smith, 1993), faecal nitrogen as an indicator of dietary protein concentration of browsers, should be used in conjunction with faecal acid detergent lignin (ADL) and acid detergent insoluble nitrogen (ADIN) (Wrench *et al.*, 1997).

Faecal phosphorus (P_f) concentrations have also been found useful in the prediction of dietary phosphorus concentration and phosphorus deficiencies in cattle (Moir, 1960; Moir, 1966; Holechek *et al.*, 1985). Wrench *et al.* (1997) found that faecal phosphorus concentrations could be used to predict dietary phosphorus for blue wildebeest, burchell's zebra (*Equus quagga*) and cattle as well as for impala utilizing grass.

Grant *et al.* (2000), propose the use of faecal analysis in evaluating the dietary quality of forage available to wild herbivores, and as an adjunct to vegetation monitoring.

2. COLLECTION OF FAECAL SAMPLES

Grant et al. (2000), describes the methods they used to collect samples. The first part of their study examined the effect of environmental factors on dietary quality by monitoring the quality of diet available to herbivores across different rainfall regimes and soil types within the Kruger National Park (South Africa). The second part of their study examined the effect of management on dietary quality available in the southern granitic areas by collecting samples on a monthly basis throughout the study area. Fresh faecal samples, still wet, were collected and samples that showed dung beetle activity were avoided. As recommended by Wrench et al. (1996), samples were not collected within 12 hours of a rainfall event and only surficial samples were taken to avoid soil contamination. Most samples were collected around water points or areas where the animals spent the night as dung heaps are concentrated in these areas. Faecal samples were not collected near the boundary of the landscapes or on small patches of intrusive rocks to avoid carry over effects between the landscapes. At least five faecal grab samples were pooled into a single bag to get a more accurate representation of the available dietary quality (Belonje, 1980). Pooled samples were used to represent a group of buffalo (*Syncerus caffer*), blue wildebeest (*Connochaetes taurinus*), impala (*Aepyceros melampus*) and burchell's zebra (*Equus quagga*). Grant et al. (2000) indicated that it is more difficult to collect samples from browsers. Samples from kudu (*Tragelaphus strepsiceros*) and giraffe (*Giraffa camelopardalis*) were analysed separately. Fresh dung samples are placed in a paper bag and kept cool. Samples were air dried in a well ventilated shaded area before dispatching to the laboratory.

3. CORRELATION BETWEEN ANIMAL CONDITION AND NITROGEN (N_f) AND PHOSPHORUS (P_f) CONCENTRATIONS IN FAECES

3.1. CORRELATION BETWEEN ANIMAL CONDITION AND FAECAL-NITROGEN (N_f) AND PHOSPHORUS (P_f) CONCENTRATIONS

Grant et al. (1996) reported a significant relationship between faecal nitrogen (N_f) and mass gain. A significant positive correlation was found between condition and faecal nitrogen (N_f) for buffalo (*Syncerus caffer*) and impala (*Aepyceros melampus*) but not for blue wildebeest (*Connochaetes taurinus*), kudu (*Tragelaphus strepsiceros*) and giraffe (*Giraffa camelopardalis*) (Table 1).

Table 1 Correlation between faecal nitrogen (N_f) concentration and condition of herbivores (Grant *et al.*, 2000)

SPECIES	n	r FOR N IN FAECES	P FOR N IN FAECES	r FOR P IN FAECES	P FOR P IN FAECES
<i>Syncerus caffer</i> Buffalo	87	0.22	0.038	0.095	0.30
<i>Aepyceros melampus</i> Impala	300	0.326	0.000	0.166	0.0037

This relationship was very significant for impala in poor condition, with an average faecal nitrogen (N_f) of 17.09 ± 3.12 gram per kilogram (g/kg) (n = 113) (Table 1). The average faecal nitrogen recorded for buffalo in poor condition (n = 42) was 11.79 ± 2.41 gram per kilogram (g/kg).

3.2. SEASONAL TRENDS OF BUFFALO, BLUE WILDEBEEST, KUDU, GIRAFFE AND IMPALA ON THE GRANITIC AND BASALTIC AREAS

Grant *et al.* (2000) found a trend of higher faecal phosphorus (P_f) concentrations in the basaltic areas and higher nitrogen (N_f) concentrations in the granitic areas within the Kruger National Park. The trends for nutrient concentrations decrease during the dry months in all species, but least so for kudu (Grant *et al.*, 2000).

