



DRAFT BASIC ASSESSMENT REPORT (Version 2)

Basic Assessment for the proposed maize and bean cultivation and harvesting enterprise for the Khanyani Agricultural Cooperative, Emthebeni, Inkosi Langalibalele Local Municipality, KwaZulu Natal.

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Prepared for:
Khanyani Agricultural Cooperative

CSIR Report No.: CSIR/CAS/EMS/IR/2015/00011/A
DEDTEA Reference number: DC23/0008/2017

August 2017

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CSIR Report Number: CSIR/CAS/EMS/IR/2015/00011

Reference number (Department of Economic Development, Tourism and Environmental Affairs:
DC23/0008/2017

22 August 2017

Prepared for:
Khanyani Agricultural Cooperative

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REPORT DETAILS

Title:	Basic Assessment for the proposed maize and bean cultivation and harvesting enterprise of Khanyani Agricultural Cooperative, Emthebeni Inkosi Langalibalele Local Municipality, KwaZulu Natal
Purpose of this report:	<p>The purpose of this Basic Assessment Report (BAR) is to:</p> <ul style="list-style-type: none">• Present the proposed project and the need for the project;• Describe the affected environment at a sufficient level of detail to facilitate informed decision-making;• Provide an overview of the BA Process being followed, including public consultation;• Assess the predicted positive and negative impacts of the project on the environment;• Provide recommendations to avoid or mitigate negative impacts and to enhance the positive benefits of the project; and• Provide an Environmental Management Programme (EMPr) for the proposed project. <p>A Draft Basic Assessment Report (BAR) was released in 25 April 2017, with a comments period from 25 to 02 May 2017. In response to comments received on the Draft BAR, additional inputs were sourced from specialists, authorities, the applicant and the Abambo Traditional Council by the EAP, leading to the publication of this Draft BAR (version 2) that is released for a 30 day comment period.</p>
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DEDTEA Reference number:	DC23/0008/2017
NEAS ref:	KZN/EIA/0000538/2017
CSIR Report Number:	CSIR/CAS/EMS/IR/2015/00011/A
CSIR Project Number:	EMS0136
Date:	August 2017
To be cited as:	CSIR, 2017. Draft Basic Assessment (Version 2) for the proposed maize and bean cultivation and harvesting enterprise for the Khanyani Agricultural Cooperative, Inkosi Langalibalele Local Municipality, KwaZulu Natal. CSIR Report Number CSIR/CAS/EMS/IR/2015/00011/B



OPPORTUNITY FOR REVIEW

Opportunity for Review:

This Draft Basic Assessment Report and Draft Environmental Management Programme (EMPr) are hereby released for a 30-day review period by stakeholders. Review comments are to be submitted to the Project Manager at the details below by 22 September 2017:

Project Manager - Karabo Mashabela

Council for Scientific and Industrial Research (CSIR)

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ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

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Minnelise Levendal (Project Leader)	Qualification & Expertise: MSc Minnelise is a Senior EAP in the EMS group of the CSIR and has a Master's degree in Botany. She has 15 years of experience in Environmental Management (which includes nine years working as an EAP). Before she joined the CSIR she was employed at the Western Cape Department of Environmental Affairs and Development Planning (DEA&DP) where she assessed EIAs, BAs and EMPs. Minnelise is the Project Manager of the Special Needs and Skills Development Programme of DEA which provides <i>pro bono</i> environmental assessments (BAs) to applicants with special needs. Minnelise is currently managing various EIAs for wind and solar renewable energy projects in South Africa. Minnelise was the CSIR project manager for the 100 MW Ubuntu Wind Energy Facility near Jeffrey's Bay (Environmental Authorisation granted in June 2012), as well as the 50 MW Banna Ba Pifhu Wind Energy Facility proposed by WKN Wind current near Humansdorp in the Eastern Cape (Environmental Authorisation granted in July 2014). She was the project manager of ten BAs for wind monitoring masts in South Africa as part of the National Wind Atlas Project of the Department of Energy. Environmental Authorisation from the national Department of Environmental Affairs for all the ten masts was obtained in 2010. She was also the Project Leader for seven Solar Photovoltaic facilities near Kenhardt in the Northern Cape in 2016.
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EXECUTIVE SUMMARY

INTRODUCTION AND BACKGROUND

The Khanyani Agricultural Cooperative is a crop producing community owned enterprise that has been allocated a 26 hectare (ha) portion of land owned by the KwaMkhize Traditional Council, in the Imbabazane Local Municipality, KwaZulu-Natal (KZN). The Agricultural Cooperative consists of twelve community members and is led by Mr Bongani Mnculwane. The Khanyani Agricultural Cooperative proposes to cultivate a combination of maize and bean crops on approximately 17 ha of this site, avoiding the portion of the site with shallower soil and rock outcrops, and maintaining a buffer of indigenous grassland vegetation around the periphery of the site.

Maize and beans are among the most important food crops in South Africa and are produced throughout the country under diverse environments. The combination of maize with a legume crop such as soya beans has been shown to have advantages in maintaining nitrogen levels in the soil (refer to the report mentioned in the section below on Maize-Legume Intercropping). Furthermore, the agricultural adviser from the KZN provincial Department of Agriculture and Environmental Affairs has also advised the Cooperative to include potato crops in order to enhance the soil moisture content (13 March 2017).

The project comprises the following proposed activities:

- Demarcation of the buffer of natural vegetation around the periphery of the site to be left intact.
- Clearing of the 17 hectares for cultivation of maize, beans and potatoes. This clearing is expected to be done using a communal tractor, noting that the tractor must not impact on the natural vegetation buffer (i.e. the turning areas for the tractor need to be within the 17 ha). The ploughing will be done along the contour lines, with low agricultural berms (ridges) created parallel to contour lines to retain run-off water and prevent erosion.
- Planting of crops will then take place. The maize and beans of the Khanyani Agricultural Cooperative will be planted from October to December. Due to variations in rainfall pattern, temperature and duration of the growing season, different cultivars will be available, adapted to the range of climatic and production conditions. Maize can take from 60 to 100 days to reach harvest depending upon variety and the amount of heat during the growing season. The optimal temperature for soya beans growth is 13 to 30 degrees Celsius, with rainfall of 500 mm to 900 mm required (DAFF, 2010, Soya Beans Production Guideline).
- These crops will be planted, thinned, weeded and harvested annually to promote maximum employment opportunities for unskilled and semi-skilled employees from the local community. Harvesting will take place in January to March each year. This will mostly be done manually. It is expected that approximately 400 person-days will be utilised, with employment of some 12 to 24 workers.
- Maize crops will mostly be sold to buyers, with potential for a portion to be consumed locally, either as fresh produce or to be dried and ground to maize meal. The soya beans will either be sold to buyers and/or consumed locally.
- After harvesting, the stalks and leaves of the crops can be manually cut and used to return organics back to the soil. This may reduce the use of fertilisers. Cattle may also be allowed to graze the maize leaves and stalks.

- The maize, beans and potato crops will be rotated to optimise soil nitrogen levels and moisture retention, while also balancing economic factors such as the lower produce value of potatoes.
- The plants will be rain fed (i.e. dry-land crops) and the developer does not have financial means to set up irrigation schemes. Therefore in droughts the applicant may not plant any crops.

The Cooperative is being assisted under the national Department of Environmental Affairs' Special Needs and Skills Development Programme to prepare an environmental assessment of a proposed agricultural project. Agricultural land in Inkosi Langalibalele is mainly utilised for subsistence purposes. According to the 2016 Spatial Development Framework (SDF) for the agricultural the maize production is about 40% whereas soya beans production accounts for 14% in the area. Commercial farming takes up 56% of the uThukela District Municipality and occupies a large portion of the municipal land. The agriculture sector is the major employer in the majority of municipalities and forms the economic anchor of these municipalities.

The Council for Scientific and Industrial Research (CSIR) has been appointed by the National Department of Environmental Affairs (DEA) to manage the Special Needs and Skills Development Programme. This programme provides *pro-bono* environmental services to community trusts and emerging entrepreneurs with "special needs", i.e. they are from disadvantaged backgrounds without access to financial and other resources that enable them to meet the requirements of the National Environmental Management Act (NEMA), which can then prevent them from implementing projects to support their livelihoods. The programme undertakes Basic Assessments for projects that require this assistance in applying for Environmental Authorisation. This led to the CSIR undertaking this Basic Assessment for the Khanyani Agricultural Cooperative in KwaMkhize, KwaZulu-Natal as the applicant qualifies as a special needs applicant and can therefore be assisted under this programme.

The development triggers listed activities in terms of the Environmental Impact Assessment (EIA) Regulations, Government Notice Regulations GNR 324, 325, 326 and 327 on the 7 April 2017 of the National Environmental Management Act (Act 107 of 1998) published in Government Gazette 40772 (Act no 107 of 1998, NEMA). In terms of these Regulations, a Basic Assessment (BA) should be undertaken for the proposed project. The following listed activities apply to the project (detailed in Table S.1 below).

Table S.1: Listed activities relating to the proposed project

Relevant Listing Notice	Activity	Description
GN. R 327, 7 April 2017	27	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for - i) The undertaking of a linear activity ii) Maintenance purposes undertaken in accordance with a maintenance management plan.
GN. R 324, 7 April 2017	12	The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertake in accordance with a maintenance management plan iii) Biodiversity stewardship Programme Biodiversity agreement areas v) Critical biodiversity areas as identified in the systematic biodiversity plans adopted by the competent authority or in bioregional plans

PROJECT DESCRIPTION

The Khanyani Agricultural Cooperative is a crop producing community owned enterprise that has been allocated a 26 hectare (ha) portion of land owned by the KwaMkhize Traditional Council, in the Imbabazane Local Municipality, KwaZulu-Natal (KZN). The Agricultural Cooperative consists of twelve community members and is led by Mr Bongani Mnculwane. The Khanyani Agricultural Cooperative proposes to cultivate a combination of maize and bean crops on approximately 17 ha of this site, avoiding the portion of the site with shallower soil and rock outcrops, and maintaining a buffer of indigenous grassland vegetation around the periphery of the site.

Maize and beans are among the most important food crops in South Africa and are produced throughout the country under diverse environments. The combination of maize with a legume crop such as soya beans has been shown to have advantages in maintaining nitrogen levels in the soil (refer to the report mentioned in the section below on Maize-Legume Intercropping). Furthermore, the agricultural adviser from the KZN provincial Department of Agriculture and Environmental Affairs has also advised the Cooperative to include potato crops in order to enhance the soil moisture content (13 March 2017).

The project comprises the following proposed activities:

- Demarcation of the buffer of natural vegetation around the periphery of the site to be left intact.
- Clearing of the 17 hectares for cultivation of maize, beans and potatoes. This clearing is expected to be done using a communal tractor, noting that the tractor must not impact on the natural vegetation buffer (i.e. the turning areas for the tractor need to be within the 17 ha). The ploughing will be done along the contour lines, with low agricultural berms (ridges) created parallel to contour lines to retain run-off water and prevent erosion.
- Planting of crops will then take place. The maize and beans of the Khanyani Agricultural Cooperative will be planted from October to December. Due to variations in rainfall pattern, temperature and duration of the growing season, different cultivars will be available, adapted to the range of climatic and production conditions. Maize can take from 60 to 100 days to reach harvest depending upon variety and the amount of heat during the growing season. The optimal temperature for soya beans growth is 13 to 30 degrees Celsius, with rainfall of 500 mm to 900mm required (DAFF, 2010, Soya Beans Production Guideline).
- These crops will be planted, thinned, weeded and harvested annually to promote maximum employment opportunities for unskilled and semi-skilled employees from the local community. Harvesting will take place in January to March each year. This will mostly be done manually. It is expected that approximately 400 person-days will be utilised, with employment of some 12 to 24 workers.
- Maize crops will mostly be sold to buyers, with potential for a portion to be consumed locally, either as fresh produce or to be dried and ground to maize meal. The soya beans will either be sold to buyers and/or consumed locally.
- After harvesting, the stalks and leaves of the crops can be manually cut and used to return organics back to the soil. This may reduce the use of fertilisers. Cattle may also be allowed to graze the maize leaves and stalks.
- The maize, beans and potato crops will be rotated to optimise soil nitrogen levels and moisture retention, while also balancing economic factors such as the lower produce value of potatoes.
- The plants will be rain fed (i.e. dry-land crops) and the developer does not have financial means to set up irrigation schemes. Therefore in droughts the applicant may not plant any crops.

SPECIALIST STUDIES

The following specialist studies have been undertaken:

- Terrestrial Ecological Study (Fauna and Flora)
- Wetland Delineation and Risk Assessment
- Heritage Impact Assessment

Terrestrial Ecological and Wetland Delineation studies

Terrestrial Ecological and Wetland Delineation studies of the area were undertaken by Simon Bundy of SDP Ecological and Environmental Services cc to inform the BA process. These studies are attached in Appendix D. The main findings of the studies are listed below.

Terrestrial Ecological Impact Assessment: Fauna and Flora

- The dominant vegetation form on the site is Mooi river grassland which is classified as being vulnerable on the national SANBI BGIS database, with hectares of this grassland currently remaining data. The loss of the 17 hectares of this grassland is assessed to be of high significance. The development will result in partial loss of current ecological connectivity and habitat loss of *Sagittarius serpentarius* (Secretary bird) and *Chrysospalax villosus* (golden mole).
- The cultivation of the 17 hectares could facilitate spread of alien invasive vegetation (strongly associated with soil disturbance) and soil erosion.

Wetland Delineation Study

- The site is on top of a flat hill top and there are no wetlands or watercourses on the sites.

An independent review of the Ecology Study was undertaken by Louise Zdanow of EnviroSwift and is included in the BAR (Appendix D).

IMPACT ASSESSMENT AND MITIGATION

The main potential ecological impacts associated with the proposed cultivation of 17 hectares of beans and maize and the significance ratings are listed in the table below.

Summary of potential impacts	Significance rating of impacts before mitigation	Significance rating of impacts after mitigation
Loss of 17 ha of natural grassland vegetation and associated faunal habitat	High (Negative)	High (Negative)
Displacement and potential loss of fauna on site, in particular the Golden mole and Secretary bird.	High (Negative)	Medium (Negative)
Introduction and increase in spread of alien vegetation (grasses)	Low (Negative)	Low (Negative)
Soil erosion as a result of cultivation, especially on steeper slopes on the edge of the site	Medium (Negative)	Low (Negative)
Employment opportunities created for the local community and increased food security	Low (Positive)	High (Positive)

The following site specific mitigation actions are proposed and informed the revised 17 ha layout:

- Cultivation should be restricted to the proposed 17 hectares foot print
- Retain natural vegetation around the periphery and on steeper slopes on the sites in order to minimise and manage the risks of soil erosion

With regards to the National Forest Act (Act 84 of 1998), a letter dated 26 May 2017 was provided by Ms Nandipha Sontangane of the KZN Forestry Regulations and Support sub-directorate of the national Department of Agriculture, Fisheries and Forestry (DAFF), based in Pietermaritzburg (tel. 033-392 7733). This letter states that the site is mostly covered by grasslands and that no forest or woody vegetation is noted on the site, and that consequently this sub-directorate of DAFF has no objections to the proposed project in terms of the above Act.

TO ADD REGIONAL SCALE MITIGATION, THAT ARE OUTSIDE THE SCOPE OF THIS BA, BUT COULD ADD VALUE IN TERMS OF INFORMING SUSTAINABLE DEVELOPMENT IN THE LOCAL AREA , SUCH AS ENVIRONMENTAL SCREENING FOR AGRIC POTENTIAL AND A STEWARDSHIP PROGRAMME. THESE INITIATIVES COULD INCLUDE THE TRIBAL AUTHORITY, EZEMVELO WILDLIFE, THE AGRICULTURE DEPT AND THE LOCAL DOISTRICT MUNICIPALITY. THIS OUTSIDE THE BA MANDATE BUT OF VALUE IN TERMS OF RESPONSIBLE PLANNING

Heritage Impact Assessment

The CSIR contracted Ethembeni Cultural Heritage to undertake a Heritage Impact Assessment (HIA) for the proposed cultivation project of the Khanyani Agricultural Cooperative.

The SAHRIS Palaeontology sensitivity map indicates the area to be of low sensitivity and as such the Ethembeni Cultural Heritage applied for an Exemption from undertaking a full HIA. This request was granted by AMAFA.

Response from AMAFA (letter dated 17 February 2017): AMAFA has no objection to the development and recommends that the following standard conditions must be adhered to.

Conditions provided by the Heritage authorities:

1. AMAFA should be contacted if any heritage objects are identified during earthmoving activities and all development should cease until further notice.
2. No structures older than sixty years or parts thereof are allowed to be demolished altered or extended without a permit from Amafa.
3. No activities are allowed within 50 m of a site, which contains rock art.
4. Sources of all natural materials (including topsoil, sands, natural gravels, crushed stone, asphalt, etc.) must be obtained in a sustainable manner and in compliance with the heritage legislation.

Failure to comply with the requirements of the National Heritage Resources Act and the KwaZulu Natal Heritage Resources Act could lead to legal action being instituted against the applicant. Should you have any further queries, please contact SAHRA or AMAFA

The contact details for SAHRA are:

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From a socio-economic perspective, this agricultural project is predicted to have positive benefits at the local scale, in particular for the nearby village of Khamkhize, although notably at a small scale. These benefits will accrue from the creation of some 12 to 24 temporary employment opportunities for the local community during the preparation of the fields and ongoing cultivation of the maize, soya beans and potato crops. The local community will be involved in ongoing activities such as soil preparation, planting, weeding, thinning and harvesting. Much of this work is intended to be done manually and to optimise job creation. The project is also likely to support new opportunities for processing and sale of maize and bean products within the local community, as well as potential for cattle to graze on the maize stalks after harvesting. The project could also attract additional support from DAFF into the village, such as provision of fertilizer. The leader of the Khanyani Agricultural Cooperative has conveyed that the intention is to provide a portion of the crop to the poorest members of the village to improve their food supply and well-being.

EAP'S RECOMMENDATIONS AND OPINION

The recommendations and opinion that is provided below are informed by the following context:

- The objective of the BA process is to conduct a consultative process that assesses the positive and negative impacts of the proposed project on the geographical, physical, biological, social, economic, heritage and cultural sensitivity of the site and its surrounding location (as stated in section 2(d) of Appendix 1, EIA Regulations). A holistic approach that considers the livelihoods of poor rural communities is therefore taken by the EAP in reaching this opinion.
- This BA is conducted as part of the Special Needs programme that provides support to applicants who have been assessed to have "special needs" (as provided for in section 47 of the EIA Regulations, entitled "Assistance to people with special needs") and are from disadvantaged backgrounds with very limited access to resources such as finances and land. For example, the applicant does not have access to alternative sites for cultivation.
- This project is within tribal authority land where historically the rights of the Nkosi would have provided sufficient authority for the applicant to grow maize and beans on this site. When the applicant was informed that an additional approval is required in terms of NEMA, they acted in good faith and left the land unutilised for the past two years. The BA process was initiated in 2015 and the Background Information Document was released to all stakeholders in November 2015.

Given this context, it is reasonable to suggest that the BA process and the inputs of stakeholders such as government authorities should be oriented towards seeking a constructive solution that does not frame NEMA and the EIA Regulations as a "green handbrake" to socio-economic development.

In summary, the key findings of the Basic Assessment process for the proposed 17 ha of maize and bean cultivation by the Khanyani Agricultural Cooperative are as follows:

- the biodiversity loss as a result of the cultivation of 17 ha of Mooi River Grassland is a **negative impact of high significance**, noting that this habitat is rated as **Vulnerable** on the national SANBI BGIS database and that 174 407 ha of this grassland currently exists (i.e. the footprint constitutes approximately 1/10 000th of the remaining area of this habitat);
- the site falls within an Ecological Support Area (ESA) as shown in the SANBI database;
- with regards to the National Forest Act (Act 84 of 1998), a letter dated 26 May 2017 was provided by Ms Nandipha Sontangane of the KZN Forestry Regulations and Support sub-directorate of the national Department of Agriculture, Fisheries and Forestry (DAFF), based in Pietermaritzburg (tel. 033-392 7733). This letter states that the site is mostly covered by grasslands and that no forest or woody vegetation is noted on the site, and that

consequently this sub-directorate of DAFF has no objections to the proposed project in terms of the above Act.

- the site is on a flat hill top and does not include any National Freshwater Ecosystem Priority Areas (NFEPA) wetlands or watercourses;
- the agricultural potential is rated as **low moderate and moderate** in the national agricultural potential mapping and a site visit was conducted by the CSIR confirms that the site does have agricultural potential for maize and beans;
- employment opportunities created for the local community (estimated as 12 to 24 work opportunities) and increased food security are predicted to result in a **positive impact of high significance**;
- the heritage impact is assessed to be of **low significance**, as confirmed by 17 February 2017 in their input to the BA;
- from a planning perspective, the site is an area zoned for agricultural use and does not form part of any protected area expansion network. The proposed development does not conflict with the municipality's IDP and SDF (see letter from Inkosi Langalibalele Local Municipality dated 15 August 2017, see Appendix E);
- from a cultural perspective, the site is part for the Abambo Traditional Council area and the use of this 26 ha site was allocated to the applicant by the INKosi Sbonelo N. Mkhize, and the Nkosi has stated clearly that unfortunately he has no other sites that are available for this applicant (confirmed in a letter dated 31 July 2017; see Appendix E);
- in terms of land use, the site has been used for grazing cattle for many years and contains invasive alien grasses;
- in terms of development trends in the local area, the development of the site for maize and beans is not out of character with the area as there are existing plantations and other agricultural activities in the surrounding local area.

In post-colonial societies, the perception amongst indigenous communities, and often their direct experience, is that the law is being imposed upon and suppresses the activities of disadvantaged communities, instead of supporting them. In the Khanyani BA process, with this being part of the DEA Special Needs Programme, the CSIR team has endeavored to create collaboration amongst the authorities involved from the start of the BA process in late 2015, in order to provide meaningful support to the Khanyani Agricultural Cooperative. This has resulted in inputs being received from all spheres of government (from national, provincial and local government) as well as relevant state bodies. In providing their inputs, each authority is obliged to act according to their mandate and best practice. The role of the CSIR team is to provide a consultative and transparent process that collates the relevant inputs and assists the competent authority in reaching a balanced and informed decision.

If the project is to proceed, then the EMPr for this proposed development must form part of the authorisation conditions and be adhered to by the applicant. In order to ensure the effective implementation of the mitigation and management actions, an EMPr has been compiled and is included in the BA report (see Appendix F). The mitigation measures required to ensure that the project is planned and conducted in an environmentally responsible manner are listed in the EMPr. The EMPr is a dynamic document that should be updated as required and provides clear and implementable measures for the proposed project.

The recommendations of the ecological specialist, with regards to vulnerable fauna found on site were considered when preparing this BA Report and EMPr. *Sagittarius serpentarius* (Secretary bird) and *Chrysospalax villosus* (Rough-haired Golden Mole) are listed as Vulnerable species and occur on the site (Red data book, 2000). Therefore the Regulations of the National Environmental Management Biodiversity Act 10 of 2004 (NEMBA) on Threatened and Protected Species were also taken into consideration in preparation of this BAR and EMPr.

Negative impacts with regards to the loss of 17 hectares of grassland of biodiversity importance have been identified within this BAR that, in the opinion of the EAP, should not be considered as "fatal flaws" when considered in the broader context of the biophysical and socio-economic impacts of the project.

The project proponent, i.e. the Khanyani Agricultural Co-operative, is being assisted under the DEA Special Needs and Skills Development Programme on a *pro bono* basis as it qualifies as an applicant with special needs. As such it does not have the financial means to have an alternative site available other than the preferred site which was given to them by the Kwa-Mkwize Traditional Council. It is therefore recommended by the EAP that the proposed layout and preferred site (this proposal) be included in the Environmental Authorisation (should such authorisation be granted for the proposed project).

Concluding statement from EAP: Taking into consideration the contextual observations, key findings and recommendations listed above, as well as the broad range of stakeholder inputs received during this BA process over the past 20 months, it is the opinion of the EAP that this project for 17 hectares of maize and bean cultivation should be granted Environmental Authorisation in terms of the EIA Regulations promulgated under the NEMA, provided that the specified buffer zones of natural vegetation on site are maintained and the other mitigation measures outlined in the EMPr are applied effectively.

OPPORTUNITY FOR REVIEW:

This Draft Basic Assessment Report and Draft Environmental Management Programme (EMPr) version 2 are hereby released for review by stakeholders for 30 days from 22 August to 22 September 2017. Review comments are to be submitted to the project manager below:

Ms Karabo Mashabela
PO Box 320
Stellenbosch
7599
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Email: kmashabela1@csir.co.za

GLOSSARY

BA	Basic Assessment
BAR	Basic Assessment Report
BID	Background Information Document
CA	Competent Authority
CV	Curriculum Vitae
CSIR	Council for Scientific and Industrial Research
DEA	National Department of Environmental Affairs
DEA&DP	Department of Environmental Affairs and Development Planning
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EMPr	Environmental Management Programme
HSSE	Health, Security, Safety and Environment
I&AP	Interested and Affected Party
IDP	Integrated Development Plan
NEMA	National Environmental Management Act (Act 107 of 1998)
NEMBA	National Environmental Management Biodiversity Act (Act 10 of 2004)
NEM: AQA	National Environment Management: Air Quality Act (Act 39 of 2004)
NHRA	National Heritage Resources Act (Act 25 of 1999)
PPP	Public Participation Process
SACNASP	South African Council for Natural Scientific Professions
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System
SANS	South African National Standards
SDF	Spatial Development Framework
ToR	Terms of Reference

**Requirements according to Appendix 1 of GNR 324, 325, 326 and 327 on the 7 April 2017 of the National Environmental Management Act (Act 107 of 1998) published in Government Gazette 40772-
 Scope of Assessment and Content of BAR.**

SCOPE OF ASSESSMENT AND CONTENT OF BAR	SECTION IN BAR
1) A basic assessment report must contain all the information that is necessary for the competent authority to consider and come to a decision on the application, and must include - (a) details of - i. the EAP who prepared the report; and	Section A
ii. the expertise of the EAP, including a curriculum vitae;	Section A
(b) the location of the activity, including: (i) the 21 digit Surveyor General code of each cadastral land parcel; (ii) where available, the physical address and farm name; (iii) where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties;	Appendix A
(c) a plan which locates the proposed activity or activities applied for as well as associated structures and infrastructure at an appropriate scale; or, if it is- (i) a linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or (ii) on land where the property has not been defined, the coordinates within which the activity is to be undertaken;	Appendix A
(d) a description of the scope of the proposed activity, including- (i) all listed and specified activities triggered and being applied for; and (ii) a description of the activities to be undertaken including associated structures and infrastructure ;	Section A

SCOPE OF ASSESSMENT AND CONTENT OF BAR	SECTION IN BAR
<ul style="list-style-type: none"> (ix) the outcome of the site selection matrix; (x) if no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such; and (xi) a concluding statement indicating the preferred alternatives, including preferred location of the activity; 	
<p>(i) a full description of the process undertaken to identify, assess and rank the impacts the activity will impose on the preferred location through the life of the activity, including-</p> <ul style="list-style-type: none"> (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process; and (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures; 	Section E and F
<p>(j) an assessment of each identified potentially significant impact and risk, including-</p> <ul style="list-style-type: none"> (i) cumulative impacts; (ii) the nature, significance and consequences of the impact and risk; (iii) the extent and duration of the impact and risk; (iv) the probability of the impact and risk occurring; (v) the degree to which the impact and risk can be reversed; (vi) the degree to which the impact and risk may cause irreplaceable loss of resources; and (vii) the degree to which the impact and risk can be avoided, managed or mitigated; 	Section F
<p>(k) where applicable, a summary of the findings and impact management measures identified in any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final report;</p>	Section F
<p>(l) an environmental impact statement which contains-</p> <ul style="list-style-type: none"> (i) a summary of the key findings of the environmental impact assessment; (ii) a map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers; and (iii) a summary of the positive and negative impacts and risks of the proposed activity and identified alternatives; 	Where is this addressed?

SCOPE OF ASSESSMENT AND CONTENT OF BAR	SECTION IN BAR
(m) based on the assessment, and where applicable, impact management measures from specialist reports, the recording of the proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr;	Appendix F
(n) any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation;	Appendix D
(o) a description of any assumptions, uncertainties, and gaps in knowledge which relate to the assessment and mitigation measures proposed;	Section F
(p) a reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation;	Section F
(q) where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required, the date on which the activity will be concluded, and the post construction monitoring requirements finalised;	N/A
(r) an undertaking under oath or affirmation by the EAP in relation to: <ul style="list-style-type: none"> (i) the correctness of the information provided in the reports; (ii) the inclusion of comments and inputs from stakeholders and I&APs; (iii) the inclusion of inputs and recommendations from the specialist reports where relevant; and (iv) any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties; and 	Appendix A Section C Appendix E
(s) where applicable, details of any financial provisions for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts;	Appendix E
(t) any specific information that may be required by the competent authority; and	N/A
(u) any other matters required in terms of section 24(4)(a) and (b) of the Act.	N/A

SECTION A : ACTIVITY INFORMATION

1. INTRODUCTION

1.1 BACKGROUND

The Khanyani Agricultural Cooperative is a crop producing community owned enterprise that has been allocated a 26 hectare (ha) portion of land owned by the KwaMkhize Traditional Council, in the Imbabazane Local Municipality, KwaZulu-Natal (KZN). The Khanyani Agricultural Cooperative is a start-up agricultural project. It is located in the KwaMkhize rural area in Kwazulu-Natal 21° 13' 1"S; 29° 41' 33"E. The Agricultural Cooperative consists of twelve community members and is led by Mr Bongani Mnculwane. The Khanyani Agricultural Cooperative proposes to cultivate a combination of maize and bean crops on approximately 17 ha of this site, avoiding the portion of the site with shallower soil and rock outcrops, and maintaining a buffer of indigenous grassland vegetation around the periphery of the site.

Maize and beans are among the most important food crops in South Africa and are produced throughout the country under diverse environments. The combination of maize with a legume crop such as soya beans has been shown to have advantages in maintaining nitrogen levels in the soil (refer to the report mentioned in the section below on Maize-Legume Intercropping). Furthermore, the agricultural adviser from the KZN provincial Department of Agriculture and Environmental Affairs has also advised the Cooperative to include potato crops in order to enhance the soil moisture content (13 March 2017).

In terms of Government Notice Regulations GNR 324, 325, 326 and 327 on the 7 April 2017 of the National Environmental Management Act (Act 107 of 1998) published in Government Gazette 40772, a BA Process is required for the proposed project. The need for the BA is triggered by the inclusion of Activity 27 listed in GN R327 and Activity 12 iii and v (Listing Notice 1). The BA process is required to obtain Environmental Authorisation (EA) from the competent authority, i.e. the KZN Department of Economic Development, Tourism and Environmental Affairs (DEDTEA) before the project can commence.

This BA is conducted as part of the Special Needs Programme that provides support to applicants who have been assessed to have "special needs" (as provided for in section 47 of the EIA (Assistance to people with special needs)) and are from disadvantaged backgrounds with very limited access to resources such as finances and land. For example, the applicant does not have access to alternative sites for cultivation.

The CSIR was appointed by the national Department of Environmental Affairs (DEA) to manage the Special Needs and Skills Development Programme. The Environmental Management Services (EMS) Group of the CSIR is therefore undertaking the BA process on behalf of the applicant who qualified as a special needs applicant.

The EMS is a unit under the Implementation Unit (IU) within the CSIR. The CSIR is amongst the largest multi-disciplinary research and development organisation in Africa, which undertakes applied research and development for promoting sustainability across the continent. The organisation also provides consulting services to government, private sector, international agencies and non-governmental organisations.

The CSIR's approach builds on its experience from conducting wide range of BAs and EIAs throughout Southern Africa. It has in-depth experience in conducting BAs, EIAs and preparing EMPs in accordance with South African and international requirements

1.2 NAMES AND EXPERTISE OF REPRESENTATIVES OF THE EAP

Names and details of the expertise of each representative of the EAP involved in the preparation of this report:

Name of representative of the EAP	Education qualifications	Professional affiliations	Experience in environmental assessments (yrs)
Paul Lochner	BSc Civil Engineering MPhil Environmental Science	IAIAsa	26 years
Minnelise Levendal	MSc Botany	SACNASP 117078 & IAIAsa	16 years
Karabo Mashabela	MSc Environmental Science & Geography	SACNASP 116164 & IAIAsa	1 year

1.3 NAMES OF EXPERTISE REVIEWER

Name of reviewer	Education qualifications	Professional affiliations	Experience in environmental assessments (yrs)
Pat Morant	MSC Environmental Studies	SACNASP 40154/83	30 years

1.4 NAMES AND EXPERTISE OF SPECIALISTS

Name of specialist	Education qualifications	Field of expertise	Section/s contributed to in this basic assessment report	Title of specialist report/ s as attached in Appendix D
Simon Colin Bundy	BSc, MSc, Pr.Sci.Nat	Ecological/biodiversity assessment and wetland delineation	Section 4 and Appendix D	Ecological review - Khanyane agricultural project Inkosi Langalibalele, nr kamberg
Louise Zdanow	BSc (Hons) Pr.Sci.Nat Reg. no. 114072	Ecological assessment	Section 4	Peer Reviewer of the Ecological Specialist study
Len van Schalkwyk	BA Hons. Archaeology(Stell) 1982; MA Archaeology (UCT) 1992	Archaeologist; Heritage Practitioner	Appendix E.7	Application for Exemption from a Phase 1 Heritage Impact Assessment
Simon Colin Bundy	BSc, MSc, Pr.Sci.Nat	Ecological/biodiversity assessment and wetland delineation	Section 4 and Appendix D	Wetlands delineation and risk assessment Khanyane community agricultural project, near Mooi River Kwa Zulu-Natal

1.5 DESCRIPTIONS OF PROPOSED SITE FOR CULTIVATION

The Khanyani Agricultural Cooperative is a crop producing community owned enterprise, located on a portion of land owned by the KwaMkhize Traditional Council in Inkosi Langelibalele Local Municipality, KwaZulu-Natal (KZN) (see Figure 1 (a-e) for the project location).

The Khanyani Agricultural Cooperative initially proposed to cultivate 9.5 ha of maize and 9.5 ha of bean crops, with a total footprint of 19 hectares. Based on the inputs from the specialist and authorities during the BA process, and taking into consideration factors such as soils and agricultural potential as well as environmental sensitivities, the CSIR has recommended that the proposed area to be cultivated be reduced to 17 hectares.

The project comprises the following proposed activities:

- Demarcation of the buffer of natural vegetation around the periphery of the site to be left intact.
- Clearing of the 17 hectares for cultivation of maize, beans and potatoes. This clearing is expected to be done using a communal tractor, noting that the tractor must not impact on the natural vegetation buffer (i.e. the turning areas for the tractor need to be within the 17 ha). The ploughing will be done along the contour lines, with low agricultural berms (ridges) created parallel to contour lines to retain run-off water and prevent erosion.
- Planting of crops will then take place. The maize and beans of the Khanyani Agricultural Cooperative will be planted from October to December. Due to variations in rainfall pattern, temperature and duration of the growing season, different cultivars will be available, adapted to the range of climatic and production conditions. Maize can take from 60 to 100 days to reach harvest depending upon variety and the amount of heat during the growing season. The optimal temperature for soya beans growth is 13 to 30 degrees Celsius, with rainfall of 500 mm to 900 mm required (DAFF, 2010, Soya Beans Production Guideline).
- These crops will be planted, thinned, weeded and harvested annually to promote maximum employment opportunities for unskilled and semi-skilled employees from the local community. Harvesting will take place in January to March each year. This will mostly be done manually. It is expected that approximately 400 person-days will be utilised, with employment of some 12 to 24 workers.
- Maize crops will mostly be sold to buyers, with potential for a portion to be consumed locally, either as fresh produce or to be dried and ground to maize meal. The soya beans will either be sold to buyers and/or consumed locally.
- After harvesting, the stalks and leaves of the crops can be manually cut and used to return organics back to the soil. This may reduce the use of fertilisers. Cattle may also be allowed to graze the maize leaves and stalks.
- The maize, beans and potato crops will be rotated to optimise soil nitrogen levels and moisture retention, while also balancing economic factors such as the lower produce value of potatoes.
- The plants will be rain fed (i.e. dry-land crops) and the developer does not have financial means to set up irrigation schemes. Therefore in droughts the applicant may not plant any crops.

In terms of the suitability, maize and beans are the largest locally produced field crops, and the most important source of carbohydrates in the southern African region as well as Estcourt. According to the Agricultural advisor, Ms J.B Hadebe, the area has soils as such Hutton and Clovelly which are good soils in terms of rooting depth and drainage. The crops that were recommended, i.e maize and dry bean, are suitable for the area potatoes are as suitable. An expected maximum yield of 4 tonnes /ha of maize, 1.5

tonnes/ha for dry beans and 20 tonnes/ha of potatoes could be attained provided the recommendations with respect to soil nutrient and lime are followed.

According to South African National Biodiversity Institute (SANBI) data the volume of field crop production increased by 12.8% mainly as a result of increases in the production of summer crops as well as oilseed crops (sunflower seed, soya beans and groundnuts). Maize production increased by 2.2 million tons (17.7%) and sorghum production by 124 775 tonnes (73.7%).



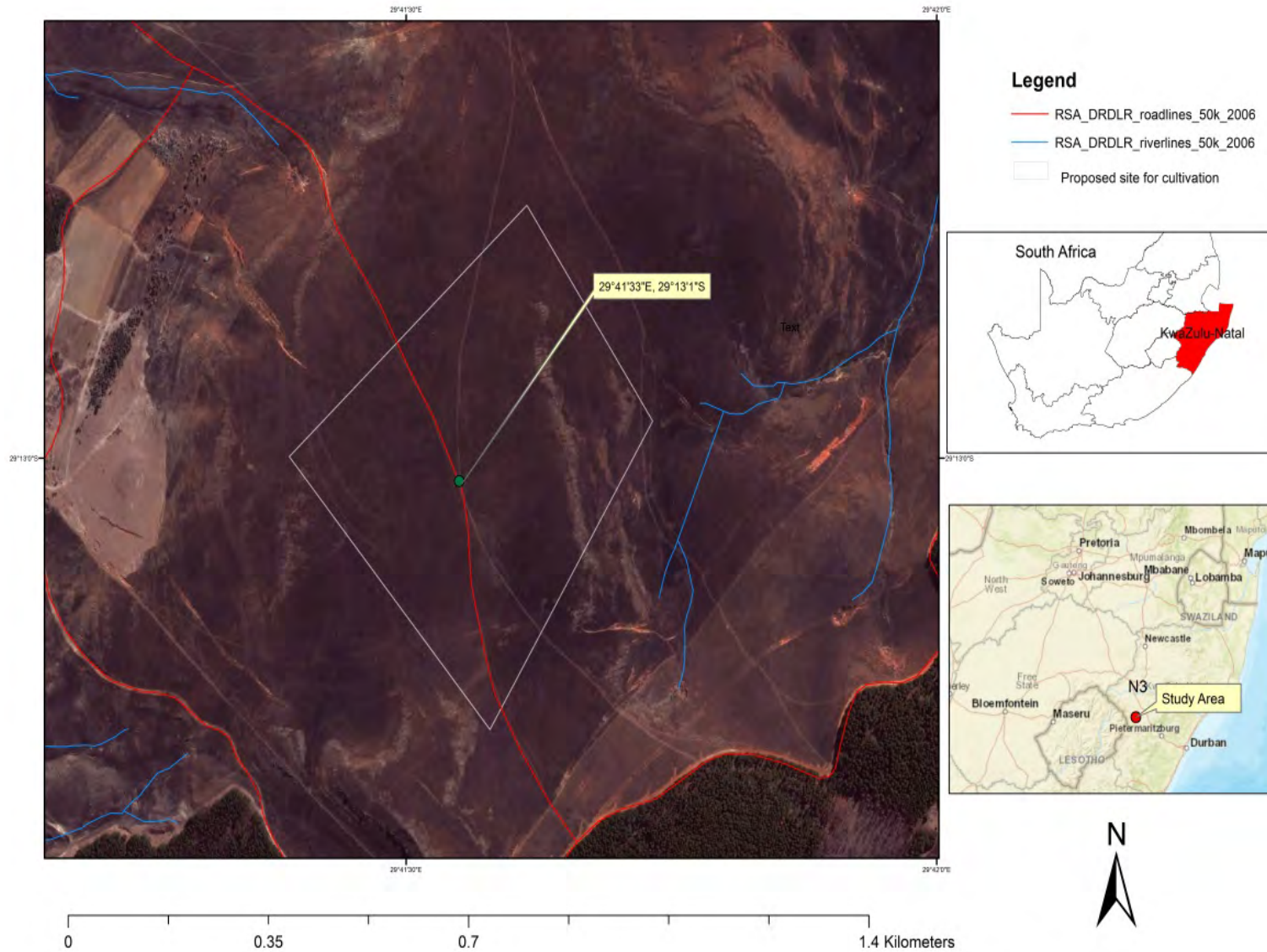


Figure 1a: Initial proposed site for the cultivation of 19.5 Hectares

The figure below shows the refined proposed layout site for cultivation



Figure 1b: Proposed reduced site for cultivation of 17 Hectares

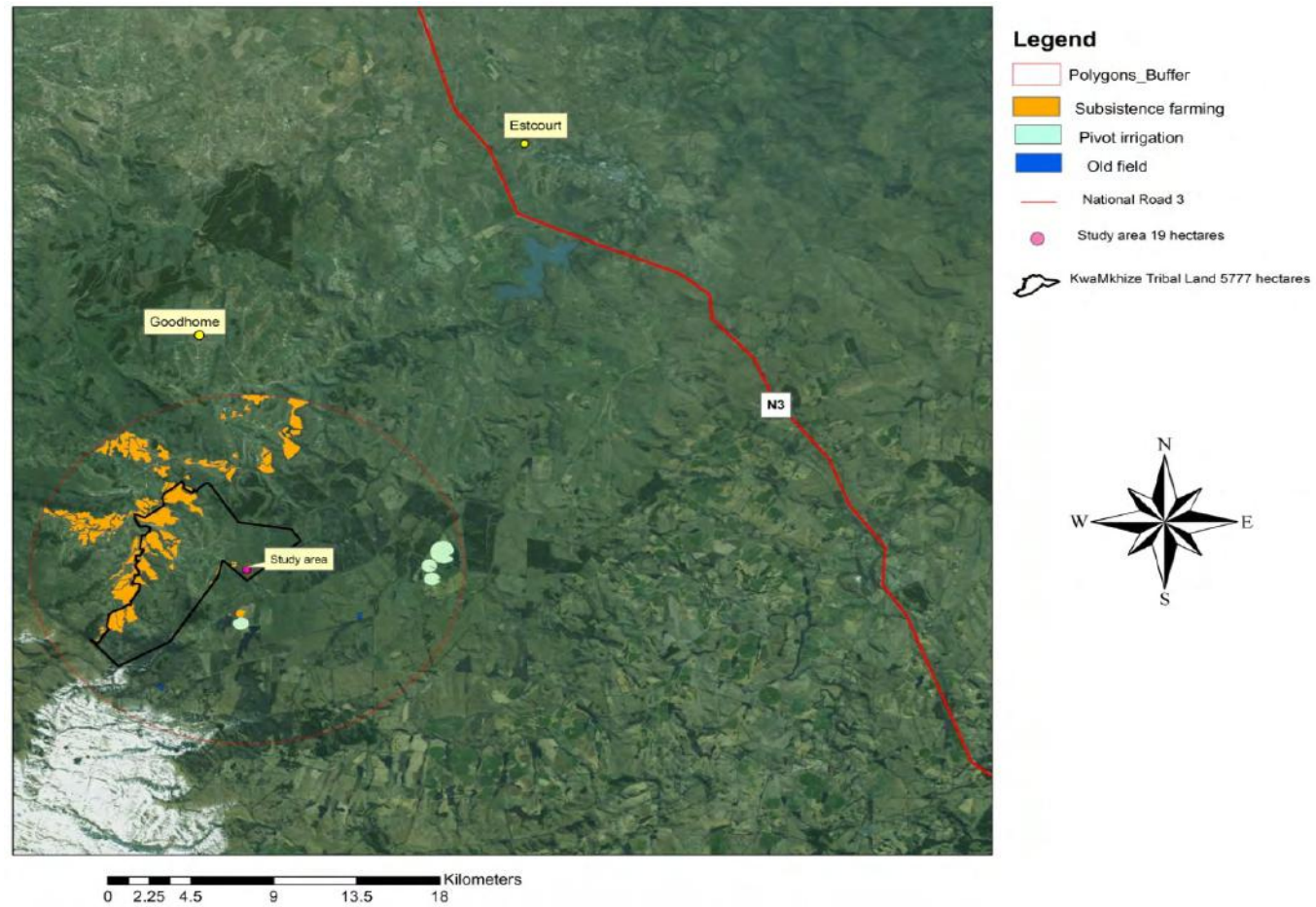


Figure 1c: 10km buffer for the subsistence farming in the area

The figure above shows the subsistence farming and pivot irrigation in the area within 10 km buffer zone.

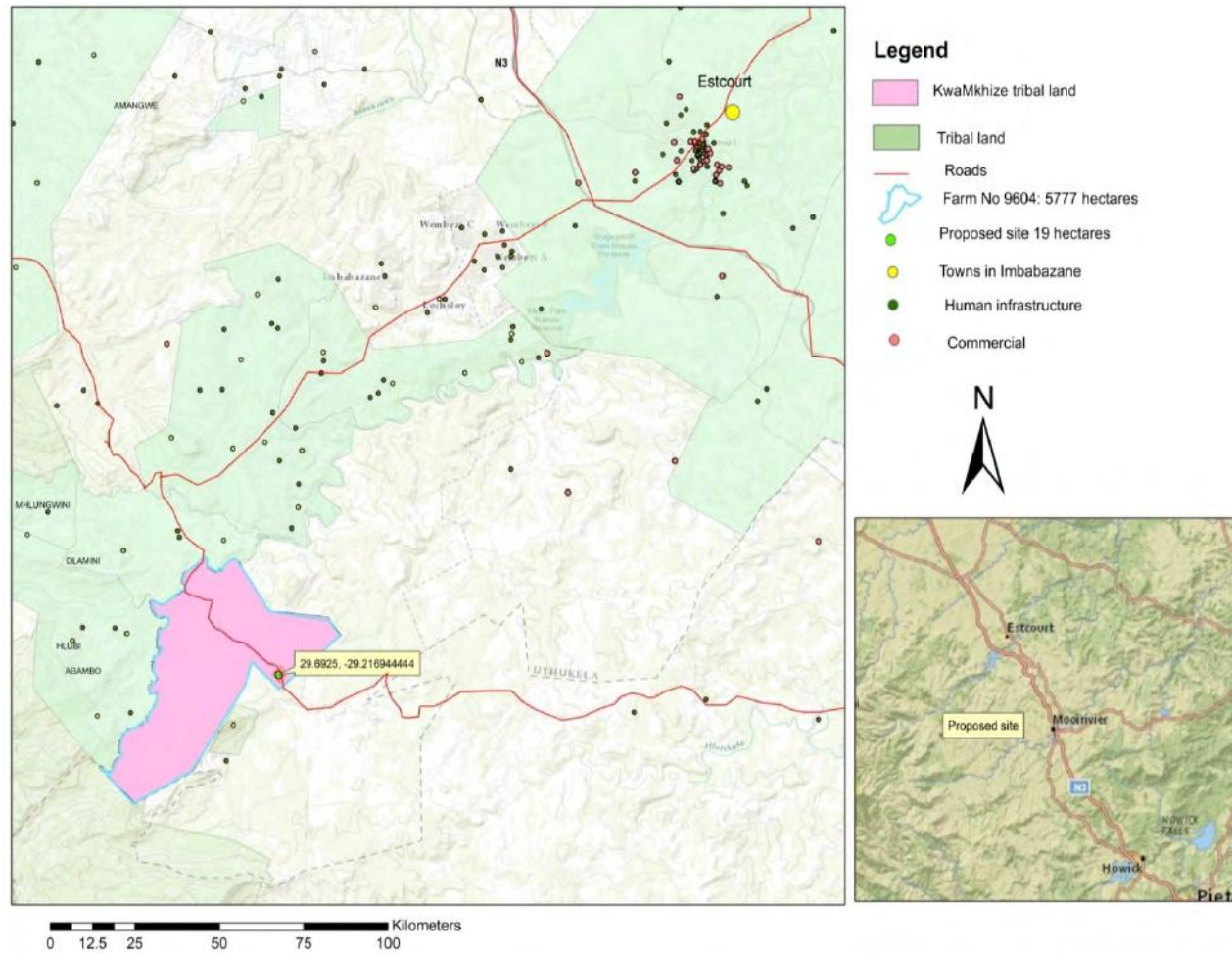


Figure 1d: Locality Map for KwaMkhize Tribal Land

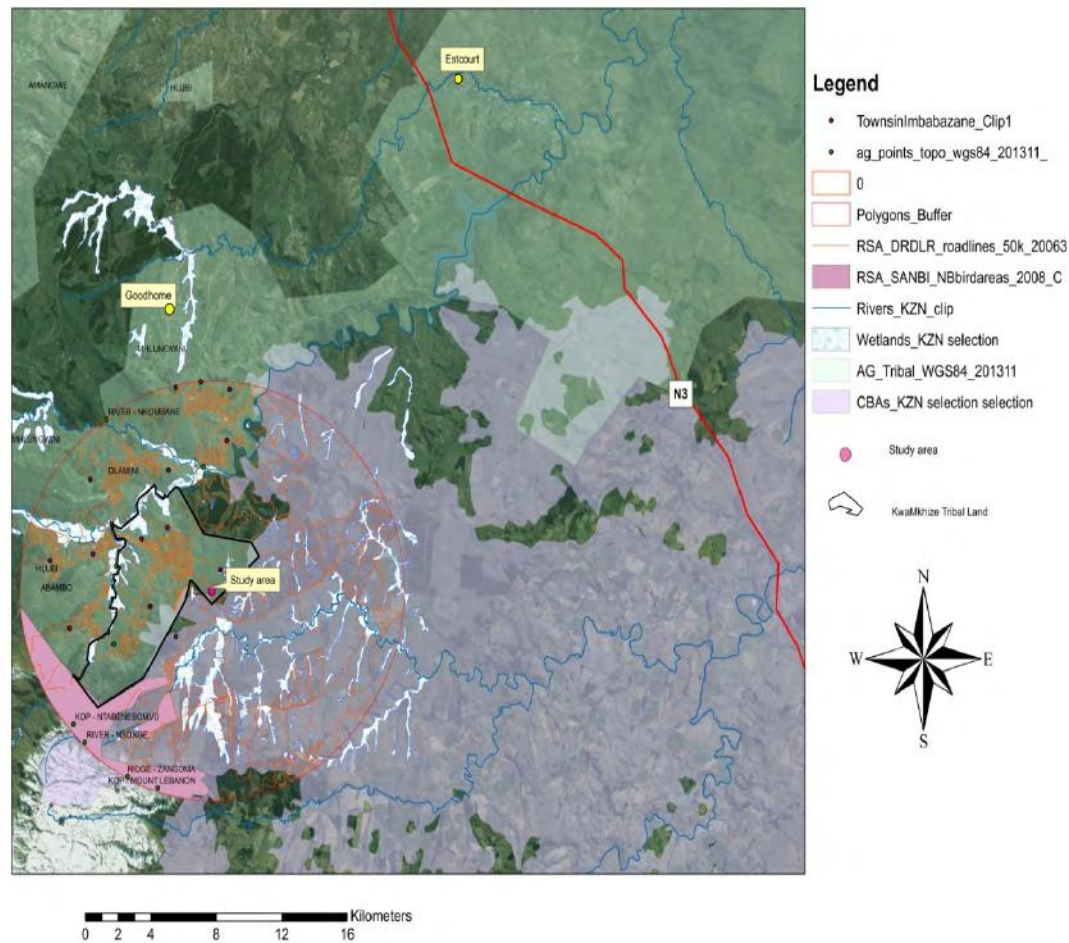


Figure 1e: Locality map with 10 km buffer zone

1.6 PROPOSED LISTED ACTIVITIES

Relevant Listing Notice	Activity	Description
GN. R 327, 7 April 2017	27	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for - i) The undertaking of a linear activity ii) Maintenance purposes undertaken in accordance with a maintenance management plan.
GN. R 324, 7 April 2017	12	The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertake in accordance with a maintenance management plan iii) Biodiversity stewardship Programme Biodiversity agreement areas v) Critical biodiversity areas as identified in the systematic biodiversity plans adopted by the competent authority or in bioregional plans

1.7 FEASIBLE AND REASONABLE ALTERNATIVES

No feasible or reasonable alternatives have been identified for the proposed development, because the land was acquired through the KwaMkhize Traditional Council. There are therefore no site alternatives proposed for this project. This was confirmed by a letter from the INkosi Sbonelo N. Mkhize on 31 July 2017 (see appendix E).