3.3. THE RELATIONSHIP BETWEEN DIETARY QUALITY AND AVAILABLE STANDING CROP FOR THE BASALTIC AND GRANITIC AREAS

The mean standing crop on 423 Veld Condition Assessment (VCA) points in the basaltic area of the Kruger National Park (KNP) (2646 kg/ha) was significantly higher ($P < 0.0001$) than the average standing crop on 644 Veld Condition Assessment (VCA) points in the granitic area (2206 kg/ha) (Grant *et al.*, 2000). There was however no difference in the percentage preferred decreaser grass species in the two areas ($P = 0.2781$) (Grant *et al.*, 2000). Grant *et al.* (2000), examined the difference between nutrient quality in the granitic and basaltic areas within the Kruger National Park (KNP). Grant *et al.* (2000), considered the effect of this difference in standing crop by using a nested ANOVA. The relationship between three levels of standing crop production namely low (< 1000 kg/ha), medium (1000 – 3000 kg/ha) and high (> 3000 kg/ha) and nutrient quality was examined separately for three grazing species, namely buffalo, blue wildebeest and burchell's zebra (*Equus quagga*) (Grant *et al.*, 2000) (Table 2).

Table 2 The effect of geological area and standing crop production nested under geological area on dietary quality available to buffalo (*Syncerus caffer*), blue wildebeest (*Connochaetes taurinus*) and impala (*Aepyceros melampus*) (Grant *et al.*, 2000).

Syncerus caffer BUFFALO						
MAIN FACTOR	<i>P</i> for log P _f	<i>P</i> for N _f	n	CLASSES	P _f (g kg ⁻¹)	N _f (g kg ⁻¹)
Geological area	0.032	0.002	69	Granite		13.13
			66	Basalt		11.76
Standing crop for geological area	0.047	0.006	47	Granite low	3.05 ^a	12.89 ^{BC}
			15	Granite medium	3.08 ^b	14.84 ^A
			7	Granite high	2.74 ^c	11.15 ^{ab}
			23	Basalt low	2.81 ^d	10.96 ^{ac}
			36	Basalt medium	3.64 ^{ACD}	12.10 ^a
			7	Basalt high	4.34 ^{ABCD}	12.68
Connochaetes taurinus BLUE WILDEBEEST						
MAIN FACTOR	<i>P</i> for log P _f	<i>P</i> for N _f	n	CLASSES	P _f (g kg ⁻¹)	N _f (g kg ⁻¹)
Geological area	0.008	0.001	85	Granite	2.77	13.77
Standing crop for geological area	0.054	0.130	52	Basalt	3.41	12.04
Aepyceros melampus Impala						
MAIN FACTOR	<i>P</i> for log P _f	<i>P</i> for N _f	n	CLASSES	P _f (g kg ⁻¹)	N _f (g kg ⁻¹)
Geological area	< 0.001	< 0.001	267	Granite	2.99	18.44
			59	Basalt	3.90	16.89
Standing crop for geological area	< 0.001	0.004	200	Granite low	2.84 ^a	18.55 ^{BCD}
			47	Granite medium	3.51 ^{Ab}	18.94 ^A
			20	Granite high	3.34 ^{Ac}	16.09 ^{ab}
			25	Basalt low	3.32 ^{Ad}	6.55 ^{ac}
			19	Basalt medium	3.14 ^e	16.67 ^{ad}
			15	Basalt high	5.84 ^{ABCDE}	17.73 ^B
Upper case superscripts differ from lower case superscripts (which are lower) in the same column (P < 0.05)						

Grant *et al.* (2000) found that the faecal phosphorus (P_f) is significantly higher in the basaltic areas, while the faecal nitrogen (N_f) is significantly higher in the granitic areas. The effect of standing crop for each of the geological zones (granitic and basaltic areas) is not uniform, with a tendency of phosphorus (P) and nitrogen (N) concentrations to increase with standing crop on the basaltic areas (Grant *et al.* 2000). In the granitic areas, however, the highest phosphorus (P) and nitrogen (N)

concentrations was recorded at a standing crop of 1000 – 3000 kg/ha (Grant *et al.*, 2000).

3.4. THE EFFECT OF DROUGHT ON DIETARY QUALITY AVAILABLE TO BROWSERS DURING DROUGHT AND AVERAGE RAINFALL REGIMES ON THE TWO GEOLOGICAL AREAS

Grant *et al.* (2000) found no significant difference in faecal nitrogen (N_f) between drought and average rainfall regimes, while faecal phosphorus (P_f) showed significant differences for all three species examined (Table 3).