The land was given to the Khanyani Agricultural Cooperative for the sole purpose of agriculture. Maize and bean crops are the most important food crops in South Africa and are, therefore, very feasible to cultivate. The project will provide economic benefits to the community owned enterprise. No other types of activities were therefore considered to be undertaken on the site.

1.8 PROPERTY CO-ORDINATES, GRADIENT OF THE SITE AND LOCATION IN LANDSCAPE

Latitude	Longitude
21 ⁰ 13' 1"S	29 ⁰ 41' 33"E
Gradient of the site	
1:13 – 1:10	
Location in landscape	
Undulating plain/low hills	

1.9 OBJECTIVES OF STUDY

The BA for the Khanyani Agricultural Cooperative aims to achieve the following:

- Conduct a consultative process;
- Determine the policy and legal context within which the proposed activity is undertaken and how the activity complies with and responds to the policy and legal context;
- Describe the need for and desirability of, the proposed alternatives;
- Undertake an impact and risk assessment process inclusive of cumulative impacts (where applicable); and
- Propose mitigation measures and recommendations to avoid or reduce potential negative impacts.

1.10 SITE PHOTOGRAPHS

Site photographs are included as Appendix B of the Report.

1.11 FACILITY ILLUSTRATION

The proposed project does not include any “facility” development and thus there are no facility plans/illustrations associated with this development. The only aspect that needs to be taken into consideration is the cultivation of the land itself which will cover an area of approximately 17 ha as can be seen on the locality map and access road (Appendix A).

SECTION B : DESCRIPTION OF RECEIVING ENVIRONMENT

2. PROJECT MOTIVATION

2.1 SOCIO-ECONOMIC VALUE

What is the expected capital value of the activity on completion?	R388 500
What is the expected yearly income that will be generated by or as a result of the activity?	R498 000
Will the activity contribute to service infrastructure?	No
Is the activity a public amenity?	No
How many new employment opportunities will be created in the development phase of the activity?	12
What is the expected value of the employment opportunities during the development phase?	R7 000.00
What percentage of this will accrue to previously disadvantaged individuals?	100%
How many permanent new employment opportunities will be created during the operational phase of the activity?	12 Permanent
What is the expected current value of the employment opportunities during the first 10 years?	R 498 000
What percentage of this will accrue to previously disadvantaged individuals?	100%

Socio-Economic Benefits of the project

From a socio-economic perspective, this agricultural project is predicted to have positive benefits at the local scale, in particular for the nearby village of Khamkhize, although notably at a small scale. These benefits will accrue from the creation of some 12 to 24 temporary employment opportunities for the local community during the preparation of the fields and ongoing cultivation of the maize, soya beans and potato crops. The local community will be involved in ongoing activities such as soil preparation, planting, weeding, thinning and harvesting. Much of this work is intended to be done manually and to optimise job creation. The project is also likely to support new opportunities for processing and sale of maize and bean products within the local community, as well as potential for cattle to graze on the maize stalks after harvesting. The project could also attract additional support from DAFF into the village, such as provision of fertilizer. The leader of the Khanyani Agricultural Cooperative has conveyed that the intention is to provide a portion of the crop to the poorest members of the village to improve their food supply and well-being.

2.2 NEED AND DESIRABILITY

According to the Inkosi Langalibalele Local Municipality IDP 2016/2017 the Khanyani Agricultural Cooperative falls in good agricultural land (see Figure 2). The proposed development does not conflict with the municipality's IDP and SDF (see letter from Inkosi Langalibalele local municipality dated 15 August 2017, see Appendix E) (South Africa is a net maize exporting country. In 2014, about 26% of South African maize exports went to Taiwan. The industry makes an important contribution to the national

economy, given its agricultural and industrial investments, foreign exchange earnings, linkages with major suppliers, support industries and customers. The South African maize and bean industry generates an annual estimated R12 billion direct income annually.

Maize is the largest locally produced field crop, and the most important source of carbohydrates in the southern African region. South Africa is the main maize producer in the Southern African Development Community (SADC). More than 9 000 commercial maize producers are responsible for the major part of the South African crop, while the rest is produced by thousands of small-scale producers. Maize is produced mainly in the North West province, the Free State, the Mpumalanga Highveld and the KwaZulu-Natal Midlands. Local consumption of maize amounts to about 8 million tonnes, and the surplus is exported whereas bean cultivars are grown in South Africa. The common beans are *Phaseolus vulgaris*, which includes varieties such as small white and red speckled or sugar beans, the tepary bean (*Phaseolus acutifolius*) and the large white kidney bean (*Phaseolus coccineus*).

Beans were once known as 'poor man's meat', because they are cheaper and have more protein than an equal amount of red meat. Soya bean production in South Africa currently ranges from 450 000 to 500 000 tons per annum at an average yield of 2, 5 to 3 t/ha under dry-land conditions. KwaZulu-Natal produces 15% of the national crop in the country. There is a guaranteed market for the maize and beans from the proposed project at the local mill and the price is set by the NAMM (National Association of Maize Millers) and Dry Bean Producers' Organisation (DPO) The final maize and beans product and its bi-products locally and internationally (ARC, 2015).

There is a guaranteed market for the maize and beans produced from the proposed project as South Africa has a high unemployment rate higher than 25%. Agriculture in South Africa contributes approximately 25% of formal employment, as well as providing work for casual labourers and contributing approximately 2.6% of GDP for the nation.

Approximately 54% of the KwaZulu-Natal population lives in rural areas, and 70% of the population is below 35 years of age. According to the District Health Barometer the ten most deprived districts in South Africa fell within three provinces namely KwaZulu-Natal, Eastern Cape and Limpopo. Between 63% and 82% of the households are living on less than R800 per month. This project will therefore help alleviate poverty in this area, boosting local economic development, supplying the local market and creating skills.

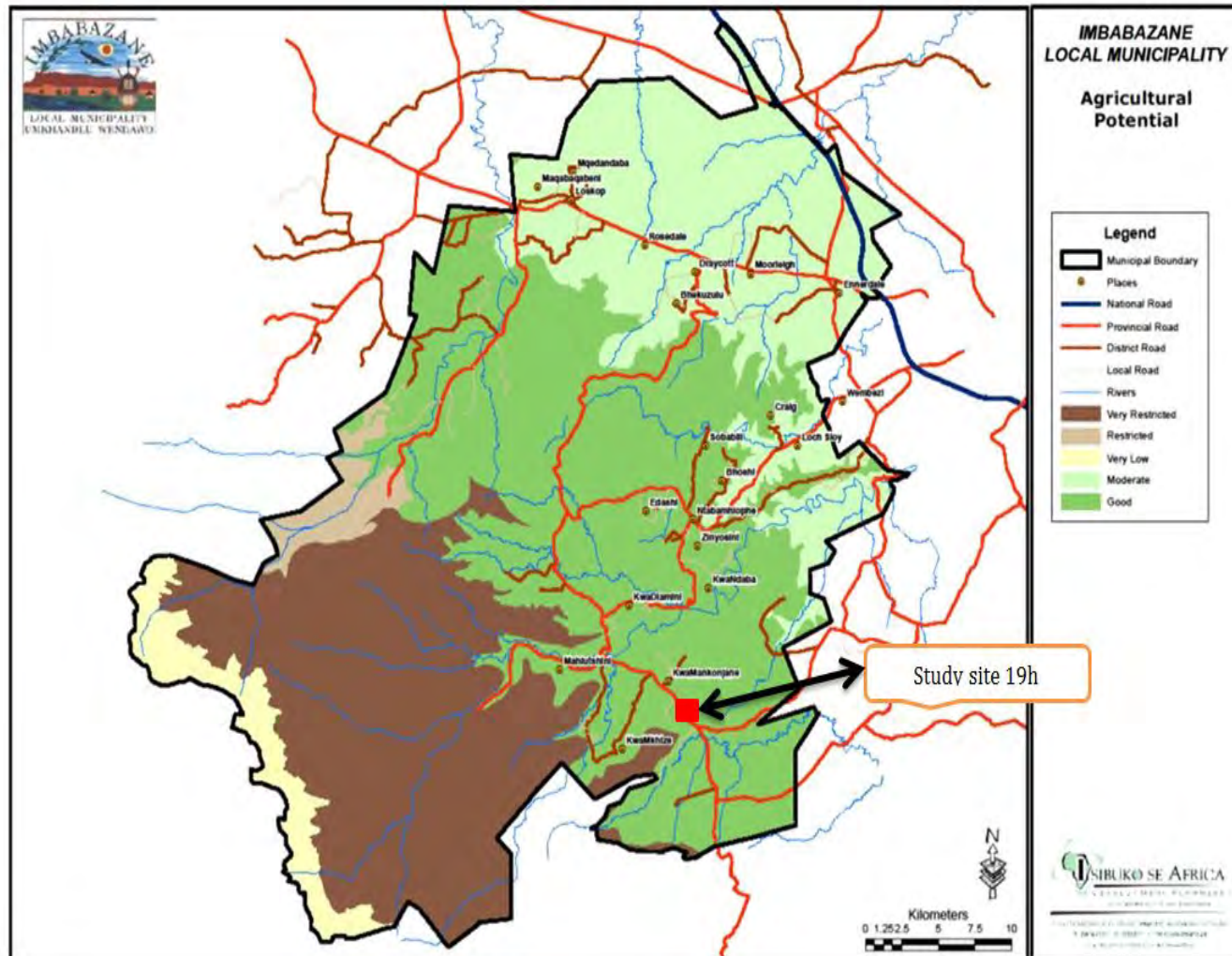


Figure 2: Agricultural potential of the study area (Inkosi Langalibalele Local Municipality IDP 2016/2017)

2.3 BENEFITS FOR THE LOCAL COMMUNITIES

Maize and beans are affordable especially to households with low incomes. Maize is enjoyed by people in various forms, such as whole corn, corn flour, corn starch, corn gluten, corn syrup, cornmeal, corn oil, popcorn, cornflakes, etc. Maize is also a good source of vitamins, minerals and dietary fibre. This farm will allow the community to achieve its primary objectives (poverty alleviation, creating employment, utilising of physical resources for economic gain) and function as a productive economic unit within the agricultural industry by maintaining production yields, infrastructure, equipment and positive net cash flows.

Both maize and beans are an excellent source of numerous vitamins and minerals; they are high in magnesium, iron, and are also very high in folate, phosphorus, and B vitamins in addition to others. Its antioxidants neutralize the effects of harmful free radicals that cause diseases like cancer. The antioxidant, betacarotene, prevents lung cancer, while lutein prevents age related vision loss. Thiamine is required for boosting memory, cognitive functions and nerve health, and pantothenic acid is essential for energy, as it is linked to carbohydrate, protein and lipid metabolism. Folate is an essential requirement, especially during pregnancy. The phosphorus helps to maintain normal growth, kidney function and bone health. Magnesium boosts the latter, as well as regulates the heart rate. Finally, maize lowers LDL cholesterol and guards against cardiac diseases, diabetes and hypertension.

Beans on the other hand protect heart health in numerous ways, one of the most important being that they reduce inflammation. Beans are also exceptionally high in soluble fibre, which is the type of dietary fibre that is associated with fighting heart disease by helping to balance unhealthy cholesterol levels. Studies have found that a diet high in dietary fibre, especially from bean and legume sources, is protective against heart disease, cardiac arrest, and stroke.

From a socio-economic perspective, this agricultural project is predicted to have positive benefits at the local scale, in particular for the nearby village of Khamkhize, although notably at a small scale. These benefits will accrue from the creation of some 12 to 24 temporary employment opportunities for the local community during the preparation of the fields and ongoing cultivation of the maize, soya beans and potato crops. The local community will be involved in ongoing activities such as soil preparation, planting, weeding, thinning and harvesting. Much of this work is intended to be done manually and to optimise job creation. The project is also likely to support new opportunities for processing and sale of maize and bean products within the local community, as well as potential for cattle to graze on the maize stalks after harvesting. The project could also attract additional support from DAFF into the village, such as provision of fertilizer. The leader of the Khanyani Agricultural Cooperative has conveyed that the intention is to provide a portion of the crop to the poorest members of the village to improve their food supply and well-being.

Project Need			
		YES	NO
1	Was the relevant provincial planning department involved in the application?	YES	
2	Does the proposed land use fall within the relevant provincial planning framework?	YES	
3	If the answer to question 1 and /or 2 was NO, please provide further motivation/ explanation. - N/A		

Desirability			
1	Does the proposed land use/ development fit the surrounding area? The development cultivation farm agricultural activity, within a predominantly agricultural area.	YES	
2	Does the proposed land use/ development conform to the relevant structure plans, SDF and planning visions of the area?	YES	
3	Will the benefits of the proposed land use/ development outweigh the negative impacts of it? All impact will be fairly mitigated so as not to cause undue burden or inconvenience during the full project implementation.	YES	
4	If the answer to any of the questions 1-3 was NO, please provide further motivation/Explanation - N/A		
5	Will the proposed land use/development impact on the sense of place? The development falls within an agricultural land use, which is the predominant land use of the area. In addition the current use of the property is for agriculture.	YES	
6	Will the proposed land use/ development set a precedent?		NO
7	Will any person's rights be affected by the proposed land use/ development? The property is a tribal land owned by the KwaMkhize tribal authority.		NO
8	Will the proposed land use/ development comprise the " urban edge" the area falls within an agricultural/ rural area		NO
9	If the answer to any of the questions 5-8 was YES, please provide further motivation/ explanation- N/A		
Benefits			
1	Will the land use/ development have any benefit for society in general?	YES	
2	Will the land use/ development have any benefit for the local communities where it will be located?	YES	

2.4 APPLICABLE LEGAL, POLICIES AND/OR GUIDELINES

Title of legislation, policy or guideline:	Administering authority:	Date
The Constitution of the Republic of South Africa, Section 24 (Environmental Right)	The Constitution of South Africa	18 December 1996
National Environmental Management Act (Act 107 of 1998), as amended (NEMA), and the 2014 EIA regulations published in Government Notice 327 and 324 on the 7 April 2017, Government Gazette 40772 (as amended).	National Department of Environmental Affairs and provincial Departments of Environmental Affairs	7 April 2017
Occupational Health and Safety Act (Act 85 of 1993)	Department of Labour	23 June 1993
Conservation of Agricultural Resources Act (Act no. 43	Department of Agriculture,	1 June 1984

of 1983)	Forestry and Fisheries	
National Forest Act (Act No. 122 of 1998),	Department of Agriculture, Forestry and Fisheries	30 October 1998
National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004)	National & Provincial Department of Environmental Affairs	2004
National Heritage Resources (Act No. 25 of 1999)	South Africa Heritage Resource Agency (SAHRA) and provincial Heritage Authorities	28 April 1999
Inkosi Langalibalele Integrated Development Plan (IDP)	Local and District Municipalities	2015/2016

2.5 ENVIRONMENTAL LEGISLATIVE CONTEXT

Description of compliance with the relevant legislation, policy or guideline:	
Legislation, policy of guideline	Description of compliance
The Constitution of the Republic of South Africa, Section 24 (Environmental Right)	The Constitution stipulates that everyone has the right to an environment that is not harmful to their health or well-being; and the right to have the environment protected, for the benefit of the present and future generations, through reasonable legislative and other measures. The Constitution has thus paved the way for environmental legislation in South Africa post 1994.
National Environmental Management Act, 1998 (Act No. 107 of 1998 as amended)	The National Environmental Management Act, 1998 (Act No. 107 of 1998) [NEMA] was enacted in November 1998. It prescribes principles and guidelines that allow for sustainable development. Ensuring that these principles are adhered to is important for sound environmental practice. Activities will not commence until the Environmental Authorisation (EA) is granted and conditions of EA shall be adhered to should approval be granted.
National Environmental Management Act EIA Regulations (8 December 2014)	A number of listed activities have been identified that have triggered the BA to be consulted as per Appendix 1 of the 2014 Regulations (Gazette No 38282). As part of the BA process, the public participation process stipulated in Chapter 6, sub-regulation 41 of the 2014 Regulations (Gazette No 38282) was conducted. Activities will not commence until the EA is granted and conditions of EA shall be adhered to should approval be granted.
National Heritage Resources (Act No. 25 of 1999)	The SAHRA is the relevant competent authority for protection of archaeological and paleontological resources. An application for Heritage Resources review was submitted to SAHRA (Ref No. 9782) in terms of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) as amended (NHRA). A copy of the Draft BAR was submitted to SAHRA for comment via SAHRIS.
National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004)	The NEMBA aims to conserve and provide management of biodiversity in the country. The client has the responsibility to conserve endangered ecosystems in the area and apply any appropriate management tools. The client will aim to limit any further loss of biodiversity. An Ecological specialist study was undertaken (Appendix G).
National Development Plan	<p>The National Development Plan (NDP) aims to <i>inter alia</i>, eliminate poverty and reduce inequality by 2030. Additionally it aims to improve the lives of South Africans through better service delivery. It has the following strategies to achieve the above-mentioned goals:</p> <ol style="list-style-type: none"> 1. Creating jobs and improving livelihoods; 2. Expanding infrastructure; 3. Transition to a low-carbon economy; 4. Transforming urban and rural spaces;

	<p>5. Improving education and training; 6. Providing quality health care; 7. Fighting corruption and enhancing accountability; 8. Transforming society and uniting the nation.</p> <p>This proposed development contributes to the NDP by creating jobs and livelihoods..</p>
Inkosi Langalibalele Municipality IDP	The IDP of the Inkosi Langalibalele outlines the need to establish service delivery regions. Following this, the City developed Regional Integrated Plans which feed into the overall region development plans. These were considered in the study.

3. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

The proposed site activity will not produce solid waste and liquid effluent during the design, operational and restoration phase.

After harvesting, the stalks and leaves of the crops can be manually cut and used to return organics back to the soil.

Any solid waste that will be produced during the operational phase (cultivation and harvesting) will be disposed of at a registered landfill site.

Furthermore the activity will not release emissions into the atmosphere and the noise will be minimal and during the day only.

4. WATER USE

The plants will be rain fed.

5. ENERGY EFFICIENCY

The proposed project does not require development of any facilities or supporting infrastructure on site. Therefore there will be no electricity usage on site and thus energy efficiency is not applicable.

6. DESCRIPTION OF BASELINE ENVIRONMENT

6.1 CLIMATE

6.1.1 Rainfall

The region has a mild climate with relatively high summer rainfall (mean of 801-1000 mm) and dry winters and the weather is generally predictable which favours the cultivation of maize and beans. Rainfall distribution in KwaZulu-Natal is shown in Figure 3a.

The mean maximum annual temperatures for the study area ranges from 27-29 °C as shown in Figure 3b. The mean minimum annual temperatures for the study area ranges from 0.1-2 °C as shown in Figure 3c.

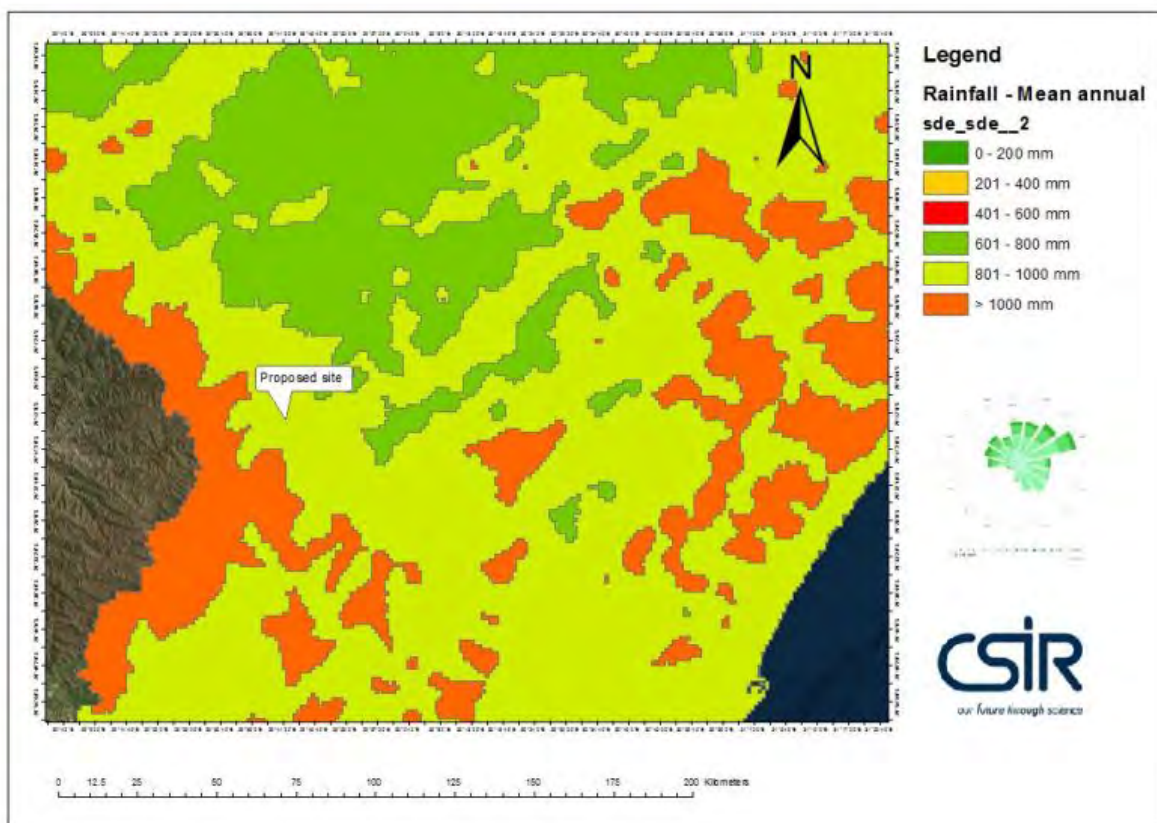


Figure 3a: Mean annual Rainfall in the study area and in Kwazulu-Natal

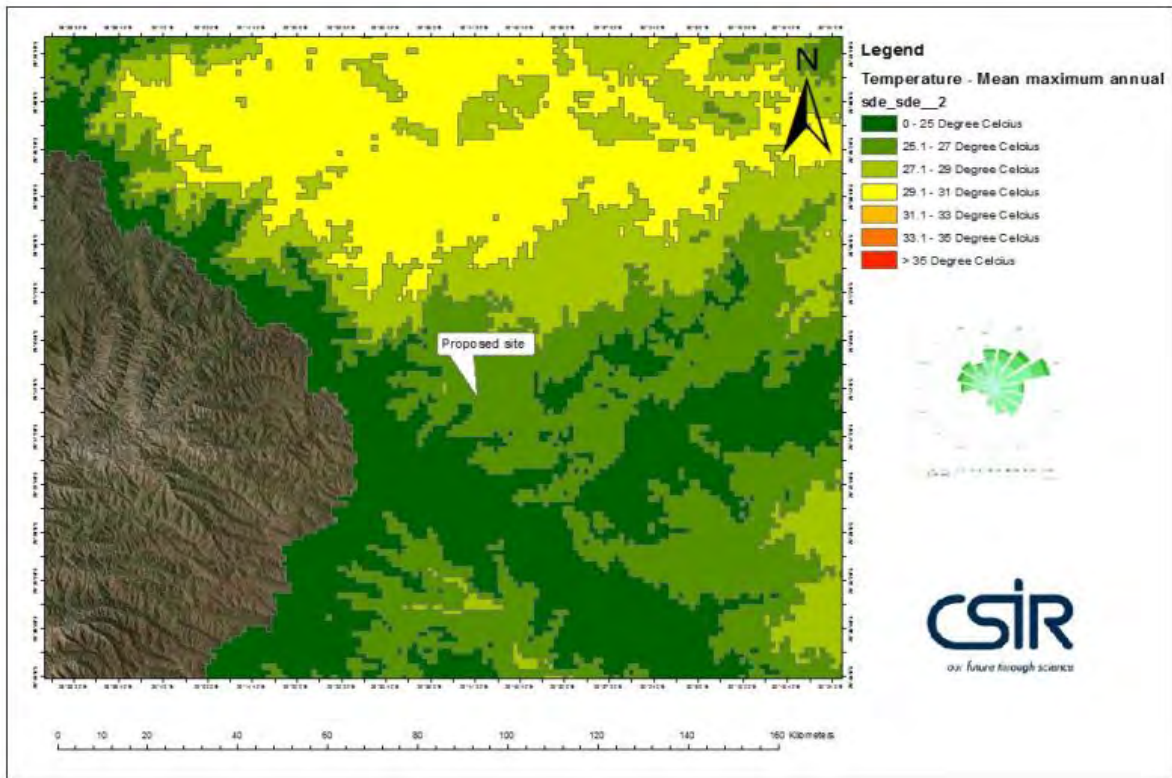


Figure 3b: Mean annual maximum temperatures in the study area and in Kwazulu-Natal

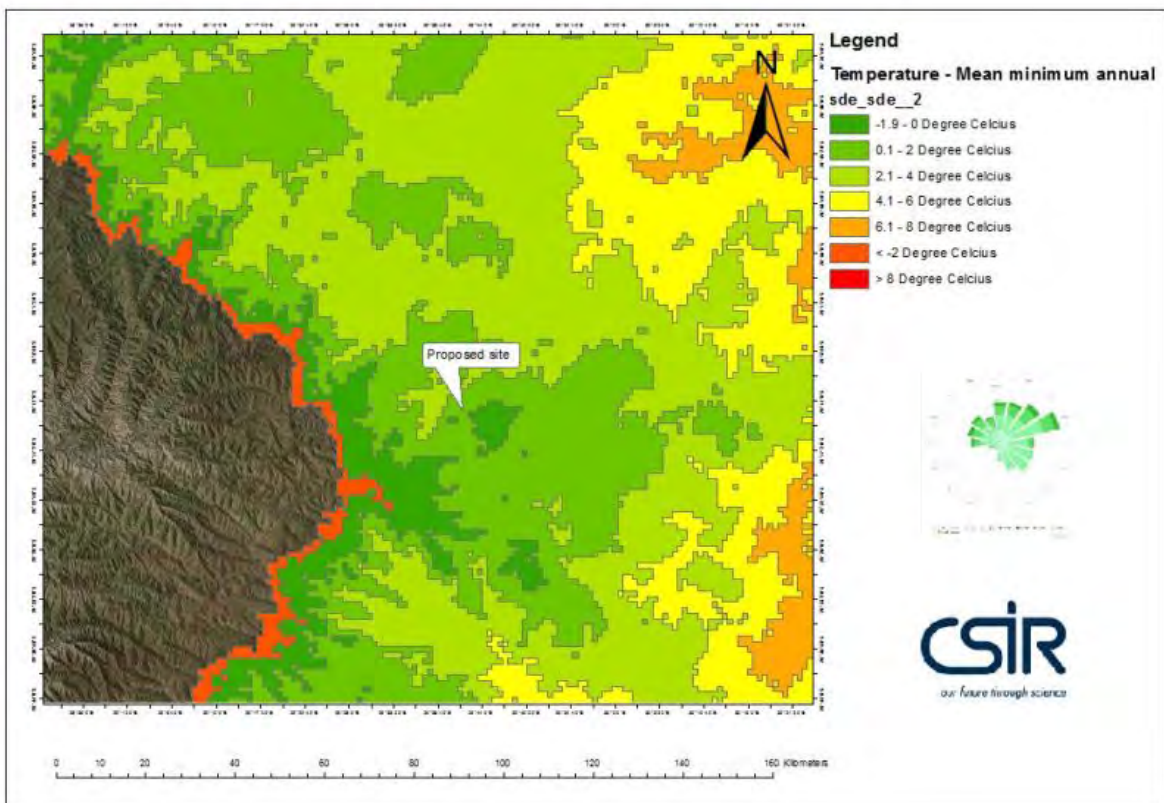


Figure 3c: Mean annual minimum temperatures in the study area and in Kwazulu-Natal

6.1.2 Rainfall erosivity

Rainfall erosion is a major driving force of many hydrological and erosional processes and the amount of soil that is detached, as well as other key processes the degree of erosion is related to rainfall intensity. The Khanyani Agricultural Cooperative falls between an area of 301- 400 mm of rainfall erosivity (Figure 4).

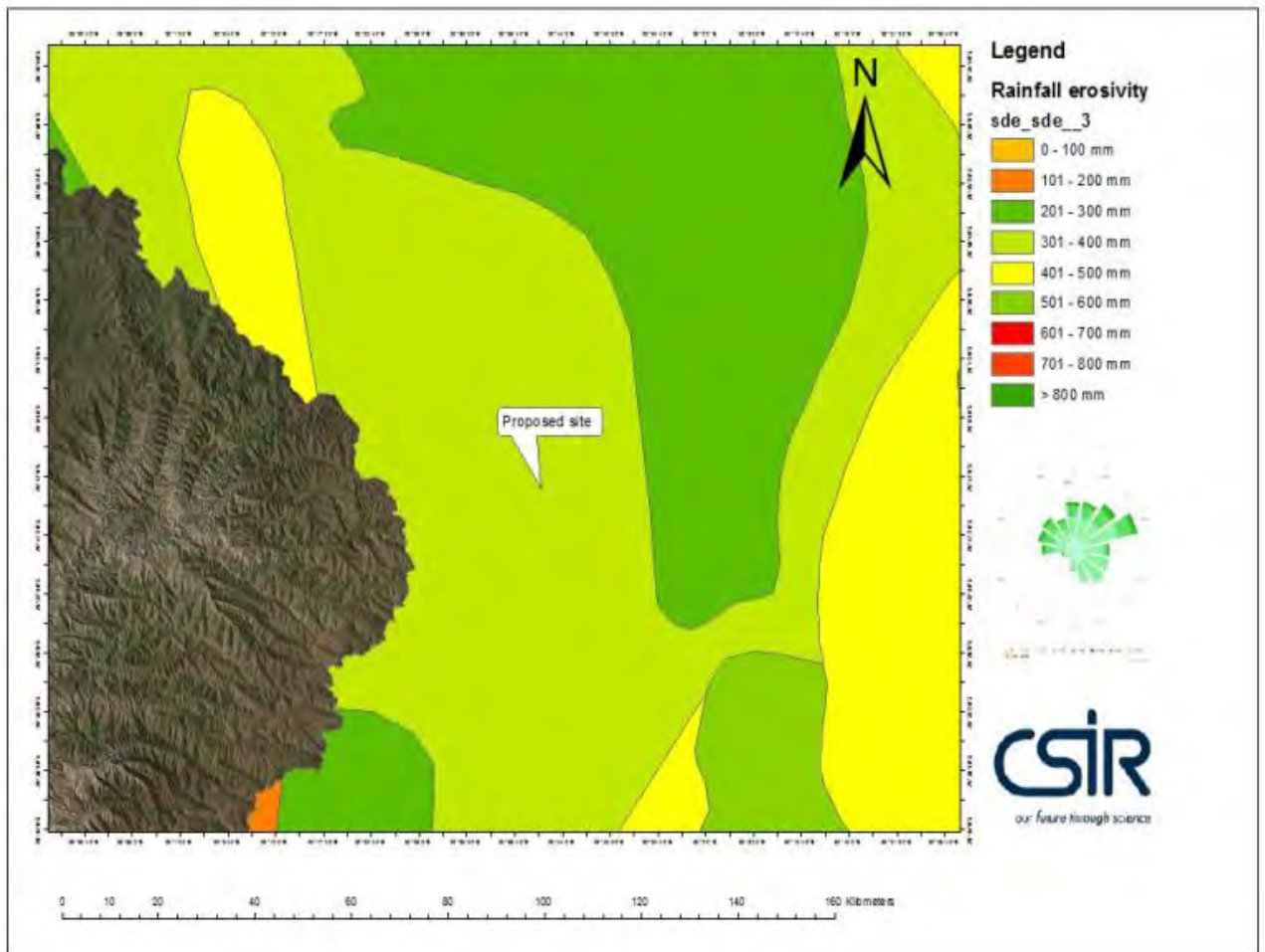


Figure 4: Rainfall erosivity in the study area

6.2 LAND TYPES

According to the Agricultural Research Council Institute for Soil, Climate and Water, land types represent areas that are uniform with respect to climate, terrain form, geology and soil. The data, obtained through the Agricultural Geo-referenced Information System (AGIS 2010), indicates that the land type is undulating plains and has a high potential for agriculture (Figure 5a, b and c).

Shallow water table (less than 1.5m deep)	YES
Dolomite, sinkhole or doline areas	NO
Seasonally wet soils (often close to water bodies)	YES
Unstable rocky slopes or steep slopes with loose soil	YES
Dispersive soils (soils that dissolve in water)	YES
Soils with high clay content (clay fraction more than 40%)	NO
Any other unstable soil or geological feature	NO
An area sensitive to erosion	YES

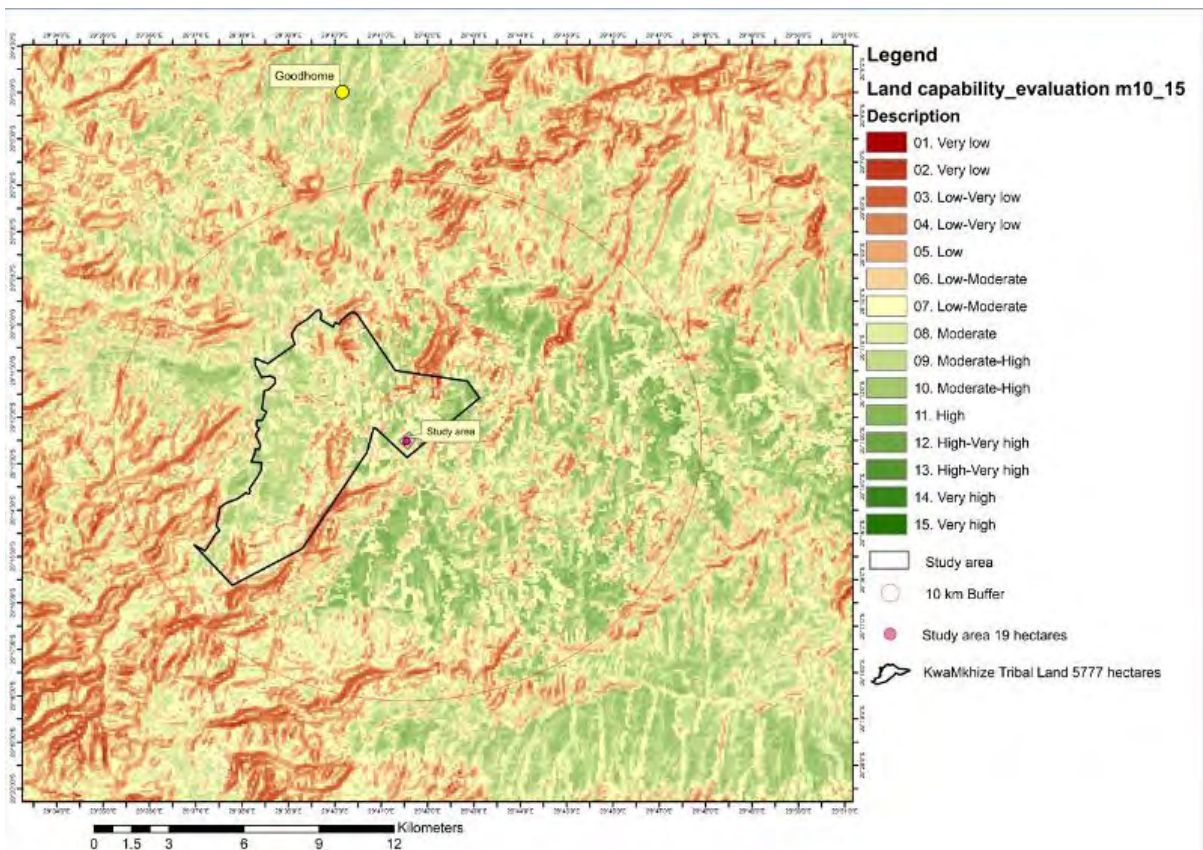


Figure 5a: Land Capability of the study area

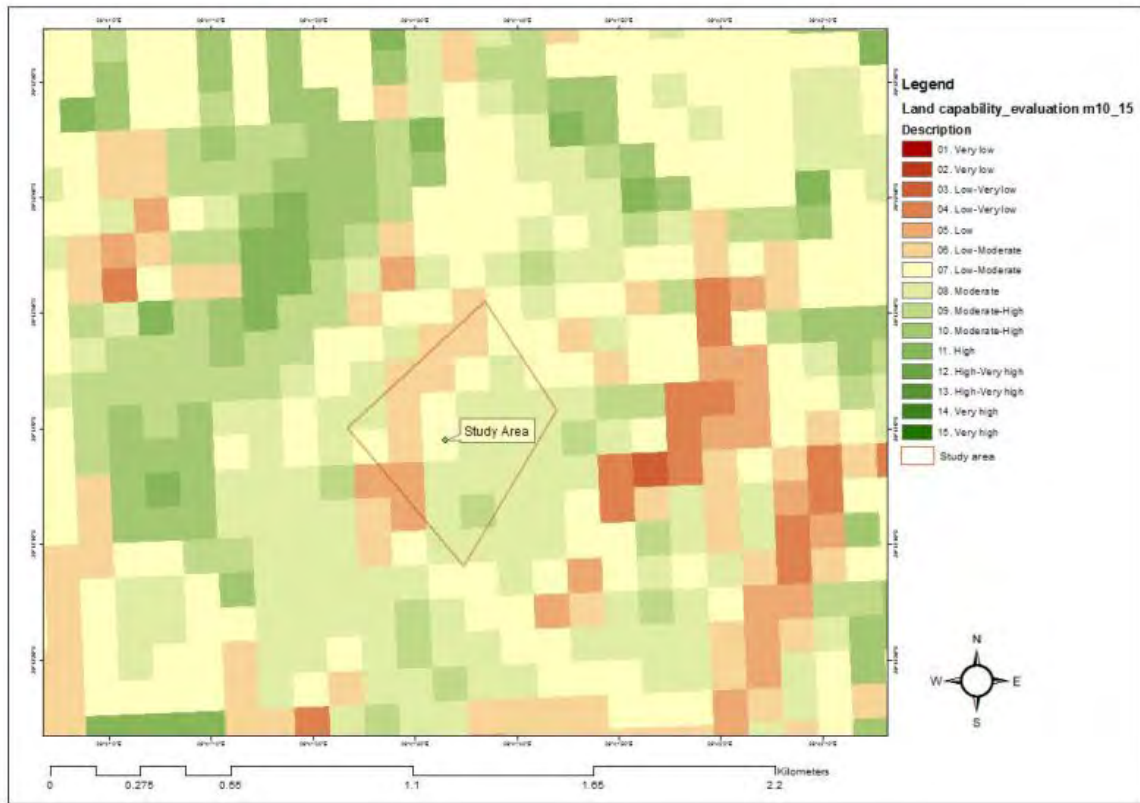


Figure 5b: Land Capability of the study area

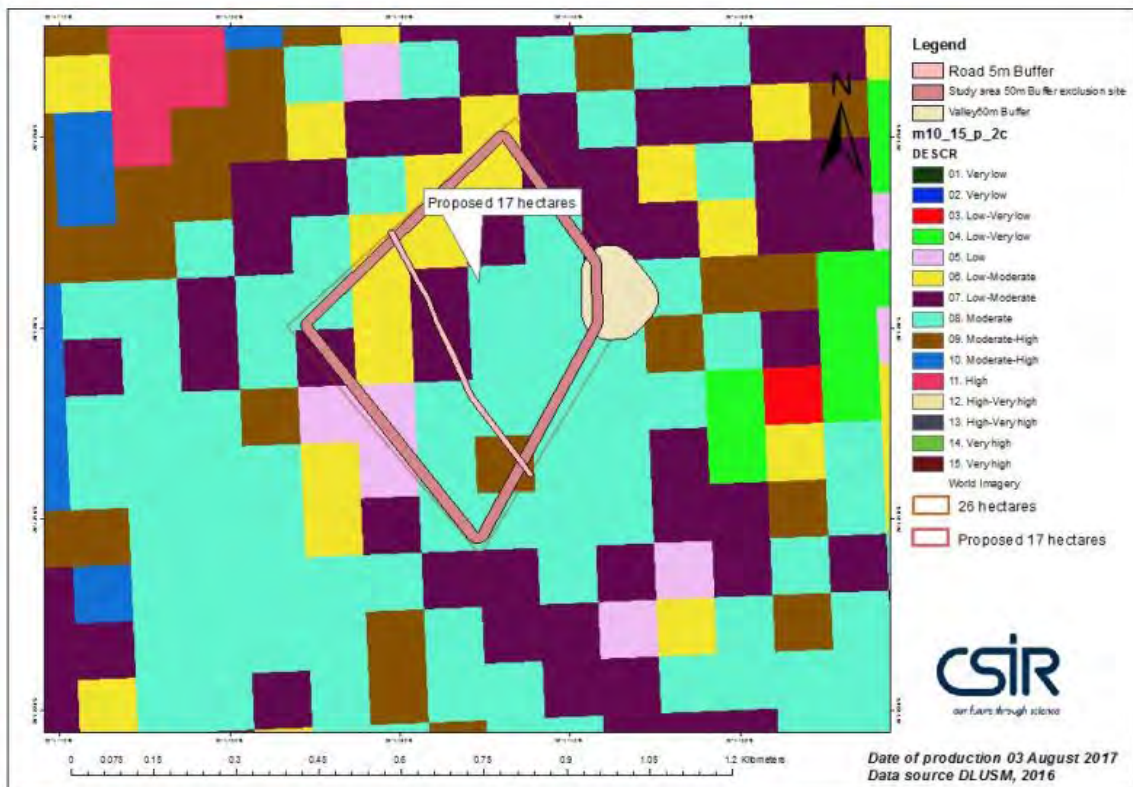


Figure 5c: Land Capability of study area

According to the land capability evaluation Figures 5 a, b and c above the proposed site falls within the Moderate, Moderate high and low moderate as such this may be favourable to maize and bean cultivation in the area.

6.3 AFFECTED AREA: FAUNA AND FLORA

According to SANBI data the selected site comprises primarily of a grassland veld form, which is representative of the Drakensberg foothill moist grassland veld type.

The study area is not located within a formally protected area, an informally protected area or within a focus area for protection (National Biodiversity Assessment, 2011 and the National Protected Areas Expansion Strategy, 2010). According to Mucina and Rutherford (2006), the study area is located within the Grassland Biome (Figure 6a (i) and (ii)).

The vegetation type documented for the study area by Bundy (2016) is indicated as the Drakensberg Foothill Grassland which is indicated as Least Threatened within the Region by Mucina and Rutherford (2006). However, a subsequent study of vegetation types for KwaZulu Natal (KZN) was undertaken by Scott-Shaw and Escott (2011) in which the vegetation types provided by Mucina and Rutherford have been refined to develop an accurate representation of the pre-transformation extent of the vegetation types present. According to Scott-Shaw and Escott (2011), the vegetation associated with the study area is considered to be more representative of the Mooi River Highland Grassland vegetation type which is listed as Vulnerable within the region with only 146 301ha remaining (Jewitt, 2011) (Table 1). The total area of vulnerable habitat remaining within KZN is 1 837 155ha (Jewitt, 2011), therefore Mooi River Highland Grassland contributes to approximately 8% of the total area of Vulnerable vegetation within the province.

Table 1: Conservation status thresholds of South African vegetation types (Jewitt, 2011)

Conservation Status	Description
Critically Endangered	Ecosystems that have undergone severe degradation of ecological structure, function or composition as a result of human intervention and are subject to an extremely high risk of irreversible transformation. Remaining natural habitat <= biodiversity target
Endangered	Ecosystems that have undergone degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems. Remaining natural habitat <= biodiversity target+ 15%
Vulnerable	Ecosystems that have a high risk of undergoing significant degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems or endangered ecosystems. Remaining natural habitat <= 60% of the original area of the ecosystem
Least Threatened	Remaining natural habitat >60% of the original area of the ecosystem

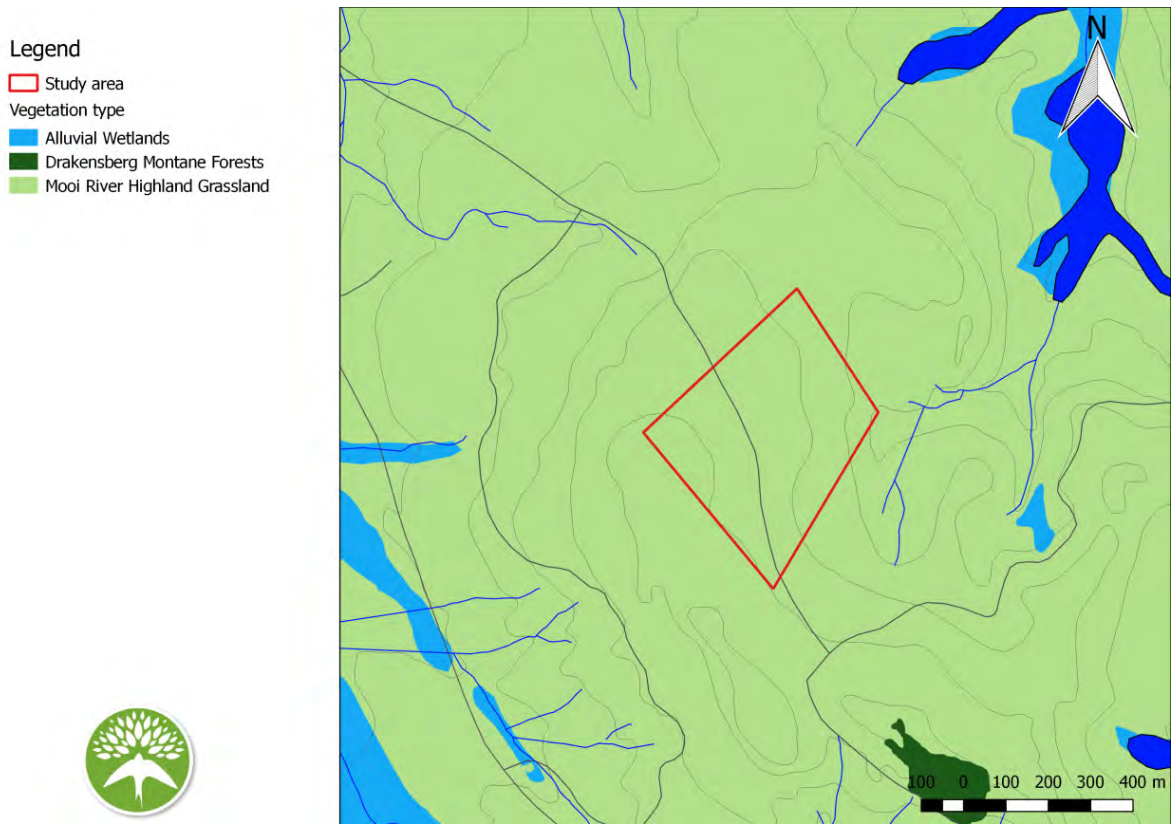


Figure 6a (i) : Vegetation type associated with the study area (Scott-Shaw and Escott, 2011).