Table 3 The effect of rainfall cycle and geological type on dietary quality available to giraffe (*Giraffa camelopardalis*), kudu (*Tragelaphus strepsiceros*) and impala (*Aepyceros melampus*) (Grant et al., 2000).

<i>Giraffa camelopardalis</i> Giraffe						
MAIN FACTOR	<i>P</i> for log <i>P_f</i>	<i>P</i> for <i>N_f</i>	<i>n</i>	CLASSES	<i>P_f</i> (g kg ⁻¹)	<i>N_f</i> (g kg ⁻¹)
Rainfall class	< 0.001	0.112	68	Dry years	2.40	
			44	Average years	3.36	
Geological area	0.220	0.019	90	Granite		21.68
			22	Basalt		19.73
Intersection	0.036	0.105				
<i>Tragelaphus strepsiceros</i> Kudu						
MAIN FACTOR	<i>P</i> for log <i>P_f</i>	<i>P</i> for <i>N_f</i>	<i>n</i>	CLASSES	<i>P_f</i> (g kg ⁻¹)	<i>N_f</i> (g kg ⁻¹)
Rain class	0.030	0.394	233	Drought regime	2.87	
			93	Average regime	3.87	
Geological area	0.017	0.453	70	Granite	2.64	
			15	Basalt	3.23	
Intersection	0.910	0.988				
<i>Aepyceros melampus</i> Impala						
MAIN FACTOR	<i>P</i> for log <i>P_f</i>	<i>P</i> for <i>N_f</i>	<i>n</i>	CLASSES	<i>P_f</i> (g kg ⁻¹)	<i>N_f</i> (g kg ⁻¹)
Rainfall class	< 0.001	0.285	233	Drought regime	2.88	
			93	Average regime	3.87	
Geological area	< 0.001	< 0.001	267	Granite	2.99	18.43
			59	Basalt	3.90	16.89
Intersection	0.006	0.101				

3.5. THE EFFECT OF MANAGEMENT PRACTICES ON DIETARY QUALITY

Grant et al. (2000) argues that more intense farming should draw more heavily on resources and could result in a lower dietary quality. Grant et al. (2000) presents the comparative stocking densities of the Kruger National Park and adjacent Private Nature Reserves in Table 4.

Table 4 Standing crop in kilogram per square kilometres (kg km^{-2}) on the south-western granitic landscapes of the Kruger National Park in comparison to the standing crop on the Private Nature Reserves (Grant *et al.*, 2000).

YEAR	1994	1995	1996
Ranch 1	10174	9550	11478
Ranch 2	4201	4995	5892
Ranch 3	2988	3679	4952
KNP ¹	1599	1881	Not available

Despite large differences within the private nature reserves, the stocking densities in these areas are still higher ($P = 0.03$) than those of the Kruger National Park (Grant *et al.*, 2000).

Grant *et al.* (2000) tested the effects of different management practices on dietary quality by taking the effect of season into account. Grant *et al.* (2000) present the results for buffalo, blue wildebeest, kudu, giraffe and impala in Table 5.

Table 5 The effect of different farming practices on dietary quality available to buffalo (*Syncerus caffer*), blue wildebeest (*Connochaetes taurinus*), giraffe (*Giraffa camelopardalis*) and impala (*Aepyceros melampus*) (Grant *et al.*, 2000).

Syncerus caffer Buffalo						
MAIN FACTOR	P for log Pr	P for Nr	n	CLASSES	Pr (g kg ⁻¹)	Nr (g kg ⁻¹)
Season	0.7511	0.3981	29			
Management practice	0.5142	0.6132	29			
Connochaetes taurinus Blue wildebeest						
MAIN FACTOR	P for log Pr	P for Nr	n	CLASSES	Pr (g kg ⁻¹)	Nr (g kg ⁻¹)
Season	0.3815	0.7795				
Management practice	0.0004	0.0387	8	Kruger National Park	5.53	16.22
			11	Private Nature Reserves	2.30	12.18
Giraffa camelopardalis Giraffe						
MAIN FACTOR	P for log Pr	P for Nr	n	CLASSES	Pr (g kg ⁻¹)	Nr (g kg ⁻¹)
Season	0.0299	0.0283	2	Cool dry	4.93	18.67
			15	Hot dry	2.73	25.16
			3	Wet	4.71	27.38
Management practice	0.8311	0.1546				
Aepyceros melampus Impala						
MAIN FACTOR	P for log Pr	P for Nr	n	CLASSES	Pr (g kg ⁻¹)	Nr (g kg ⁻¹)
Season	0.9714	0.5024			4.93	18.67
Management practice	0.0926	0.0516	6	Kruger National Park		21.58
			12	Private Nature Reserves		17.1