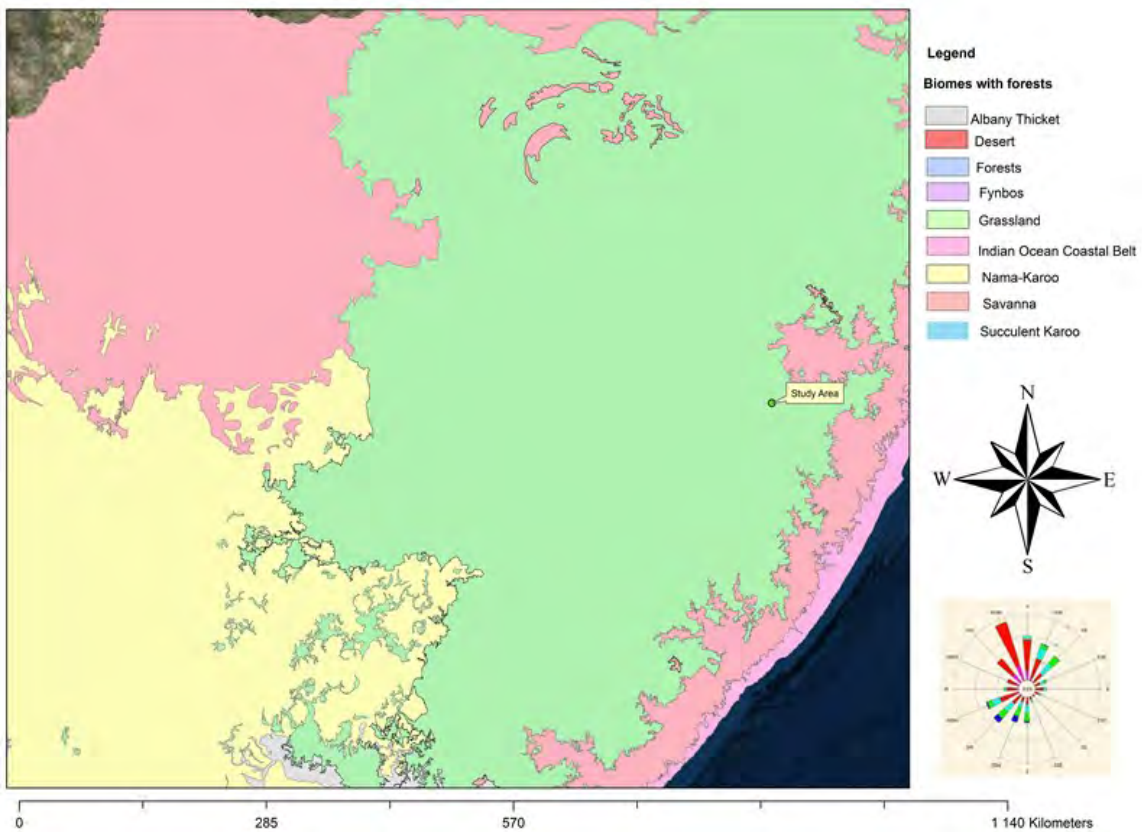


Figure 6a (ii): The study area falls within a Grassland Biome

A peer review of the Ecological study done by Simon Bundy was undertaken by Louise Zdanow of EnviroSwift (Pty) Ltd. The review noted that the Vulnerable status of the vegetation type as indicated by Scott-Shaw and Escott (2011) is supported by the National List of Threatened Terrestrial Ecosystems (2011). This also lists the study area as Vulnerable due to the presence of habitat which supports the Drakensburg Foothill Wattled Crane. KZN covers approximately 1 164 000ha of Vulnerable habitat as listed by the National List of Threatened Terrestrial Ecosystems (Government Gazette No. 34809).

The study area was indicated as a Biodiversity Area by the KZN TSCP (Figure 6b). Important species indicated for the Biodiversity Area by the KZN TSCP include *Kniphofia breviflora*, *Kniphofia brachystachya*, *Eremidium erectus* (grasshopper), *Spinotarsus triangulosus* (millipede), *Centrobolus tricolor* (millipede), *Euonyma lymneaeformis* (land snail), *Transvaaliana draconis*, *Doratogonus montanus* (millipede) and *Capys penningtoni* (Pennington's Protea). None of these species were identified within the study area by Bundy (2016), however, the study area may still provide suitable habitat to support such species (Enviroswift, 2017).

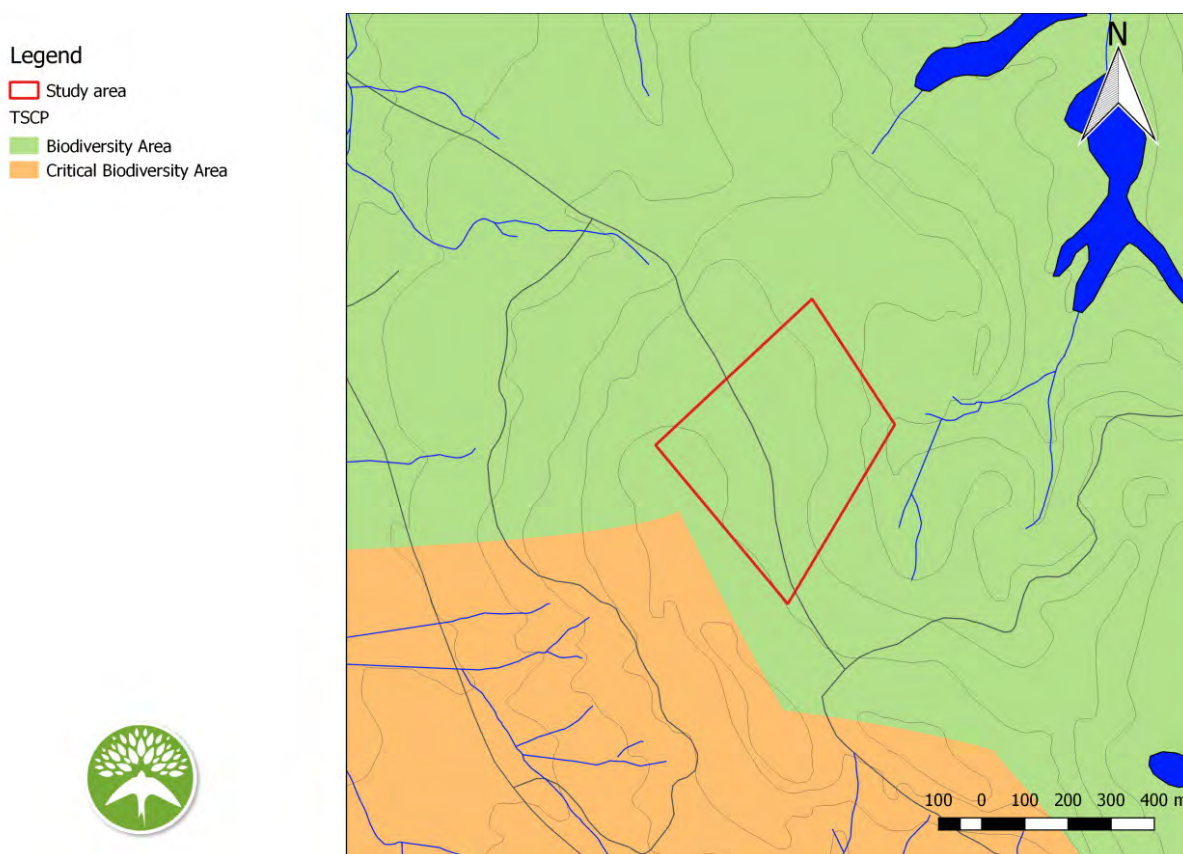


Figure 6b: Biodiversity Areas indicated by the Terrestrial Systematic Conservation Plan (2010).

According to the more recent KZN BSP (Ezemvelo KZN Wildlife, 2016) the study area is located within an Irreplaceable CBA and within an ESA2 (Figure 6c). CBAs are natural or near-natural landscapes considered critical for meeting biodiversity targets and thresholds, and which are required to ensure the persistence of viable populations of species and the functionality of ecosystems. Irreplaceable CBAs include areas where there are no alternative sites available in order to meet conservation targets. The loss of the area of CBA associated with the study area will therefore have an impact on the conservation targets for biodiversity in the region. The objective for irreplaceable CBAs is to maintain the area in a natural state

with limited to no biodiversity loss. Irrigated crop production, extensive crop production, intensive crop production and agri-industry are seen as incompatible land uses in irreplaceable CBAs and are not recommended in these areas (EKZN Wildlife, 2016). Furthermore, ESAs are required to support and sustain the ecological functioning of Critical Biodiversity Areas (CBAs).

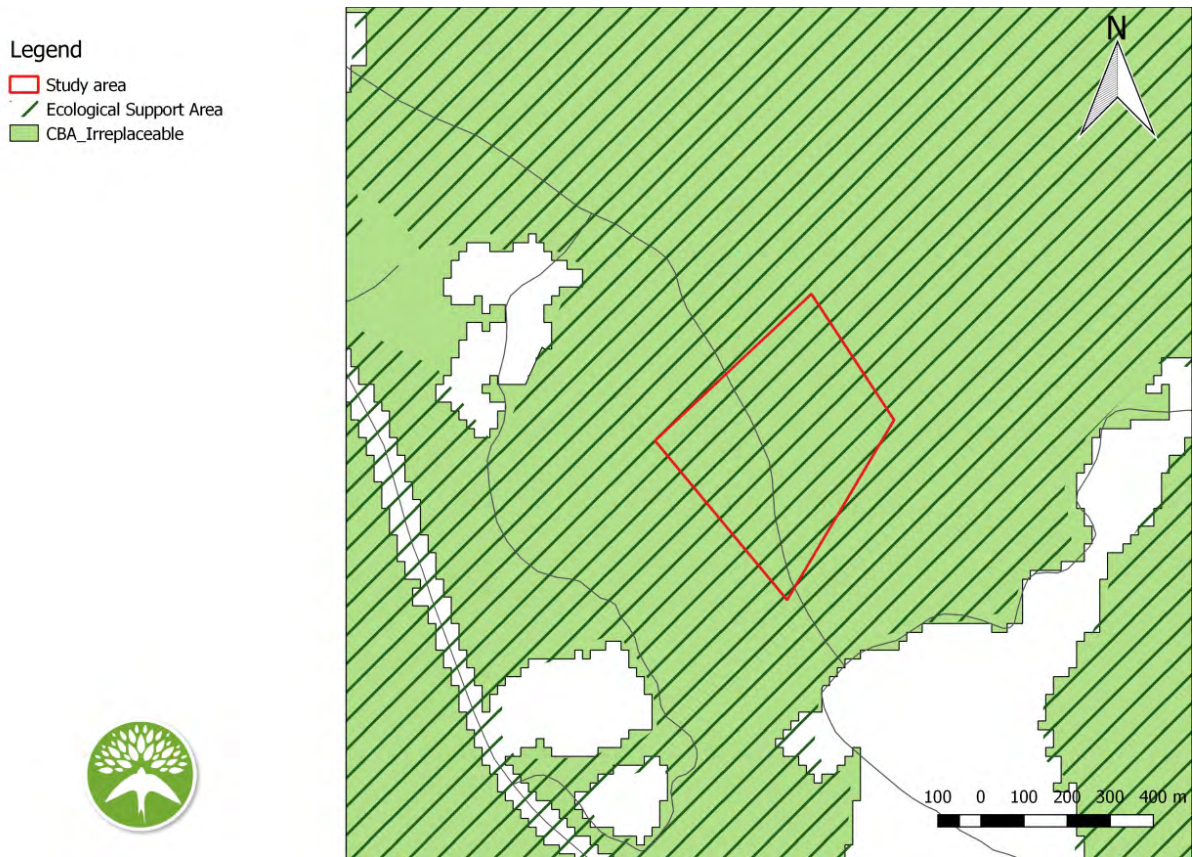


Figure 6c: Critical Biodiversity Area and Ecological Support Area indicated by KZN Biodiversity Sector Plan (2016)

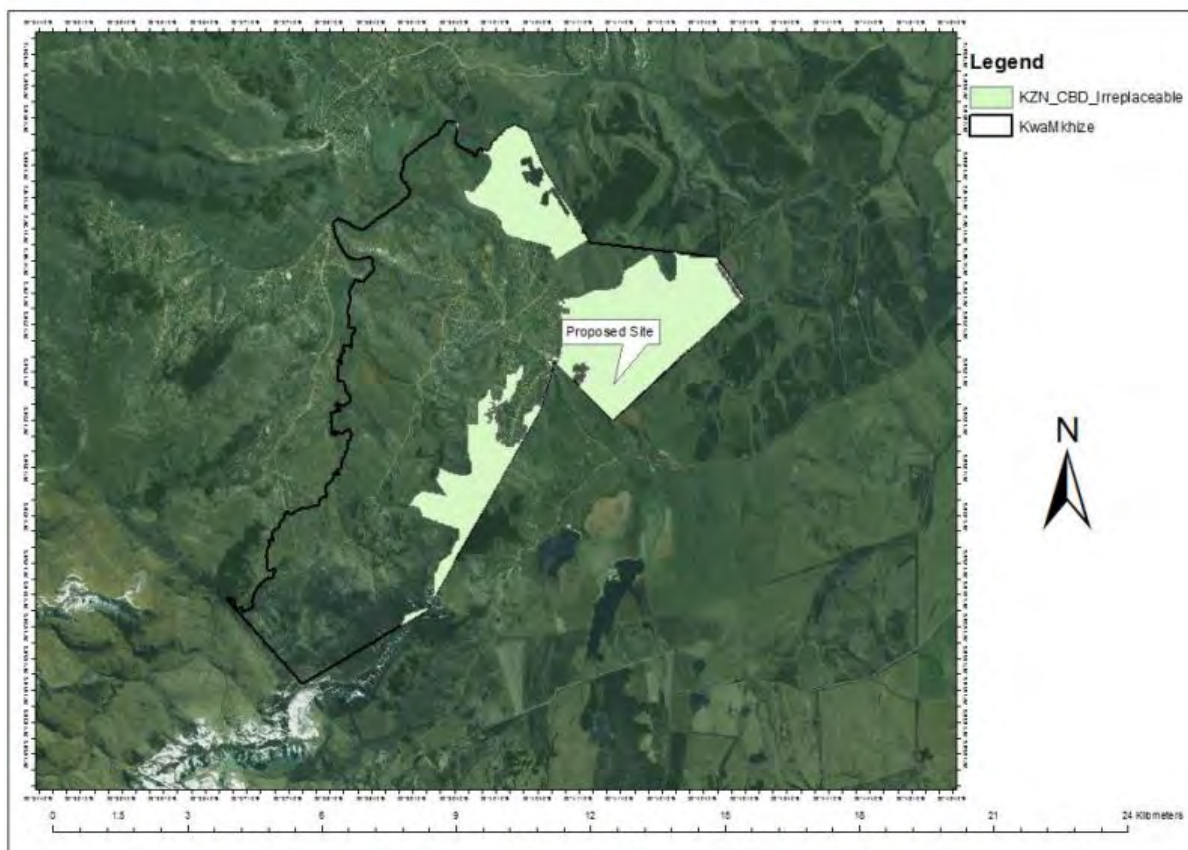


Figure 6d: KZN Ezemvelo Wildlife 2016 Irreplaceable CBA

The Ecological assessment done by Simon Bundy indicates that the site shows high botanical diversity with limited disturbance from other land uses, as well as little invasion by exotic vegetation. Based on this study the area was of significance in terms of forage for a number of grassland associated birds and on the site *Sagittarius Serpentarius* (Secretary Bird) were noted. These birds are endemic to Africa, found in over 30 sub-Saharan countries from as far North as Mali to South Africa and they are listed as Vulnerable (Red data book). Figure 6 e shows the project site is listed as Vulnerable in relation to the Important Bird Areas.

In terms of fauna, the *Chrysospalax villosus* (Rough haired golden mole) was identified on site. This species is classified as Vulnerable.

According to the ecological specialist (Bundy, 2016) the site is dominated by a graminoid primarily *Aristida junciformis* and *Tristachya leucothrix*, with *Themeda triandra* and *eragrostis* spp. Other common species identified across the subject site included, *Oxalis smithiana* and *Ajunciformis*, while species including *H cymosum*, and *graminoids* (*Eragrostis* spp) also were noted as being dominant. No woody species invasion and exotic species were evident during the site reconnaissance. The dominance of *Aristida junciformis* is an indication that the site has been overgrazed and the sweet grasses e.g *Themeda triandra* have been eliminated or severely reduced.

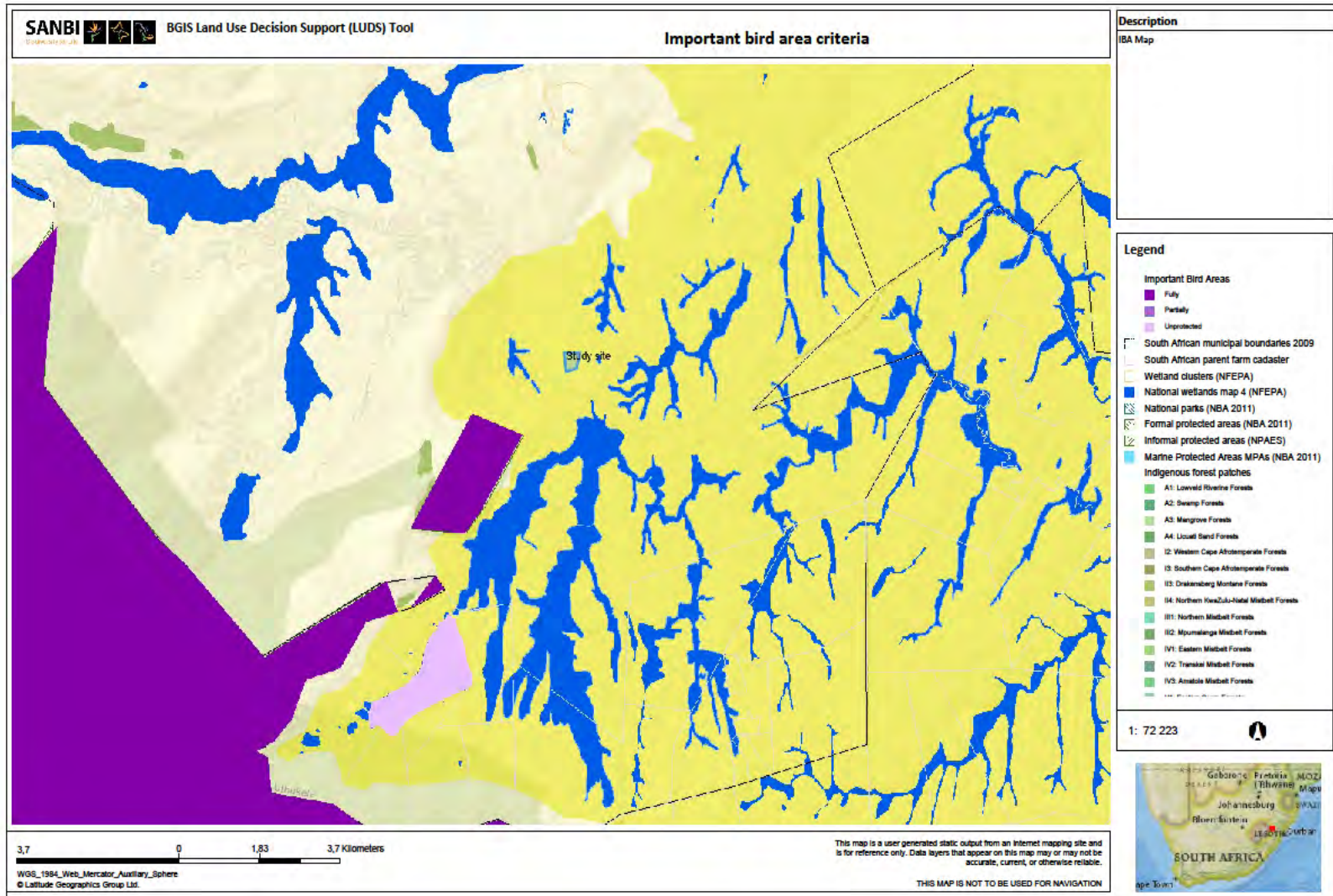


Figure 6e : Important Bird Area in the study area



**Figure 6f : Various forbs identified within subject site; top left: *B grandiflora*, top right: *S longicauda* ;
bottom left: *E autumnalis*; bottom right *A campanulata***

6.4 LAND USE CHARACTER OF SURROUNDING AREA

Land use character	YES		Description
Natural area	YES		The site predominantly consists of fallow indigenous grassland that has not been developed previously. The dominant vegetation form within the region is grassland biome.
Low density residential		NO	
Medium density residential		NO	
High density residential		NO	
Informal residential	YES		There are scatterings of informal housing located within 500 m of the site.
Retail commercial & warehousing		NO	
Light industrial		NO	
Medium industrial		NO	
Heavy industrial		NO	
Power station		NO	
Office/consulting room		NO	
Military or police base/station/compound		NO	
Spoil heap or slimes dam		NO	
Quarry, sand or borrow pit		NO	
Dam or reservoir		NO	
Hospital/medical centre		NO	
School/ creche		NO	
Tertiary education facility		NO	
Church		NO	
Old age home		NO	
Sewage treatment plant		NO	
Train station or shunting yard		NO	
Railway line		NO	
Major road (4 lanes or more)		NO	
Airport		NO	
Harbour		NO	
Sport facilities		NO	
Golf course		NO	
Polo fields		NO	
Filling station		NO	
Landfill or waste treatment site		NO	
Plantation		NO	
Agriculture	YES		The site is surrounded by agricultural operations, mainly maize and bean production
River, stream or wetland		NO	
Nature conservation area		NO	
Mountain, hill or ridge	YES		The site does have a slight slope.
Museum		NO	
Historical building		NO	
Protected Area	Yes		
Graveyard		NO	
Archaeological site		NO	
Other land uses (describe)		NO	

7. CULTURAL/ HISTORICAL FEATURES

There are no signs of culturally or historically significant elements I defined in Section 2 of the National Heritage Resources Act, 1999 (Act no. 25 of 1999).

SECTION C : PUBLIC PARTICIPATION

8. PUBLIC PARTICIPATION

A Basic Assessment is required to obtain Environmental Authorisation for Khanyani agricultural cooperative. A public participation process was undertaken as part of the Basic Assessment process and was done in the following manner:

Notice of the Basic Assessment process has been given by:

1. placing a Site Notice on the Farm fence;
2. posting and emailing written notice regarding the proposed development to Interested and Affected Parties, including neighbours, competent authority and other relevant Government departments, the Inkosi Langalibalele municipality and Ward Councillor;
3. placing an advertisement in The Estcourt and Midlands News' (English) which allowed potential Interested and Affected Parties to register and to submit comments within a 30-day period regarding the Basic Assessment of the proposed project;
4. a copy of the Draft Basic Assessment Report will be placed at the Inkosi Langalibalele Public Library;
5. letters notifying I&AP's of the release of the Draft Basic Assessment Report for 30-day review period will be sent out;
6. the Draft Basic Assessment Report version 2 is available on the project website:
<https://www.csir.co.za/environmental-impact-assessment>
7. all comments raised by I&APs during the review of the BID, Draft basic assessment report version 1 have been captured and addressed within the Draft BA Report version 2;
8. the Draft BAR version 2 will be distributed for 30-days to registered I&APs and organs of state from 23 August to 22 September 2017.

An advertisement notifying potential I&APs of the proposed project was placed in the 'Estcourt and Midlands News', a newspaper, on 13 November 2015. This can be seen as Appendix E.2. Furthermore Site Notices Boards (English and Zulu) were placed-which can be seen as Appendix E.

The Comments and Responses report has been compiled and it is included in Appendix E.8.

COMMENTS AND RESPONSE REPORT

The table below lists all the comments received from Interested and Affected Parties (I&APs) following the release of the Background Information Document for comment regarding the proposed cultivation of 19 ha of fallow grassland to maize and beans on land on the KwaMkhize Traditional Council, KwaZulu-Natal. Copies of the correspondence are included in Appendix E7 of the Basic Assessment Report.

ISSUES RAISED	COMMENTATOR	DATE	RESPONSE
<p>Department of Agriculture Forestry and Fisheries (DAFF) through the sub-directorate Forestry Regulation and support is the authority mandated to implement the National Forests Act, (Act No, 84 of 1998) by regulating the use of natural forest and protected trees species in terms of the said Act.</p> <p>With regard to the BID received on the 09th of November 2015 and the desktop analysis majority of the proposed site has no present trees. However, there is woody vegetation noted adjacent to the site even though it is not clear as to what type of species occur or whether they will be impacted on. The specialist scope of work included in the BID indicated that a terrestrial ecological study will be undertaken. This study will assist in determining the impact that the development and supporting infrastructure such as roads may have on the indigenous tree and/or protected trees in terms of the NFA.</p>	<p>N.Sontangane</p> <p>DAFF: Forestry Regulation & Support KZN</p>	<p>19 November 2015</p>	<p>Thank you for your comment.</p> <p>The vegetation including forest will be mapped. Please see figure 7 for the forest and vegetation type in the area. Please see page 13 of the specialist report on the type of species which occur. The report notes that no woody species invasion was noted on site. The protected trees will not be impacted on. Should this be the case, the applicant must obtain the relevant permits from the Department.</p>
<p>With reference to your letter dated 9 November 2015, I have to inform you that the Minister as the Controlling Authority as defined in the Kwazulu-Natal Roads Act No. 4 of 2001, has in terms of section 21 of the said Act, no objections to the proposed application as represented in the Background Information Document CSIR/CAS/EMS/IR/2015/00011/A.</p> <p>However, please advise us on the position of the proposed access point and the number of vehicles that are envisaged to be utilised.</p>	<p>Michéle Schmid</p> <p>KwaZuluNatal Department of Transport</p>	<p>23 November 2015</p>	<p>Thank you for your comment.</p> <p>The position of the proposed access point is shown in the map in Appendix A.</p> <p>One tractor will be used on site during cultivation and one truck will be used to transport the crops to the market. The harvested maize and beans will be transported four times to the marked but this may change due to the yield of the crops per</p>

DRAFT BASIC ASSESSMENT REPORT (VERSION 2, August 2017)
PROPOSED MAIZE AND BEAN CULTIVATION PROJECT OF THE KHANYANI AGRICULTURAL COOPERATIVE

ISSUES RAISED	COMMENTATOR	DATE	RESPONSE
<p>The proposal seems to be for the cultivation of maize and beans and the harvesting thereof without the development of structures.</p> <p>Food security endeavors would be encouraged and supported by the Department.</p> <p>Interested and Affected parties to consult would include:</p> <ol style="list-style-type: none"> 1. Ezemvelo KZN Wildlife: Mrs Longmore: 033 845 1349 2. Department of Agriculture: Natural Resources and Macro Planning: Mrs B Wiseman: 071 600 9805 3. Inkosi Langa libalele Municipal Planner: Mr B Msimango: 036 3530691 <p>This Department and Directorate: Spatial Planning would have no objection to the proposed initiative as described in the Basic Assessment Report dated 9 November 2015</p>	<p>C. Rushton Spatial planning</p>	<p>14 December 2015</p>	<p>harvesting.</p> <p>Thank you for your comment.</p> <p>The Interested and Affected Parties you listed were added to the project database. The Draft BAR was sent to them for comment as requested.</p>
<p>The proposed development which involves clearance of more than 300 square metres of vegetation is likely to impact on sites of heritage significance of an archaeological and historical nature.</p> <p>Amafa Heritage KZN would like the following to be addressed in the BAR:</p> <p>1) Identification of any culturally sensitive areas and water resources such as wetlands, streams, rock shelters, open shelters rivers associated with historical activities and beliefs, etc. as well as possible impacts and proposed mitigation measures to protect such resources.</p> <p>Considering the heritage value of the area of proposed development, a Heritage Impact Assessment is required to fulfill the requirements of Section 38 the National Heritage Resources Act No.25 of 1999 (Section 38). This must include the archaeological component (Phase 1) and any other applicable heritage components. Amafa KZN Heritage therefore requires the appointment of an Amafa accredited Heritage Practitioner to assist in the provision of</p>	<p>Bernadet Pawandiwa, Amafa/Heritage KwaZulu Natal.</p>	<p>29 November 2016</p>	<p>The CSIR contracted Ethembeni Cultural Heritage to undertake a Heritage Impact Assessment (HIA) for the proposed cultivation project of the Khanyani Agricultural Cooperative.</p> <p>According to eThembeni the SAHRIS palaeo-sensitivity mapping indicates that the proposed project falls within a general area of an underlying Beaufort Group lithology of extremely high sensitivity. However, the presence of intrusive dolerite sills and dykes within and surrounding the project area precludes the presence of any fossil material, thus requiring a protocol for finds, only. The project</p>

DRAFT BASIC ASSESSMENT REPORT (VERSION 2, August 2017)
 PROPOSED MAIZE AND BEAN CULTIVATION PROJECT OF THE KHANYANI AGRICULTURAL COOPERATIVE

ISSUES RAISED	COMMENTATOR	DATE	RESPONSE
<p>recommendations and mitigation procedures.</p> <p>The Study should cover:</p> <p>Identification of all heritage resources in the development area and its surroundings -50 m.</p> <p>Assessment of the impact of the development on such heritage.</p> <p>Evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development.</p> <p>Results of consultation with communities affected by the proposed development and other interested and affected parties regarding the impact of the development on heritage resources.</p> <p>Consideration of alternatives if heritage resources are affected by the development.</p> <p>Mitigation plans for any adverse effects during and after completion of the project.</p> <p>Table of all heritage resources identified .This should show Heritage resource type, description, location, significance and reasons for this rating.</p>			<p>area has probably been eschewed for settlement primarily because of the high risk of lightening-strikes on the dolerite exposures.</p> <p>The SAHRIS Palaeontology sensitivity map indicates the area to be of low sensitivity and as such the Ethembeni Cultural Heritage applied for an Exemption from undertaking a full HIA. This request was granted by AMAFA. AMAFA has no objection to the proposed project.</p>
<p>Khanyani Coop is situated at KwaMkhize area under Inkosi Langalibalele municipality ward 11 now in Estcourt. The area has potential soils like Hutton and Clovelly these are good soils in terms of rooting depth and drainage The crops that were recommended maize and dry beans are suitable for the area and potatoes too are suitable. Maize with expected minimum yield of 4 t/ha, dry beans 1.5 t/ha and potatoes 20t/ha, but as long the soil nutrient and lime recommendations will be followed.</p>	<p>Hadebe JB</p> <p>KZN Department of Agriculture and Environmental Affairs; Soil Fertility and Analytical Services</p>	<p>19 March 2017</p>	<p>Thank you for the response and for your confirmation that maize and dry beans are suitable crops for the area.</p> <p>The recommendations regarding soil nutrient and lime addition will be applied and have been incorporated in the EMPr.</p>

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 PROPOSED MAIZE AND BEAN CULTIVATION PROJECT OF THE KHANYANI AGRICULTURAL COOPERATIVE

ISSUES RAISED	COMMENTATOR	DATE	RESPONSE
<p>Department of Agriculture Forestry and Fisheries (DAFF) through the sub-directorate Forestry Regulation and support is the authority mandated to implement the National Forests Act, (Act No, 84 of 1998) by regulating the use of natural forest and protected trees species in terms of the said Act.</p> <p>With regards to the DBAR received on the 26 of April 2017, the proposed developmental site is mostly covered by the grassland vegetation which is considered to be least threatened in terms of its conservation significance. Furthermore, it is indicated that 'no forest or woody vegetation was noted on site during the ecological evaluation'. Therefore, DAFF has no objection towards the proposed project given that there are no indigenous and/or protected tree species in terms of NFA that will be impacted upon.</p> <p>This letter does not exempt you from considering other environmental legislation. Should any further information be required, please do not hesitate to contact this office.</p>	<p>N.Sontangane</p> <p>DAFF: Forestry Regulation & Support KZN</p>	<p>26 May 2017</p>	<p>Thank you for the response- duly noted we are considering other environmental legislation.</p>
<p>Thank you for the report. There are no comments on our side as the Traditional Council. Please may you continue with finalising the report.</p>	<p>Chief INKosi SN Mkhize</p>	<p>14 June 2017</p>	<p>Thank you for the positive response. The Draft Basic Assessment Report (version 2) has been compiled and is hereby released for a 30-day commenting period as it contains additional information that was not previously included in the Draft BA Report. The comments on this report will be included in the Final BA Report that will be submitted to the Department of Economic Development, Tourism and Environmental Affairs (EDTEA) for decision-making.</p>
<p>I fully support the Khanyani project as it is going to develop our area.</p>	<p>Induna Theophit Sibisi</p>	<p>26 May 2017</p>	<p>Thank you for the positive response. The Draft Basic Assessment Report (version 2) has been compiled and is hereby released for a 30-day commenting period as it contains</p>

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			additional information that was not previously included in the Draft BA Report. The comments on this report will be included in the Final BA Report that will be submitted to the EDTEA for decision-making.
The Khanyani Project will play an important role on our socio-economic, on creating permanent jobs, fighting poverty and also reducing criminal activities as more people employed the less the crime in our area, the project should progress.	Bhekeni E. Nkala	28 May 2017	Thank you for the positive response.
<p>DC23/0008/2017 Comments on the Draft Basic Assessment Report (BAR) for the proposed maize and bean cultivation and harvesting enterprise on the property of KwaMkhize tribal land located in Inkosi langalibalele Local Municipality; uThukela District, DC23</p> <p>1) The Draft BAR received by the Department on 28 April 2017 regarding the abovementioned refers.</p> <p>2) This Department has reviewed the report and the following should be addressed in the final report to be submitted to the Department for consideration:</p> <p>Former Imbabazane Local Municipality has been incorporated into former uMtshezi Local Municipality to form Inkosi langalibalele Local Municipality.</p> <p>Clearly highlight item (I) on the checklist of Appendix 1 requirements on page 15.</p> <p>Address all comments from Interested and Affected Parties including those that may require more Specialist Studies.</p> <p>Kind regards</p> <p>Salome Kubeka</p>	<p>Salome Kubeka</p> <p>KZN Department of Economic Development, Tourism and Environmental Affairs</p>	29 May 2017	<p>Thank you for the comments.</p> <p>The report was updated to include the Inkosi langalibalele Local Municipality as the relevant municipality.</p> <p>Item (I) was highlighted on the checklist of Appendix 1 requirements</p> <p>All the comments from the Interested and Affected were included and addressed in the report.</p>
Kindly find the attached comments for the Basic Assessment for proposed maize and bean cultivation and harvesting enterprise for	Portia Cebekhulu	20 June 2017	Thank you for the comments, Agric potential map was changed to the

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<p>the Khanyani Agricultural Cooperative Change Department of Agriculture and Environmental Affairs to Department of Agriculture and Rural Development Imbabazane-is now Inkosi Langalibalele Municipality Change the Agric potential map and replace with new demarcation one (maps needs to be updated).</p>	<p>Department of Agriculture and Rural Development</p>		<p>new demarcation and Imbabazane was change to Inkosi Langalibalele Municipality, Department of Agriculture and Environmental Affairs was changed to Department of Agriculture and Rural Development.</p>
<p>PO. Box 1018, Durban, 4000. 88 Joe Slovo Street, Southern Life Building, Durban, 4001. Tel: (031) 336 2700. Fax (031) 304 9546. www.dws.gov.za Dear Madam RE: BASIC ASSESSMENT FOR THE PROPOSED MAIZE AND BEAN CULTIVATION AND HARVESTING ENTERPRISE OF THE KHANYANI AGRICULTURAL COOPERATIVE, EMTHEMBENI, IMBABAZANE LOCAL MUNICIPALITY, KWAZULU-NATAL Reference is made to the above-mentioned document received by this Office. This Department has the following comments with regards to the proposed development: (1) Water Uses and Water Use Authorisations (1.1) It is indicated on page 19 of the Specialist Report: Ecological Review of Portion of Landat iMbabazane near Kamberg, KwaZulu Natal that “Wetland and riparian system are associated with the Mtshezana and Boesman River systems and lie close proximity to the site. No wetland systems are identified on sites, however some sites do fall within 500m of the subject property”. Therefore, the Applicant must note that any activity within a 500m radius from the boundary of a wetland requires a water use licence in terms of Section 21(c) and (i) of the NWA. Your attention is drawn to Government Notice No. 1199 dated 18 December 2009 in Government Gazette No. 32805 which states that a General Authorisation (GA) is not applicable to “developments within a 500m radius from the boundary of a wetland or sewerage pipeline, pipelines carrying hazardous material and to water and wastewater treatment works”. This Department recommends that the delineations of the watercourse, riparian habitat and wetlands must be done according to this Department’s</p>	<p>Ms Lindiwe Dladla Department of Water and Sanitation</p>	<p>17 July 2017</p>	<p>Thank you very much for the comments. All comments raised by the Department were addressed in the Draft BA Report (version 2). (1.1) It is noted that activities within 500 m from the boundary of a watercourse require a Water Use Licence. The applicant is applying to DWS for a water use license as recommended by the department. Simon Bundy of SDP Ecological and Environmental Services cc was appointed to undertake a Wetland Delineation and Risk Assessment. This report is included in Appendix D of this report.</p>

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<p>guideline titled, "A Practical Field Procedure for Identification and Delineation of Wetlands and Riparian Areas", (DWAF, 2005).</p> <p>(1.2) It is noted from Page 31 of the BA that the crop will be rain fed. However the Department is requesting the Applicant to provide with the source, quality and estimated quantity of water that will be used as an alternative during the proposed activity in case of dry season. Furthermore the applicant must take note that activity trigger Section 21(a) of the NWA, i.e. "taking water from a water resource" therefore there must be no abstraction of water from a water resource unless authorised under the provision of the National Water Act, 1998 (Act 36 of 1998).</p> <p>(1.3) The Applicant must also note that irrigation with waste water triggers Section 21(e) "engaging in a controlled activity - activities which impact detrimentally on a water resource (activities identified in §37 (1) or declared as such under S38 (1)" of the National Water Act (Act 36 of 1998).</p> <p>(1.4) It is the responsibility of the Applicant to identify all water uses applicable to the activity in terms of Section 21 of the NWA and to ensure that all applicable water uses are authorised as such. The Applicant must consult with this Department if clarity is required with regards to water uses and water use authorisations.</p> <p>(1.5) Please note that no person may use water unless permitted under the NWA. Should you engage in any water use activity without the necessary water use authorisation, it will be regarded as an unlawful water use. The Applicant will thus be guilty of an offence and liable for a fine or imprisonment as stipulated in Section 151 of the NWA.</p> <p>(2) Solid Waste Management</p> <p>(2.1) The requirements of this Department with respect to solid waste must be strictly enforced and complied with.</p>			<p>(1.2) Noted. The proposed crops will be rain fed and the applicant is fully aware of the water use license requirement. The applicant stated that in dry seasons he won't cultivate.</p> <p>(1.3) Noted. The recommendation is included in the EMPr as part of the mitigation measures.</p> <p>(1.4) Noted and will be adhered to by the applicant.</p> <p>(1.5) Noted.</p> <p>(2.1) Recommendation noted and will be adhered to. The recommendation is included in the EMPr as part of the mitigation measures that need to be implemented to minimise waste. The relevant requirements of the National Environmental Management: Waste Act (Act 59 of</p>

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<p>(2.2) All waste material generated must be disposed of at a permitted landfill site that is authorised to accept such waste. Safe disposal certificates must be kept on record.</p> <p>(2.3) Contaminated soil or other hazardous material must be disposed of at a permitted hazardous landfill site that is authorized to accept the said material and proof of this must be made available to this Department when required.</p> <p>(2.4) Should private contractors be used, all solid waste must be disposed of at a permitted landfill site and proof of this must be made available to this Department when required.</p> <p>(2.5) Such waste must be placed in skips stored in a designated storage / collection area prior to being safely disposed of and must not cause any surface and groundwater pollution, or pose any health hazards.</p> <p>(2.6) The recycling of suitable material is encouraged by this Department, provided it is properly managed.</p> <p>(3) Sewage and Wastewater Management</p> <p>(3.1) Washing, refuelling, maintaining of vehicles or the transfer of hazardous substances must be conducted within a bunded area. All drainage arising from the bunded area must be treated as a water containing waste and disposed of safely.</p> <p>(3.2) The use of any temporary, chemical toilet facilities must not cause any pollution to water sources or pose a health hazard. In addition, these toilets must not be situated within 100m from a watercourse or within the 1:100 year floodline (whichever is the greatest). Furthermore, no form of secondary pollution should arise from the disposal of refuse or sewage from the temporary, chemical toilets. Any pollution problems arising from the above are to be addressed immediately by the Applicant.</p>			<p>2008) regarding the handling, storage, transport and use of hazardous waste will be adhered to. As noted in the EMPr, all waste will be safely stored, and will be removed from site on a scheduled basis by an appointed contractor. The recycling and re-use of waste will be considered as an alternative where possible. The waste, where applicable, will be disposed at a licenced municipal landfill site.</p> <p>(2.2) Recommendation noted. All waste material generated will be disposed of at a permitted landfill site that is authorised to accept such waste. Safe disposal certificates will be kept on record.</p> <p>(2.3) Recommendation noted. The proposed project will not produce any hazardous material. But, contaminated soil or other hazardous material will be disposed of at a permitted hazardous landfill site that is authorized to accept the said material and proof of this will be made available to this Department when required.</p> <p>(2.4) Noted and will be adhered to. This recommendation is included in the EMPr.</p> <p>(2.5) Noted and will be adhered to. This recommendation is included in</p>

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<p>(3.3) The following is applicable should small volumes of wastewater be generated during the construction phase: Water containing waste must not be discharged into the natural environment: Measures to contain the water containing waste and safely dispose thereof must be implemented.</p> <p>(4) Stormwater Management</p> <p>(4.1) It is imperative that there is proper management of storm water at the project site. A stormwater management plan must therefore be drawn up and adhered to.</p> <p>(4.2) The Engineer or Contractor must ensure that only clean stormwater runoff enters the environment.</p> <p>(4.3) Drainage must be controlled to ensure that runoff from the project area does not culminate in off-site pollution, flooding or result in any damage to properties downstream of any stormwater discharge point(s).</p> <p>(5) Erosion Control</p> <p>(5.1) Erosion control measures must be put in place to minimise erosion along the proposed construction areas. Extra precautions must be taken in areas where the soils are deemed highly erodible.</p> <p>(5.2) Soil erosion onsite must be prevented at all times, i.e. pre-, during- and post- construction activities. Erosion control measures must be implemented in areas prone to erosion such as near water supply points, edges of slopes, etc. These measures could include the use of sand bags, hessian sheets, bidim, retention or replacement of vegetation.</p> <p>(5.3) Where the land has been disturbed during construction it must be re-habilitated and re-vegetated back to an acceptable state after construction.</p> <p>(5.4) Stockpiling of soil or any other materials used during the construction phase must not be allowed _on or near steep slopes, near a watercourse or water body. This is to prevent pollution or the impediment of surface run-off. The applicant must control and establish suitable mitigation measures to prevent the erosion of stockpiles.</p>			<p>the EMPr.</p> <p>(2.6) Noted. Suitable material will be recycled where possible and will be probably managed.</p> <p>Response to Section 3</p> <p>(3.1) Recommendation noted and will be adhered to. The recommendation is included in the EMPr.</p> <p>(3.2) Noted. There will not be any chemical temporary toilets facilities on the site. Should this be placed on site, the recommendation to place the toilet 100m away from any watercourse and outside of the 100 m floodline will be adhered to. This recommendation is included in the EMPr.</p> <p>(3.3) Noted. The recommendation is included in the EMPr.</p> <p>Responses to Section 4</p> <p>(4.1) Stormwater management measures have been included in the EMPr. Recommendations for stormwater management will be considered by the Applicant during the design, construction and operation phase, as applicable and where possible.</p>

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<p>(6) Spillages Management</p> <p>(6.1) There must be no unacceptable impact on the quality of both surface and groundwater in the area. If pollution of any surface or groundwater occurs, it must be immediately reported to this Department and the appropriate mitigation measures must be employed. In addition, should the proposed development impact on any groundwater and/or surface water users, then water of equal quality and quantity must be provided to the affected users.</p> <p>(6.2) Storage of material, chemicals, fuels etc. must not pose a risk to the surrounding environment, and this includes surface and groundwater. Temporary bunds must also be constructed around chemical or fuel storage areas to contain possible spillages. Such storage areas must be located outside the 1:100 year flood-line of the water source and must be fenced to prevent unauthorized access into the area.</p> <p>(6.3) It is important that any significant spillage of chemicals, fuels, etc. during the construction phase and/or operational phase is reported to this Office and other relevant authorities. In the event of a spill, the following steps can be taken: Stop the source of the spill; Contain the spill; All significant spills must be reported to this Department and other relevant authorities; Remove the spilled product for treatment and authorised disposal;</p> <p>Determine if there is any soil, groundwater or other environmental impact;</p> <p>If necessary, remedial action must be taken in consultation with this Department; and Incident must be documented.</p> <p>(7) General</p> <p>(7.1) No form of secondary pollution should arise from the disposal of sewage and refuse. The contractor must be clearly briefed on the method of disposal of such waste and compliance must be ensured I monitored. Any</p>			<p>(4.2) Noted. Stormwater management measures have been included in the EMPr.</p> <p>(4.3) Noted. Stormwater management measures to address these issues have been included in the EMPr.</p> <p>Response to Section 5 (5.1-5.4)</p> <p>Measures for erosion control have been included in the EMPr and an erosion management plan has been included in it. Erosion control measures will be implemented during all phases of the project. Suitable measures will be implemented to prevent pollution into nearby watercourses as a result of erosion of stock piles.</p> <p>Figure 4 in the Draft BA Report includes a map on Rainfall erodibility (or erosivity). It shows that the area falls between 301-400mm which is a low risk.</p> <p>Responses to Section 6 (6.1-6.3)</p> <p>6.1 Noted. The recommendations from the Department in terms of management of spillages will be adhered to. Measures will be implemented to ensure that surface and groundwater is not polluted. Mitigation measures to manage spillage have been included in the EMPr.</p>

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<p>pollution problems arising from the above project is to be addressed immediately by the Applicant.</p> <p>(7.2) This Department acknowledges and emphasises the commitment on Appendix F of an “Environmental Management Programme (EMPr) compiled and contain guidelines to ensure that all activities associated with the construction and operation of the proposed project are carried out in an environmentally responsible and acceptable manner”.</p> <p>(7.3) This Office reserves the right to inspect the site without prior notice in order to ensure that its requirements, as mentioned above, are adhered to. Should any problems be noted, measures must be undertaken immediately to rectify the situation.</p> <p>(7.4) This Department reserves the right to revise I withdraw these comments and request further information from the applicant should any other information that contradicts the above comes to light.</p> <p>(7.5) Notwithstanding the above, the responsibility rests with the Applicant to identify all sources or potential sources of pollution from his undertaking and to take appropriate measures to prevent any pollution of the environment. Failure to comply with the requirements of the National Water Act, 1998 (Act No 36 of 1998) could lead to legal action being instituted against the Applicant.</p> <p>Please do not hesitate to call this Office should you have any concerns, comments or queries.</p> <p>Yours faithfully</p>			<p>(6.2) Temporary bunds will be constructed around chemical or fuel storage areas to contain possible spillages. Such storage areas will not be located within the 1:100 year flood-line of the water source and will be fenced to prevent unauthorized access into the area.</p> <p>(6.3) The recommendations from the Department regarding the spillage of chemicals will be adhered to. The steps in the event of an accidental spill will also be implemented.</p> <p>Response to Section 7 (7.1-7.5)</p> <p>The general comments from DWS are noted and will be adhered to.</p>
<p>Dear Ms Mashabela</p> <p>COMMENTS ON DRAFT BASIC ASSESSMENT REPORT FOR THE PROPOSED MAIZE AND BEAN CULTIVATION AND HARVESTING ENTERPRISE FOR THE KHANYANI AGRICULTURAL COOPERATIVE, EMTHEBENI, IMBABAZANE LOCAL MUNICIPALITY</p> <p>The Draft Basic Assessment Report (DBAR) for the proposed maize and bean cultivation and harvesting for the Khanyani Agricultural Cooperative has been reviewed by Ezemvelo KZN Wildlife (Ezemvelo).</p> <p>Ezemvelo, as an Organ of State, is fully supportive of initiatives such as this which aim to create jobs, improve food security and thereby</p>	<p>Jenny Longmore Ezemvelo KZN Wildlife (Ezemvelo)</p>	<p>22 July 2017</p>	<p>The comments from Ezemvelo are noted. It is appreciated that Ezemvelo is fully supportive of initiatives such as this which aim to create jobs, improve food security and thereby assist in uplifting livelihoods of previously disadvantaged communities. It is also noted that Ezemvelo is concerned that the proposed agricultural project for the Khanyani Cooperative is not environmentally sustainable.</p>

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<p>assist in uplifting livelihoods of previously disadvantaged communities. While this is a key focus area for Government, the imperative to create jobs and promote food security is not advocated at all costs. The Environmental Right (s24), contained in the Bill of Rights provides that:</p> <p>'Everyone has the right-</p> <p>(a) to an environment that is not harmful to their health or well-being; and</p> <p>(b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that-</p> <p>(i) prevent pollution and ecological degradation;</p> <p>(ii) promote conservation; and</p> <p>(iii) Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.'</p> <p>Here the Constitution recognizes the direct relationship between the health and well-being of humankind and the persistence of the natural environment and the biodiversity therein. It is on these grounds that a constitutional duty is placed on the State (and all spheres of government therein) to take reasonable steps, in their current functions as well as future plans, to prevent environmental degradation, promote conservation and ensure sustainable development.</p> <p>As an organ of State Ezemvelo is bound by the Bill of Rights¹and has a positive duty to 'respect, protect, promote and fulfil the rights in the Bill of Rights.'² In terms of the KZN Nature Conservation Management Act 9 of 1997, Ezemvelo is charged to direct the management of the natural environment (including biodiversity) inside and outside protected areas, in partnership with other organs of state, private and communal landowners and civil society. It is thus incumbent on Ezemvelo, in collaboration with these partners, to oversee/guide the States trusteeship of biodiversity.</p> <p>Ezemvelo is also the Organ of State in the Province charged with the duty to fulfil the legal provisions and requirements provided for in the National Environmental Management: Biodiversity Act (Act 10 of 2004), the Natal Nature Conservation Ordinance 15 of 1974 and the</p>			<p>Please note that the EMPr has been updated to ensure that mitigation measures are included to reduce the potential negative impacts of the project on the environment.</p>

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<p>KwaZulu Nature Conservation Act, 1992, which includes inter alia decisions regarding the issuing or not of permits for the destruction or removal (translocation) of protected and specially protected indigenous animals and plants, and threatened and/or protected species.</p> <p>Notwithstanding the in principled support for the Khanyani Agricultural Cooperative, the DBAR has failed to demonstrate with any surety that the development as proposed is environmentally sustainable and is in the best interests of the people. The Environmental Management Programme (EMPr) is vague and does not provide any assurance that environmental sustainability can or will be achieved. There is a strong likelihood that the Department of Environmental Affairs will not be in a position to grant environmental approval for this project.</p> <p>Please find outlined below specific comments and concerns on the EIA process conducted to date, the DBAR and the EMPr, as well as Ezemvelo's recommendation in terms of the way forward.</p> <p>COMMENTS ON THE EIA PROCESS, DBAR and EMPr</p> <p>Failure to investigate alternative sites</p> <p>While it is understood that the proposed development site was given to the project applicant by the KwaMkhize Traditional Council, no evidence is provided to suggest that the CSIR and project applicant made any attempt to: (i) bring to the attention of the Traditional Council the environmental sensitivity (constraints) of the area for cultivation and (ii) negotiate an alternative development site of lower conservation value.</p> <p>The recommendation of the EAP (Section G) that the Traditional Council should be assisted by KZN Wildlife and SANBI in defining areas for future cultivation and areas that should be set aside for conservation, implies that alternative cultivation areas within the KwaMkhize Traditional do potentially exist. The failure to investigate / consider alternative sites is prejudicial to all parties.</p> <p>Importance and representivity of the site at the local / regional level not contextualized</p>			