As presented in table 5, management had a significant effect on the dietary quality available to blue wildebeest and giraffe showed significant seasonal variation in faecal- phosphorus (P_f) nitrogen (N_f) (Grant *et al.*, 2000). Management was not significant for faecal nitrogen (N_f) in impala (Grant *et al.*, 2000).

4. DISCUSSION

Although the relationship between condition of wild herbivores and faecal nitrogen (N_f) is not strong, significant correlations of 0.22 for buffalo (*Syncerus caffer*), and 0.33 for impala (*Aepyceros melampus*), indicate that faecal nitrogen (N_f) gives some indication of animal condition (Grant *et al.*, 2000). Wrench *et al.* (1997) stated that a drop in condition would be expected when the faecal nitrogen (N_f) drops below 14 gram per kilogram ($g\ kg^{-1}$). The mean faecal nitrogen (N_f) of $11.79\ g\ kg^{-1}$ recorded by Grant *et al.* (2000) for grazers in a poor condition supported this figure.

Seasonal faecal- phosphorus (P_f) and nitrogen (N_f) trends were very similar to those recorded for grassland in east Africa (Boutton *et al.*, 1988) and in the Timbavati (South Africa) region for burchell's zebra (*Equus quagga*) and blue wildebeest (*Connochaetes taurinus*) by Bodenstein *et al.* (1999). Grant *et al.* (2000) recorded the highest faecal phosphorus (P_f) values of about $4.5\ g\ kg^{-1}$ for buffalo between November and March. The lowest faecal phosphorus (P_f) values for buffalo, recorded by Grant *et al.* (2000) were $2.1\ g\ kg^{-1}$ between June and August. Faecal nitrogen (N_f) concentrations for buffalo tended to peak slightly later from November to March at about $20\ g\ kg^{-1}$ (Grant *et al.*, 2000). Grant *et al.* (2000) recorded the lowest faecal nitrogen (N_f) concentrations in buffalo at about $9\ g\ kg^{-1}$ between August and October. Grant *et al.* (2000) states that these trends were similar in the other herbivores examined and indicate the potential of using faecal samples to trace the dietary quality available to herbivores throughout the year.

According to Grant *et al.* (2000), in the basaltic areas, the faecal- phosphorus (P_f) and nitrogen (N_f) tended to increase with an increase in standing crop but in the granitic areas the concentrations tended to be higher for standing crop production in the medium range ($1000 - 3000\ kg\ ha^{-1}$). Standing crop may be used as an indicator of quality and quantity of grazing available in the basaltic-, but not in the granitic areas (Grant *et al.*, 2000). These mesic infertile areas seem to be nutrient limited and concentrations are lower in the forage according to Grant *et al.* (2000).

In the Kruger National Park, the faecal phosphorus (P_f) concentrations was significantly higher in samples collected in the basaltic area than in the granitic areas in the case of buffalo, blue wildebeest, impala and kudu (*Tragelaphus strepsiceros*) (Grant *et al.*, 2000). The basaltic areas were also associated with a higher ($P < 0.0001$) standing crop production according to Grant *et al.* (2000). Reith (1973) reported that phosphorus (P) is frequently the major factor limiting pasture growth on infertile soils and that production and phosphorus (P) concentration in the herbage can increase by application of fertilizers. Phosphorus (P) uptake by plants is increased with an increase in soil moisture level, while the Nitrogen (N) concentration tends to decrease (Reid & Horvath, 1980). Rainfall increases soil moisture and is also positively correlated with standing crop (Rozenweig, 1968). Grant *et al.* (2000) argues that this probably explains the positive association between faecal phosphorus (P_f) and standing crop in the basaltic areas. Moir (1966) found faecal phosphorus (P_f) concentrations to be higher in regions with higher soil phosphorus concentrations. Moir (1966) suggested that animals with faecal phosphorus (P_f) concentrations below $1.9\ g\ DM\ kg^{-1}$ might show symptoms of phosphorus (P) deficiency such as osteophagia.