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<p>No information is provided in the DBAR with respect to the representivity of the site in question to adjacent areas or other areas within the KwaMkhize Traditional area. This information is important not only in terms of assessing / determining the significance of developing (modifying) the site in question, but also in ensuring that representative areas exist that could potentially be used as receiving areas for flora and fauna.</p> <p>That the relocation of flora and fauna of conservation importance to adjacent areas is put forward as mitigation for habitat loss, in the absence of information as to whether suitable, representative sites exist, is highly problematic and prejudicial to the application.</p> <p>The conclusion and recommendation that project should proceed is not based on defensible reasoning</p> <p>The setting aside of the Independent Biodiversity Specialists recommendation(s), in the absence of empirical data and / or additional information to suggest that the specialist assessment may be inaccurate / no longer valid, is highly problematic.</p> <p>That the recommendation is made that the project proceeds when the loss of vegetation and faunal habitat is evaluated as being of "High (negative) significance after mitigation", makes this application flawed. If the environmental harm that would occur through development of the site cannot be avoided, minimized (mitigated) or remedied, it cannot be allowed in terms of the law.</p>			<p>Following the comments received from Ezemvelo, the CSIR consulted with the Traditional Council. From a cultural perspective, the site is part for the Abambo Traditional Council area and the use of this 26 ha site was allocated to the applicant by the INkosi Sbonelo N. Mkhize. The Nkosi has stated clearly that unfortunately he has no other sites that are available for this applicant (confirmed in a letter dated 31 July 2017; see Appendix E).</p> <p>It should be noted that only 17 ha of the total area of 26 hectares assigned to the applicant will be cultivated. The proposed area for cultivation was reduced to take environmental sensitivities on site into consideration. This is to avoid the portion of the site with shallower soil and rock outcrops, and maintaining a buffer of indigenous grassland vegetation around the periphery of the site.</p> <p>The site falls within the Mooi River Grassland. The biodiversity loss as a result of the cultivation of 17 ha of Mooi River Grassland is a negative impact of high significance. It is noted that this habitat is rated as Vulnerable on the national SANBI BGIS database and that 174 407 ha of this grassland currently exists (i.e. the footprint constitutes approximately</p>

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<p>Mitigation measures are put forward without evaluating whether they can be achieved in full or in part.</p> <p>The EMP is vague, contradictory in places and provides little / no confidence that it will allow for environmental sustainability and good environmental practice</p> <p>Section 3.2 first speaks to an independent Environmental Control Officer (ECO) being appointed to monitor compliance with the project. It then suggests that the farm manager may assume the ECO function - bullet 3 - ECO / farm manger. Section 3.3 implies that the farm manager may also be farm workers - Farm Manager (Farm workers).</p> <p>The suggestion that: "No-go areas containing important plant habitat in the immediate vicinity of the construction activities must be declared, mapped and clearly demarcated", be the responsibility of Farm Manager(s) is problematic. It is submitted that sensitive areas (on and adjacent to the site) needed to be mapped during the EIA process - there is no evidence provided to suggest that sensitive areas have been mapped. This function cannot be the responsibility of the Farm Managers.</p> <p>It is further noted that the collection and replanting of the flora of conservation importance is the joint responsibility of the Farm manager(s) and a Botanist/Horticulturalist. It is not clear whether funds have been set aside in this Special Needs and Skills Development Program to appoint a Botanist /Horticulturalist. If funds or alternatively the pro bona services of a botanist / horticulturalist has not been secured for this project post approval,</p>			<p>1/10 000th of the remaining area of this habitat).</p> <p>As stated above, the proposed project footprint has been reduced to 17 ha. The remaining 9 ha will be a buffer zone that will be used for the translocation of fauna and flora of conservation importance as relevant. Suitable areas exist in the buffer area to accommodate these species.</p> <p>The CSIR did not set aside the recommendation by the Independent Biodiversity specialist. The comments from the specialist were considered. Additional information and data on the status of the biodiversity of the site was obtained and included in this report. The conclusion by the specialist that the loss of vegetation and faunal habitat after mitigation remains high is noted.</p> <p>However, in terms of the principles of sustainable development and environmental management, the CSIR have also considered the broader socio-economic context of this project. The positive and negative impacts of the proposed project on the geographical, physical, biological, social, economic, heritage and cultural sensitivity of the site and it's surrounding location were considered.</p> <p>A holistic approach that considers the livelihoods of poor rural communities</p>

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<p>it cannot be reflected in the EMPr.</p> <p>Similarly, making the responsibility for relocating red data fauna the responsibility of an Ezemvelo KZN Wildlife specialist, in the absence of any engagement / agreement from Ezemvelo is highly problematic. This needs to be negotiated with the Head of Ezemvelo's Biodiversity Unit to determine if Ezemvelo indeed has the capacity and in-house expertise to perform this function. Further, the IUCN/SSC Guidelines for relocation and re-introduction will need to be followed in the case of the Rough Haired Golden Mole, as it is a red data species. With the information at hand, it is not possible to assess whether the level of risk, balanced against the scale of expected benefits, allows for a translocation exercise to be conducted. Naturally, if relocation is shown to be achievable, Ezemvelo will endeavor to support and assist the CSIR and the Khanyani Agricultural Cooperative.</p> <p>RECOMMENDATIONS</p> <ol style="list-style-type: none"> 1. It is strongly advised that the CSIR applies to the Department for an extension in which to submit the Final BAR (FBAR). 2. The FBAR needs to include empirical data / input from a qualified and experienced ecologist if the site is no longer of conservation importance, as reported by independent Biodiversity Specialist Mr Simon Bundy. 3. The importance of the site in question for the Rough Haired Golden Mole needs to be evaluated by an appropriately qualified and experienced mammalian specialist and the findings and conclusions must be reported on in the FBAR. 4. The representivity of the site under consideration to adjacent areas and other sites within the KwaMkhize Traditional area needs to be assessed. Suitable potential receiving areas for flora and fauna needs to be identified and reported on in the EMPr. <p>The recommendation of the EAP (Section G) that the Traditional Council should be assisted by KZN Wildlife and SANBI in defining areas for future cultivation and areas that should be set aside for conservation is a good recommendation. It is submitted that the CSIR should have called for the support and assistance of Ezemvelo and SANBI before embarking on the EIA process for the cultivation of</p>			<p>is therefore taken by the EAP in reaching its recommendation.</p> <p>This BA is conducted as part of the Special Needs programme that provides support to applicants who have been assessed to have "special needs" (as provided for in section 47 of the EIA Regulations, entitled "Assistance to people with special needs") and are from disadvantaged backgrounds with very limited access to resources such as finances and land. For example, the applicant does not have access to alternative sites for cultivation.</p> <p>This project is within tribal authority land where historically the rights of the Nkosi would have provided sufficient authority for the applicant to grow maize and beans on this site. When the applicant was informed that an additional approval is required in terms of NEMA, they acted in good faith and left the land unutilised for the past two years. The BA process was initiated in 2015 and the Background Information Document was released to all stakeholders in November 2015.</p> <p>Please refer to the recommendation from the EAP in section G of the Draft BA Report (version 2) which provides the overall context and motivation why the project should be authorised.</p>

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<p>site in question, or at least when the independent specialist identified the site in question as being of conservation importance, and recommended that alternative sites for cultivation be considered - namely the area in close proximity to the KwaMankonjane or proximal to the existing plantations.</p> <p>Ezemvelo will endeavor to support and assist the CSIR as far as possible in finding an environmentally sustainable way forward that will allow the Khanyani Agricultural Cooperative to proceed with their farming endeavors as soon as possible.</p> <p>Yours sincerely</p> <p>Jenny Longmore <i>Principal Conservation Planner</i> For CEO : EZEMVELO KZN WILDLIFE DATE : 22/07/17</p>			<p>Please note that the EMPr has been revised to promote good environmental practice and to clarify the different roles and responsibilities of all parties involved who are responsible for the implementation of the EMPr.</p> <p>The manager of the Cooperative, currently Mr Bongani Mnculwane, is responsible for ensuring that the conditions of the Environmental Authorisation issued in terms of NEMA (should the project receive such authorisation) are fully satisfied, as well as ensuring that any other necessary permits or licenses are obtained and complied with. It is expected that the Project Developer will appoint a Farm Manager and an Environmental Control Officer (ECO).</p> <p>The different parties will work together with the ECO to promote environmental compliance and sustainability.</p> <p>The project layout has been revised to consider environmental sensitivities on site. As such the project area has been reduced from 26 ha to 17 ha.</p> <p>The project applicant has limited funding to appoint an Ecologist or Botanist to relocate fauna and flora of Conservation Importance. It is recommended that should the project</p>

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			<p>receive Environmental Authorisation, a Conservation body will be consulted to provide voluntary <i>pro bono</i> services to assist the Special Needs Applicant in this regard. Ezemvelo will also be contacted to request assistance (if at all possible) to ensure that the project is implemented in a sustainable manner. This will be discussed with Ezemvelo should the project be approved.</p> <p>The CSIR has applied to the EDTEA for an extension for the submission of the Final BA Report as recommended by Ezemvelo. As such the Draft BA Report has been updated and was released for comment. The comments received on this Draft BA Report (version 2) will be included in the Final BA Report and will be submitted to EDTEA for decision-making.</p> <p>Recommendations for the conservation of the Rough Haired Golden Mole on site have been incorporated into the EMPr.</p> <p>The CSIR appreciates the comment from Ezemvelo that they support the recommendation that the Traditional Council should be assisted by Ezemvelo and SANBI in defining areas for future cultivation and areas that should be set aside for conservation.</p> <p>The CSIR wishes to thank Ezemvelo</p>

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			for their comments and propose that the parties work together in future should the project be authorised to find practical, positive solutions to implement this project in a sustainable manner.
<p>COMMENTS ON BASIC ASSESSMENT FOR THE PROPOSED MAIZE AND BEAN CULTIVATION AND HARVESTING ENTERPRISE FOR THE KHANYANI AGRICULTURAL COOPERATIVE</p> <p>Dear Ms. Mashabela</p> <p>The draft basic assessment report as prepared by CSIR, with you as the lead author is noted. As the AbaMbo Traditional Council we have reviewed it, and although quite technical, we shall attempt to make comments that will hopefully assist the plight of the Khanyani Agricultural Cooperative. The AbaMbo Traditional Community is one of 7 Traditional Communities that fall within the jurisdiction of the Inkosi Langalibalele Local Municipality (a new entity formed after the merger of Imbabazane and uMtshezi Local Municipalities in August 2016). It is situated 45 km from Estcourt town, and 39 km from another town, Mooi River. Around the periphery of the community lies privately owned commercial farms, and also two game reserves, Giants' Castle and Highmoor Game Reserves, both of which are under the jurisdiction of the state's Ezemvelo KZN Wildlife.</p> <p>The municipality, to use available statistics from Stats SA, has a 48.6% unemployment rate, with 56,6% of the youth being unemployed. Of the 22,365 households that were recorded on Census 2011 in the former Imbabazane Local Municipality, 12,653 are considered agricultural households; households that make their livelihood through agricultural activities of different types. That equates to under 57% of the entire population of Imbabazane that depends on agriculture to live.</p> <p>The AbaMbo Traditional Council has intervened quite extensively in the last 8 years since I have taken over the reigns as iNkosi of the area to boost the micro-economy of Hlathikhulu. The geographical location of the area, in itself, is a hindrance for people to be actively participating in the labour force of Estcourt, seeing that a return fee by taxi is R50. 'Tis the reason why most people have</p>	<p>Inkosi Sbonelo N. Mkhize AbaMbo Traditional Council: UThukela District</p>	<p>31 July 2017</p>	<p>Thank you for the comments.</p>

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<p>dedicated their lives to agriculture in Hlathikhulu. As a Traditional Council we have concentrated much of our efforts into ensuring that agriculture forms the foundation of our economy. These have been some of our aggressive interventions: In 2014 we embarked on an expansive agricultural programme where, together with other Traditional Communities in the uThukela District, we were able to raise over R17 million for some of our primary agricultural activities. We were funded by the KZN Department of Cooperative Governance and Traditional Affairs (KZN CoGTA). Some of our yellow maize harvest was sold to De Heus (PTY) Ltd, and surrounding farmers, our potatoes to the Durban Market, and our kidney beans to a retailer in Verulam, north of Durban,</p> <ul style="list-style-type: none"> ▫ In 2016 the KZN Department of Agriculture and Rural Development invested over R18 million into the same programme to continue with the agrarian programme we had started. We have recently harvested 300 tons of yellow maize which we have sold to Meadow Feeds in Pietermaritzburg, ▫ KZN CoGTA together with the Department of Land Reform and Rural Development have collaborated to fund a pack house in our area. Construction started 2 months ago, and the project is worth R5.2 million. We aim to provide a service to the local emerging farmers, ▫ After meeting the Managing Director of AFGRI Africa Business, Mr. Hercu Bloem on 28 June 2017, AFGRI introduced us to a subsidiary unit of theirs called Harvest Time Investments which incubates emerging black farmers over a 3 year period, with the ultimate objective of creating viable commercial farmers. As a community we are to participate in this programme, as we realised that knowledge of the industry, together with financial acumen is the key to being successful farmers. <p>There are many other cases where I can elaborate on the vision of the community, and what our plans are, but that is not the focus of this letter. This letter is to highlight the economic necessity for a community like mine to be able to use the land that we have in order for us to make a living.</p> <p>As a marginalised community in terms of geography, demographics, economics, knowledge, and now seemingly, environmental, what chances do the people in this area have in terms of being able to</p>			

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<p>make a meagre living for themselves, when legislation is likely to prevent them from being able to continue with their lives?</p> <p>We are no experts in environmental legislation, and for that matter the community seeks to carry out their activities in a manner that is ethical and legal. But with comments that seemingly are against Khanyani using the land in question due to environmental degradation that might occur, what is the alternative? There is no more land that the Traditional Council can allocate to Khanyani, so what is to happen?</p> <p>A Nepad Rural Futures Conference I attended in Contonou in May 2013 had a speaker present a paper highlighting the supposed conflict between developmentalists and environmentalists. I hope that this current study and experience at hand cannot be considered the "Crossing of the Rubicon" where, as developmentalists and/or environmentalists, we end up sitting on opposite sides and make conclusions that we shall develop at the expense of the environment, or we shall protect the environment at the expense of the people.</p> <p>At the heart of this application are the people who have no other alternative, and who are not looking for handouts, but would like to make a living off the land. I implore on the final</p> <p>Department of Environmental Affairs to make a decision that will place the people's needs first, but at the same time be able to provide expertise to prevent any aggressive disruption of the land from occurring.</p> <p>Thank you.</p>			
<p>Comments from town planning office Inkosi Langalibalele Municipality on the basic assessment for the proposed maize and beans cultivation and harvesting enterprise for the Khanyani Agricultural Cooperative, Emthebeni.</p> <p>1. The municipality does not have any objection on the proposed development situated outside Estcourt Town Planning Schemes as:</p> <p>There is no significant impact on the environment, no negative socio economic conditions, and cultural heritage;</p>	<p>Zamokuhle Mathenjwa Town Planner Technician Inkosi Langalibalele Municipality Old Post Office Building Estcourt 3310Tel: +27 36 352 2353 zamokuhle@ilm.gov.za</p> <p>Municipal Manager: Hlula Alpheus Dladla (Acting), Mr</p>		<p>Thank you for the positive comments in support of the project. The municipality's name was changed in the report from the former Imbabazane Local Municipality to the Inkosi Langalibalele Local Municipality.</p>

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<p>No significant Impact of the proposal on existing or proposed developments or land uses in the Municipal area;</p> <p>No significant impact of the national, Provincial and municipal road networks;</p> <p>No significant impact on the protection or preservation of cultural and natural resources, unique areas or features and biodiversity will not be affected and</p> <p>No significant impact on the natural and physical qualities of that area.</p> <p>2. The proposed development is not in conflict with the provincial planning and developments of norms and standards</p> <p>3. The proposed development does not conflict with the municipality IDP and SDF</p> <p>4. Kindly note that on the 03 August 2016, Imbabazane Municipality and Untshedzi Municipality Amalgamated as one Municipality now known as Inkosi Langalibalele Municipality. Therefore kindly note the document should be amended and not state Imbabazane Municipality.</p>	<p>Postal Address: PO Box 15, ESTCOURT, 3310</p> <p>Street Address: Victoria Street, Civic Building, ESTCOURT</p> <p>Tel: 036 342 7801 Fax: 036 352 5829</p> <p>E-mail: municipalmanager@umtshezi.co.za</p>		

SECTION D : RESOURCE USE AND PROCESS DETAILS

9. SOCIO-ECONOMIC CONTEXT

BASELINE DEMOGRAPHIC INFORMATION

KwaMkhize is a rural area in Inkosi Langalibalele Local Municipality Ward 11 previously Ward 1, KwaZulu-Natal Province. The majority of the population of Inkosi Langalibalele Municipality resides in rural villages scattered throughout the municipal area, particularly in traditional authority areas. Estcourt is the closest urban centre to Inkosi Langalibalele, and serves as a locally import and shopping and service centre offering specialist services including medical, education and manufacturing. Many of the government departments serving Inkosi Langalibalele have regional offices located in Estcourt. Ladysmith is the main regional shopping and services centre and boasts a healthy industrial centre that continues to expand. Estcourt and Ladysmith are the main employment centres for Inkosi Langalibalele. Inkosi Langalibalele does not have a well-defined settlement pattern, which along with poor municipal capacity, has inhibited service delivery. According to the 2011 Census, there is a clear indication of 11 332 (65%) households who are still relying on the public phones. The poor access to communication has negative impacts in terms of accessing emergency services and, access to Information Technology.

Based on a scan of the current information available from the KZN Wildlife Services and the KZN Tourism Authority, Inkosi Langalibalele has no major tourism facilities at present apart from the hotel and conference centre at the White Mountain Resort. However, the area provides a gateway to Drakensberg resorts. From a socio-economic perspective, this agricultural project is predicted to have positive benefits at the local scale, in particular for the nearby village of Khamkhize, although notably at a small scale. These benefits will accrue from the creation of some 12 to 24 temporary employment opportunities for the local community during the preparation of the fields and ongoing cultivation of the maize, soya beans and potato crops. The local community will be involved in ongoing activities such as soil preparation, planting, weeding, thinning and harvesting. Much of this work is intended to be done manually and to optimise job creation. The project is also likely to support new opportunities for processing and sale of maize and bean products within the local community, as well as potential for cattle to graze on the maize stalks after harvesting. The project could also attract additional support from DAFF into the village, such as provision of fertilizer. The leader of the Khanyani Agricultural Cooperative has conveyed that the intention is to provide a portion of the crop to the poorest members of the village to improve their food supply and well-being.

According to Census 2011, the KwaMkhize has a total population of 2 670 and 562 households. Black Africans are in the majority making up 99.5% of the total population followed by the Indian/Asian population making up 0.3%, while the whites are 0.1% refer to Table 1.1 below. The gender population of the area is dominated by females with 53.9% and males with 46.1%.

Table 1.1: Population group of KwaMkhize area

Group	Percentage
Black African	99,5%
Coloured	0,0%

Indian/Asian	0,3%
White	0,1%
Other	0,1 %

The language most spoken at KwaMkhize is IsiZulu comprising 98.1%. The population density of the area is 626 persons/km². Table 1.2 below shows the marital status of the KwaMkhize area. The majority of 75.7% were never married, 15.5% are married, 4.7% are living together. Four percent of the KwaMkhize area are widowed and lastly 0, 1% is divorced.

Table 1.2: Marital status of KwaMkhize area

Group	Percentage
Married	15,5%
Living together	4,7%
Never married	75,7%
Widower/Widow	4,0%
Separated	0,0%
Divorced	0,1 %

According to Table 1.3 35% of the population in KwaMkhize attended secondary school while 18.8% attended primary school 10.9% never attended school. 18, 5% obtained matric and 9, 8% obtained tertiary education. Education plays a pivotal role on community development. The Inkosi Langalibalele Municipality IDP states that access to education facilities within Inkosi Langalibalele is very poor reflecting the lack of development in the area.

Table 1.3: Educational status of KwaMkhize area

Group	Percentage
No Schooling	10,9%
Some Primary	18,8%
Completed Primary	6,9%
Some Secondary	35%
Matric	18,5%
Higher Education	9,8%

According to Statistics South Africa (2011), 48.8% of the house hold in the area are female headed. Thirty five percent of (35%) of the KwaMkhize have access to electricity for cooking, heating and lighting but the majority of 49% uses wood for cooking and heating which is similar to the Inkosi Langalibalele Local Municipality where the majority of households use wood for heating (54%), electricity for lighting (69%) and wood for cooking (49%). According to Stats SA, (2011) Ward 11 is the most disadvantaged ward as it has the least number of households with access to electricity for cooking and heating. It cannot entirely be assumed that the use of wood as an alternative source of energy is due to the lack or limited access to electricity. It should be considered that this may be an energy saving mechanism or a matter of affordability.

Eighty five percent of the areas settlement is traditional - the remaining 15% comprises farming. In terms of tenure status, 56.6% owned and fully paid off, 29.9% occupied rent free, owned but not yet paid off 7.7% rented dwellings account for 1. 7%. The main sources of water for households in the area are boreholes comprising 33.3%.

According to the Table 1.4 below 16.9% of the areas are with no income, 23.5% earn between R9,601 - R19,600 while 22,3% earn between R19,601 - R38,200. According to Inkosi Langalibalele Municipality IDP majority of the population in Inkosi Langalibalele does not earn an income. The majority of the population are not economical active and have not been since 2001. In fact, there has been an increase in the number of people who are not economically active. The overall income status of the municipality is low and illustrates that the majority of the population is indigent and poverty is prevalent. This presents a very challenging picture of the unemployment rate which is nearly double the national average rate. This high unemployment rate is correlated with poverty and lack of established economic development activities such as manufacturing and farming.

Table 1.4: Economic status of KwaMkhize households

Income	Percentage
None income	16,9%
R1 - R4,800	6,7%
R4,801 - R9,600	13,6%
R9,601 - R19,600	23,5%
R19,601 - R38,200	22,3%
R38,201 - R76,4000	9,5%
R76,401 - R153,800	3,9%
R153,801 - R307,600	2,1%
R307,601 - R614,400	1,1%
R614,001 - R1,228,800	0,2%
R1,228,801 - R2,457,600	0,2%
R2,457,601+	0,1%

SECTION E: IMPACT ASSESSMENT MANAGEMENT MITIGATION AND MONITORING MEASURES

10. IMPACT ASSESSMENT

10.1 INTRODUCTION

The Impact assessment must take account of the nature, scale and duration of effects on the environment, whether such effects are positive (beneficial) or negative (detrimental). Each issue / impact is also assessed according to the project stages from planning, through construction and operation to the decommissioning phase. Where necessary, the proposal for mitigation or optimisation of an impact is noted. A brief discussion of the impact and the rationale behind the assessment of its significance is provided in this Section. The EIA of the project activities is determined by identifying the environmental aspects and then undertaking an environmental risk assessment to determine the significant environmental aspects.

The environmental Impact Assessment is focussed on the following phases:

- Design and planning Phase
- Operational (cultivation and harvesting) Phase
- Restoration Phase

10.2 IMPACT ASSESSMENT METHODOLOGY

The following methodology has been provided by the CSIR to all specialists, for incorporation into specialist assessments:

10.2.1 Methodology of impact assessment

According to the DEA IEM Series guideline on "Impact Significance" (2002), there are a number of quantitative and qualitative methods that can be used to identify the significance of impacts resulting from a development. The process of determining impact significance should ideally involve a process of determining the acceptability of a predicted impact to society. Making this process explicit and open to public comment and input would be an improvement of the EIA/BA process. The CSIR's approach to determining significance is generally as follows:

Use of expert opinion by the specialists ("professional judgement"), based on their experience, a site visit and analysis, and use of existing guidelines and strategic planning documents and conservation mapping (e.g. SANBI biodiversity databases);

Review of specialist assessment by all stakeholders including authorities such as nature conservation officials, as part of the report review process (i.e. if a nature conservation official disagreed with the significance rating, then we could negotiate the rating); and our approach is more a qualitative approach - we do not have a formal matrix calculation of significance as is sometimes done.

10.2.2 Specialist criteria for impact assessment

The following methodology has been provided by the CSIR to all specialists, for incorporation into specialist assessments:

Assessment of Potential Impacts

The assessment of impact significance is based on the following conventions:

Nature of Impact - this reviews the type of effect that a proposed activity will have on the environment and should include "what will be affected and how?"

Spatial Extent - this should indicate whether the impact will be:

- Site specific;
- Local (<2 km from site);
- Regional (within 30 km of site); or
- National.