The reason for the differences in nutrient availability in the basaltic and granitic areas could be that the granitic soils are more nutrient limited, while the basaltic soils are moisture limited (Venter, 1990). An increase in rainfall and hence standing crop would then be expected to be associated with an increase in available phosphorus (P) and nitrogen (N) in the moisture limited basalts (Grant *et al.*, 2000). A high standing crop associated with higher rainfall on the nutrient limited granites would be associated with relative lower phosphorus (P) and nitrogen (N) concentrations in the forage as indicated by Reid and Horvath (1980). Grasses that grow fast under high rainfall conditions and high temperatures tend to have a higher fibre content than the same species growing more slowly under less-favourable growing conditions (tMannetje, 1984). These fast, tall growing grasses often have lower digestibility and nitrogen (N) concentrations than shorter grasses (Irwin *et al.*, 1993).

The forage quality available to browsers would not be expected to show any relationship to standing crop (Grant *et al.*, 2000). Grant *et al.* (2000) examined the effect of rainfall regimes on faecal- nitrogen (N_f) and phosphorus (P_f) in browsers for the different geological areas, rather than the relationship with standing crop. Although impala, because they also graze showed a significant difference in nitrogen (N) with different levels of standing crop, the dietary availability of nitrogen (N) to browsers was not affected by the drought (Grant *et al.*, 2000). Faecal phosphorus (P_f) concentrations, on the other hand, were significantly lower in all three of the browsers during periods of drought (Grant *et al.*, 2000). According to Grant *et al.* (2000), this probably reflects the importance of soil moisture on the availability of phosphorus (P) in the soil to plants and was also reflected in the lower faecal phosphorus (P_f) concentrations associated with lower standing crop production in the grazers during drought (Reid & Horvath, 1980).

The faecal nitrogen (N_f) for buffalo, on the basalts with a low standing crop production was 10.96 gram per kilogram ($g\ kg^{-1}$) according to Grant *et al.* (2000). This is well below the minimum level of $13\ g\ kg^{-1}$ as indicated by Irwin *et al.* (1993) to be associated with a deficiency in dietary nitrogen (N) and the $14\ g\ kg^{-1}$ indicating a dietary deficiency according to Wrench *et al.* (1997). The faecal nitrogen (N_f) in blue wildebeest was not affected as much by a low standing crop and the minimum faecal nitrogen (N_f) was $11.42\ g\ kg^{-1}$ (Grant *et al.*, 2000). The difference in faecal nitrogen (N_f) is associated with a decrease by 48 % in the buffalo numbers during the drought from 29 359 in 1991 to 15 253 in 1993 (Grant *et al.*, 2000). During the same period, the blue wildebeest numbers declined with only 8 % from 13 834 in 1991 to 12 723 in 1993 (Viljoen, 1994). The faecal nitrogen (N_f) for browsers was less sensitive in detecting changes that may cause a drop in the animal numbers (Grant *et al.*, 2000). Giraffe (*Giraffa camelopardalis*) numbers remained stable during and after the 1991 – 1992 drought (Grant *et al.*, 2000). Kudu and impala numbers, however, declined by 33 % and 16 % respectively between 1990 and 1993 (Grant *et al.*, 2000). No difference in faecal nitrogen (N_f) was detected in browsers between drought and average rainfall regimes, although the faecal phosphorus (P_f) levels did differ (Grant *et al.*, 2000).

Short green grass attracts most grazers and this high quality food source would be limited in areas with higher stocking densities (Grant *et al.*, 2000). As expected by Grant *et al.* (2000), blue wildebeest that prefer short grass had lower faecal-phosphorus (P_f) and nitrogen (N_f) values in the more heavily stocked private nature reserves (PNR) and faecal nitrogen was nearly significantly lower in impala. This is because habitat, and consequently forage availability, for these selective feeders declines under heavier stocking densities (Grant *et al.*, 2000). Giraffe do not seem to

be influenced by rainfall regime or management, but season does seem to have a significant effect on faecal- phosphorus (P_f) and nitrogen (N_f) (Grant *et al.*, 2000). For giraffe, the faecal phosphorus (P_f) is the lowest during the hot dry months and faecal nitrogen (N_f) the lowest during cool dry months, when many trees have lost their leaves according to Grant *et al.* (2000). Giraffe therefore undergo metabolic stress towards the end of the cool dry season (Grant *et al.*, 2000).

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