Duration - The timeframe during which (lifetime of) the impact will be experienced:

- Temporary (less than 1 year);
- Short term (1 to 6 years);
- Medium term (6 to 15 years);
- Long term (the impact will cease after the operational life of the activity); or
- Permanent (mitigation will not occur in such a way or in such a time span that the impact can be considered transient).

Intensity - it should be established whether the impact is destructive or innocuous and should be described as either:

- High (severe alteration of natural systems, patterns or processes such that they temporarily or permanently cease);
- Medium (notable alteration of natural systems, patterns or processes; where the environment continues to function but in a modified manner); or
- Low (negligible or no alteration of natural systems, patterns or processes); can be easily avoided by implementing appropriate mitigation measures, and will not have an influence on decision-making.

Probability - this considers the likelihood of the impact occurring and should be described as:

- Improbable (little or no chance of occurring);
- Probable (<50% chance of occurring);
- Highly probable (50 – 90% chance of occurring); or
- Definite (>90% chance of occurring).

Reversibility - this considers the degree to which the adverse environmental impacts are reversible or irreversible. For example, an impact will be described as low should the impact have little chance of being rectified to correct environmental impacts. On the other hand, an impact such as the nuisance factor caused by noise impacts from wind turbines can be considered to be highly reversible at the end of the project lifespan. The assessment of the reversibility of potential impacts is based on the following terms:

- High - impacts on the environment at the end of the operational life cycle are highly reversible;
 - Moderate - impacts on the environment at the end of the operational life cycle are reasonably reversible;
 - Low - impacts on the environment at the end of the operational life cycle are slightly reversible;
- or

- Non-reversible - impacts on the environment at the end of the operational life cycle are not reversible and are consequently permanent.

Irreplaceability - this reviews the extent to which an environmental resource is replaceable or irreplaceable. For example, if the proposed project will be undertaken on land that is already transformed and degraded, this will yield a low irreplaceability score; however, should a proposed development destroy unique wetland systems for example, these may be considered irreplaceable and thus be described as high. The assessment of the degree to which the impact causes irreplaceable loss of resources is based on the following terms:

- High irreplaceability of resources (this is the least favourable assessment for the environment);
- Moderate irreplaceability of resources;
- Low irreplaceability of resources; or
- Resources are replaceable (this is the most favourable assessment for the environment).

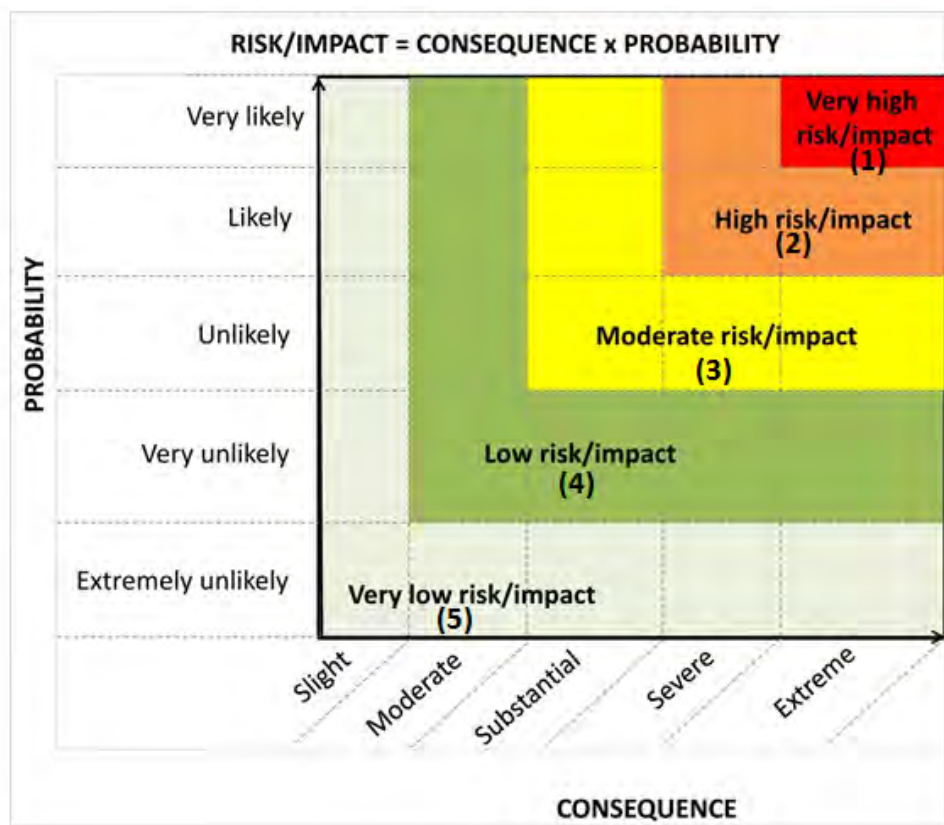


Figure 7: Guide to assessing risk/impact significance as a result of consequence and probability.

The status of the impacts and degree of confidence with respect to the assessment of the significance is stated as follows:

Status of the impact: A description as to whether the impact will be:

- Positive (environment overall benefits from impact);
- Negative (environment overall adversely affected); or
- Neutral (environment overall not affected).

Degree of confidence in predictions: The degree of confidence in the predictions, based on the availability of information and specialist knowledge. This should be assessed as:

- High;
- Medium; or
- Low.

Based on the above considerations, the specialist provides an overall evaluation of the significance of the potential impact, which should be described as follows:

- **Low to very low:** the impact may result in minor alterations of the environment and can be reduced or avoided by implementing the appropriate mitigation measures, and will only have an influence on the decision-making if not mitigated;
- **Medium:** the impact will result in moderate alteration of the environment and can be reduced or avoided by implementing the appropriate mitigation measures, and will only have an influence on the decision-making if not mitigated; or
- **High:** Where it could have a “no-go” implication for the project unless mitigation or re-design is practically achievable.

Furthermore, the following must be considered:

- Impacts should be described both before and after the proposed mitigation and management measures have been implemented.
- All impacts should be evaluated for the construction, operation and decommissioning phases of the project, where relevant.
- The impact evaluation should take into consideration the cumulative effects associated with this and other facilities which are either developed or in the process of being developed in the region, if relevant.

Management Actions:

- Where negative impacts are identified, mitigatory measures will be identified to avoid or reduce negative impacts. Where no mitigatory measures are possible this will be stated.
- Where positive impacts are identified, augmentation measures will be identified to potentially enhance these.
- Quantifiable standards for measuring and monitoring mitigatory measures and enhancements will be set. This will include a programme for monitoring and reviewing the recommendations to ensure their ongoing effectiveness.

Monitoring:

Specialists should recommend monitoring requirements to assess the effectiveness of mitigation actions, indicating what actions are required, by whom, and the timing and frequency thereof.

Cumulative Impact:

Consideration is given to the extent of any accumulative impact that may occur due to the proposed development. Such impacts are evaluated with an assessment of similar developments already in the environment. Such impacts will be either positive or negative, and will be graded as being of negligible, low, medium or high impact.

Mitigation:

The objective of mitigation is to firstly avoid and minimise impacts where possible and where these cannot be completely avoided, to compensate for the negative impacts of the development on the receiving environment and to maximise re-vegetation and rehabilitation of disturbed areas. For each impact identified, appropriate mitigation measures to reduce or otherwise avoid the potentially negative impacts are suggested. All impacts are assessed without mitigation and with the mitigation measures as suggested.

10.3 IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

THE SECTION BELOW DESCRIBES THE POTENTIAL IMPACTS TO OCCUR DURING THE DESIGN, CONSTRUCTION, OPERATIONAL AND DECOMMISSIONING PHASES OF THE PROPOSED PROJECT.

ECOLOGICAL/BIODIVERSITY ASSESSMENT AND WETLAND DELINEATION

According to the specialist study done by Mr Simon Bundy the proposed site is quite diverse botanically and is dominated by a graminoid – forb associations comprising of a number of grasses, primarily *Aristida junciformis* and *Tristachya leucothrix*, with *Themeda triandra* and *Eragrostis spp* also being common across the site. According to the specialist the identified Khanyane Agricultural site will see significant transformation of a portion of grassland located in an area of the Drakensberg foothills that continues to be and has been, subject to significant transformation through silviculture and urban settlement. As such the site can be considered a relict grassland within the local region and although it is used for grazing of livestock this is a passive activity from an ecological perspective. Biodiversity within the botanical community remains high and the association of fauna with the site is implicit. The dominance of *Aristida junciformis* and *Tristachya leucothrix* suggest that the site is not pristine i.e. it has been recognized. Nonetheless a diverse flora hill exists. This, with much of the associated fauna will be lost as a result of the agricultural development.

Khanyane Agricultural Project – ecological loss and mitigation					
Spatial extent	Duration	Probability	Significance	Status	Confidence
Local	Long term	Definite	Highly Significant	Very High	Very High
<p>Comment:</p> <p>The proposed cultivation of approximately 19 ha of grassland at the identified Khanyane Agricultural site will see significant transformation of a portion of grassland located in an area of the Drakensberg foothills that continues to be and has been, subject to significant transformation through silviculture and urban settlement. As such the site can be considered a relic grassland within the local region and although it is used for grazing of livestock this is a passive activity from an ecological perspective. Biodiversity within the botanical community remains high and the association of fauna with the site is implicit.</p> <p>It is strongly recommended that alternative sites be sought for the cultivation of crops on a commercial basis. Preferred land use options for the site could be considered as</p> <ul style="list-style-type: none"> • Grazing of livestock under a managed regime • Tourism (bird watching etc) • Conservation 					
Assessment status after all mitigation measures are applied					
Spatial extent	Duration	Probability	Significance	Status	Confidence
Local	Long term	Definite	Highly Significant	Very High	Very High

South African National Biodiversity Institute conservation rating

Draft KwaZulu-Natal Biodiversity Spatial Planning Terms and Processes Version 3.3 Last edited 27 January 2016 Edited by: Dr Boyd Escott, Felicity Elliott, Tamsyn-Claire Livingstone Summary of CBA Categories

CATEGORY	MINIMUM	MAXIMUM	Expert Input/ Desktop	BIODIVERSITY SECTOR AND REGIONAL PLANS
CBA: Irreplaceable (SCA)	Irreplaceability = 1	No equivalent		CBA: Irreplaceable
CBA: High Irreplaceable(SCA)	Irreplaceability Score ≥ 0.8 and < 1.0	Selection frequency value = 80% – 100%		CBA: Irreplaceable
CBA: Irreplaceable Expert Input			Expert input	CBA: Irreplaceable
CBA: Irreplaceable Linkage			Desktop and expert input	CBA: Irreplaceable
CBA: Optimal (SCA)	Irreplaceability Score > 0 and < 0.8	“Best” solution from MARXAN runs less the identified CBA High Irreplaceability areas		CBA: Optimal
CBA: Optimal, High Degradation	Irreplaceability Score > 0 and < 0.8	“Best” solution from MARXAN runs less the identified CBA High Irreplaceability areas	Field Assessment	CBA: Optimal
CBA: Optimal Low Degradation	Irreplaceability Score > 0 and < 0.8	“Best” solution from MARXAN runs less the identified CBA High Irreplaceability areas	Field Assessment	CBA: Optimal
CBA: Optimal Expert Input			Expert input	CBA: Optimal

NB: AN ECOLOGICAL REVIEW (INCLUDING THE IMPACT ASSESSMENT) OF THE KHANYANE AGRICULTURAL PROJECT INKOSI LANGALIBALELE, NR KAMBERG IS INCLUDED IN APPENDIX D.

PHASE 1 HERITAGE IMPACT ASSESSMENT OF THE KHANYANE AGRICULTURAL PROJECT INKOSI LANGALIBALELE, NR KAMBERG IS INCLUDED IN APPENDIX D

The SAHRIS palaeo-sensitivity mapping indicates that the proposed agriculture project falls within a general area of an underlying Beaufort Group lithology of extremely high sensitivity. However, the presence of intrusive dolerite sills and dykes within and surrounding the project area precludes the presence of any fossil material, thus requiring a protocol for finds, only. The settlement of the areas has probably been avoided as a consequence of the responses of dolomite rock which attract lightning strikes. The project area has probably been eschewed for settlement primarily because the high risk of lightning-strikes on the dolerite exposures.

10.3.1 Impacts that may result from the Planning and Design Phase

DESIGN AND PLANNING PHASE										
Potential Impact Description	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance Rating (Positive or Negative)	Proposed Mitigation	Significance Rating after Mitigation	Degree of Confidence
PROPOSAL (preferred alternative)										
Direct Impacts										
Loss of vegetation and faunal habitat ecological loss	Site specific	Long term	Substantial	Definite	Non-reversible	High	High (Negative)	<ul style="list-style-type: none"> ▪ Development planning must ensure loss of vegetation and disturbance is restricted to within the cultivation site. ▪ Identify and mark 	High (Negative)	High

DESIGN AND PLANNING PHASE										
Potential Impact Description	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance Rating (Positive or Negative)	Proposed Mitigation	Significance Rating after Mitigation	Degree of Confidence
								indigenous vegetation on the ground. Those that are small and cannot be avoided should be transplanted elsewhere on site.		
Loss of Conservation Important (CI) or medicinally important flora.	Site specific	Long term	Substantial	Probable	Moderate	Moderate	Medium (Negative)	<ul style="list-style-type: none"> ▪ Prior to cultivation any CI and medicinally important occurring within the site layout should be collected and replanted in the surrounding areas. 	Low (Negative)	High
Introduction and increase in alien vegetation.	Local	Long term	Moderate	High	High	N/A	Medium (Negative)	<ul style="list-style-type: none"> ▪ Ensure that alien invasive species are identified on site. ▪ Regulate / limit access by 	Low (Negative)	High

DESIGN AND PLANNING PHASE										
Potential Impact Description	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance Rating (Positive or Negative)	Proposed Mitigation	Significance Rating after Mitigation	Degree of Confidence
								potential vectors of alien plants. <ul style="list-style-type: none"> ▪ Alien invasive species identified on site should be removed prior to preparation of the land for planting. ▪ Manual or mechanical removal should be done as opposed to chemical removal. ▪ Prohibit the introduction of domestic animals such as dogs and cats. ▪ Carefully regulate / limit access by vehicles and materials to the cultivation site. Demarcate or 		

DESIGN AND PLANNING PHASE										
Potential Impact Description	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance Rating (Positive or Negative)	Proposed Mitigation	Significance Rating after Mitigation	Degree of Confidence
								fence in the cultivation area.		
Loss and displacement of fauna on site.	Site specific	Short term	Moderate	High	Low	High	Medium (Negative)	<ul style="list-style-type: none"> ▪ If any of the remaining natural areas are to be affected, adhere to legal and best practice guidelines regarding the handling and relocation of fauna. ▪ It is recommended that the farmer ask KZN wildlife for assistance to trap and relocate any Rough-haired golden moles on site. ▪ a suitably qualified specialist be 	High (Negative)	High

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DESIGN AND PLANNING PHASE										
Potential Impact Description	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance Rating (Positive or Negative)	Proposed Mitigation	Significance Rating after Mitigation	Degree of Confidence
								assigned to relocate any fauna on site to nearby suitable habitat.		
Disturbance of fauna due to noise.	Local	Long term	Moderate	Probable	High	N/A	Medium (Negative)	<ul style="list-style-type: none"> ▪ Limit cultivation activities to day time hours. ▪ Minimize noise to limit its impact on sensitive fauna such as Secretary Birds. 	Low (Negative)	High
Possible soil contamination due to leakage of fuel on site.	Local	Long term	Substantial	Probable	Reversible	N/A	Medium (Negative)	<ul style="list-style-type: none"> ▪ Ensure that any spilled fuel is effectively cleaned using the appropriate products. ▪ Fuel tanks should be bounded to contain leakages 	Low (Negative)	High
Cultivation activities may disturb or	Local	Long term	Substantial	Improbable	Very Unlikely	High	Low (Negative)	<ul style="list-style-type: none"> ▪ Should any features of heritage 	Low (Negative)	High

DESIGN AND PLANNING PHASE										
Potential Impact Description	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance Rating (Positive or Negative)	Proposed Mitigation	Significance Rating after Mitigation	Degree of Confidence
destroy sites or features of heritage importance.								significance be identified on site, these should not be disturbed and should be immediately reported to a Heritage specialist and KZN Heritage Resources Authority		
Potential deterioration of the existing gravel road due to use by tractor to collect the produce	Local	Long term	Moderate	Improbable	Non-reversible	Moderate	Medium (Negative)	<ul style="list-style-type: none"> ▪ Limit vehicles coming to the site and limit to a temporary minimal duration. ▪ Maintain and/or upgrade the gravel road as appropriate. 	Low (Negative)	High
Potential of soil erosion due to exposed soil.	Local	Long term	Substantial	Probable	Low	Moderate	Medium (Negative)	<ul style="list-style-type: none"> ▪ Implement erosion protection measures on site.e.g contour 	Low (Negative)	High

DESIGN AND PLANNING PHASE										
Potential Impact Description	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance Rating (Positive or Negative)	Proposed Mitigation	Significance Rating after Mitigation	Degree of Confidence
								ploughing to reduce potential soil erosion <ul style="list-style-type: none"> ▪ Limit vegetation removal to only the cultivation area, avoid disturbance to other areas. 		
Degradation of ambient air quality as a result of dust and other emissions generated.	Local	Long term	Severe	Improbable	Reversible	N/A	Medium (Negative)	<ul style="list-style-type: none"> ▪ Implement effective and environmentally-friendly dust control measures, such as mulching or periodic wetting of the entrance road. ▪ Drive slowly ▪ Exposed areas should be re-vegetated with local indigenous flora. If the soil is compacted, it should be ripped, 	Low (Negative)	High

DESIGN AND PLANNING PHASE										
Potential Impact Description	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance Rating (Positive or Negative)	Proposed Mitigation	Significance Rating after Mitigation	Degree of Confidence
								and fertilised.		
Noise disturbances as a result of cultivation.	Local	Long term	Moderate	High	Low	N/A	Medium (Negative)	<ul style="list-style-type: none"> ▪ Activities that will generate the most noise should be limited to day time (cultivation) in order minimise disturbance to the neighbours. ▪ The noise created by the proposed development is not expected to be problematic. If required, noise reduction measures will have to be implemented in compliance with the KwaZulu-Natal Noise Regulations. 	Low (Negative)	High

DESIGN AND PLANNING PHASE										
Potential Impact Description	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance Rating (Positive or Negative)	Proposed Mitigation	Significance Rating after Mitigation	Degree of Confidence
Impact of the development if a Detailed storm-water management plan is not compiled and effectively implemented.	Site specific	short term	Moderate	Probable	Moderate	Moderate	Medium (Positive)	<ul style="list-style-type: none"> ▪ Planning should include a detailed stormwater management plan outlining appropriate measures to address runoff from the developed area during the construction of the proposed cultivation farm 	Low (Negative)	High
Indirect Impacts										
The creation of new employment opportunities and skills development.	Local	Long term	Substantial	High	Moderate	N/A	Medium (Positive)	<ul style="list-style-type: none"> ▪ Ensure maximisation of job creation and promote local employment and skills training. 	High (positive)	High
NO-GO ALTERNATIVE										
DIRECT IMPACTS:										

DESIGN AND PLANNING PHASE										
Potential Impact Description	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance Rating (Positive or Negative)	Proposed Mitigation	Significance Rating after Mitigation	Degree of Confidence
<ul style="list-style-type: none"> • None of the impacts mentioned above will occur. <p>INDIRECT IMPACTS:</p> <ul style="list-style-type: none"> • There are no indirect impacts during the construction phase for the No-go Option. • If the proposed project does not proceed, increased income and economic benefits associated with the expansion will not be realised. <ul style="list-style-type: none"> - No new employment opportunities will be created. - If the proposed project does not proceed, the local industries that rely on the supply of maize and beans could experience reduced economic growth potential. 										

10.3.2 Impacts that may result from the operational phase

OPERATIONAL PHASE										
Potential Impact Description	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance Rating (Positive or Negative)	Proposed Mitigation	Significance Rating after Mitigation	Degree of Confidence
PROPOSAL (preferred alternative)										
Direct Impacts										
Impact on sensitive areas such as sensitive fauna.	Local	Long term	Moderate	Probable	Non-reversible	Moderate	Medium (Negative)	<ul style="list-style-type: none"> ▪ Limit human activity on areas that are close to sensitive sites. 	Low (Negative)	High
Impact of dust and vehicle emissions generated during use of the gravel road when transporting maize and beans during operation.	Local	Long term	Moderate	Probable	Reversible	Moderate	Medium (Negative)	<ul style="list-style-type: none"> ▪ Vehicles transporting to and from the farm must keep at minimum speed to reduce dust generation. ▪ Vehicles that are used must be roadworthy and regularly inspected in order to prevent unwanted emissions. 	Low (Negative)	High
Potential soil erosion due to	Local	Long term	Substantial	Probable	Moderate	Moderate	Medium	<ul style="list-style-type: none"> ▪ Implement erosion protection 	Low	High

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OPERATIONAL PHASE										
Potential Impact Description	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance Rating (Positive or Negative)	Proposed Mitigation	Significance Rating after Mitigation	Degree of Confidence
exposed soil during cultivation.							(Negative)	measures on site. <ul style="list-style-type: none"> ▪ Limit vegetation removal to only the cultivation area, avoid disturbance to other areas. 	(Negative)	
Potential injury to employees.	Site specific	Very short term	Substantial	Improbable	Reversible	Moderate	Medium (Negative)	<ul style="list-style-type: none"> ▪ Training of workers to safely store equipment. ▪ Worker to wear Personal Protective Equipment (PPE). ▪ Hazardous material and tools must be correctly labelled and handled in a safe manner. 	Low (Negative)	Medium
Introduction and spread of alien species.	Local	Long term	Severe	Probable	Moderate	N/A	High (Negative)	<ul style="list-style-type: none"> ▪ Control or limit access by potential vectors of alien plants. ▪ Remove and dispose of Category 1b alien 	Low (Negative)	High

OPERATIONAL PHASE										
Potential Impact Description	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance Rating (Positive or Negative)	Proposed Mitigation	Significance Rating after Mitigation	Degree of Confidence
								species on site. <ul style="list-style-type: none"> ▪ Manual or mechanical removal of alien invasive should be done as opposed to chemical removal. ▪ Carefully regulate / limit access by vehicles and materials to the site. ▪ By law, remove and dispose of Category 1b alien species on site. All Category 2 species that remain on site KZN Wildlife will have to identify whether any such such plants are present. ▪ Prohibit the introduction of 		

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OPERATIONAL PHASE										
Potential Impact Description	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance Rating (Positive or Negative)	Proposed Mitigation	Significance Rating after Mitigation	Degree of Confidence
								domestic animals such as dogs and cats.		
Destruction of natural habitats and consequential loss and/or displacement of fauna	Local	Long term	Substantial	High	Low	High	Medium (Negative)	<ul style="list-style-type: none"> ▪ Minimize noise to limit its impact on sensitive fauna such as potentially occurring owls, korhaans and secretary birds. ▪ Create awareness on the importance of fauna and ecosystem functioning. ▪ Cultivation should be restricted to the cultivation site. 	Low (Negative)	High
Noise from operational activities throughout the farming process.	Local	Long term	Moderate	High	Low	N/A	Medium (Negative)	<ul style="list-style-type: none"> ▪ Activities that generate the most noise to be limited to during the day. ▪ Limit vehicles travelling to and from the site to 	Low (Negative)	High

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OPERATIONAL PHASE										
Potential Impact Description	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance Rating (Positive or Negative)	Proposed Mitigation	Significance Rating after Mitigation	Degree of Confidence
								minimise traffic noise to the surrounding environment		
Possible soil contamination from diesel storage on site.	Local	Long term	Substantial	Probable	Low	N/A	Medium (Negative)	<ul style="list-style-type: none"> ▪ Appropriate storage of hazardous material such as diesel must be implemented e.g tanks must be bounded. ▪ Fuel must be stored in a secure designated room/area. ▪ In the event of spills, the area to be cleaned immediately using bioremediation products. ▪ Ensure that any accidental spills do not move beyond the designated 	Low (Negative)	High

OPERATIONAL PHASE										
Potential Impact Description	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance Rating (Positive or Negative)	Proposed Mitigation	Significance Rating after Mitigation	Degree of Confidence
								storage area. <ul style="list-style-type: none"> ▪ Ensure workers are trained and educated about the safe handling and disposal of hazardous substances. Pesticide containers must be crushed or retained to supplier they must not be given to people to use for other purpose. 		
Generation of operational waste.	Site specific	Very short term	Substantial	Probable	Reversible	N/A	Medium (Negative)	<ul style="list-style-type: none"> ▪ All waste produced to be disposed of at a permitted designated waste disposal site or at a licenced landfill site ▪ Waste must be stored in designated areas for removal to 	Low (Negative)	High

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OPERATIONAL PHASE										
Potential Impact Description	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance Rating (Positive or Negative)	Proposed Mitigation	Significance Rating after Mitigation	Degree of Confidence
								waste disposal site.		
Potential impact on heritage resources.	Site specific	Permanent	Severe	Improbable	Non-reversible	High	Low (Negative)	<ul style="list-style-type: none"> ▪ The site does not have any Known heritage resources; however should any archaeological features be discovered on site then a qualified Heritage specialist and SAHRA will be notified. 	Low (Negative)	High
Soil and surface water pollution as a result of spillage, improper handling, storage, mixing or disposal	Site specific	Short term	Substantial	Probable	High	Moderate	Low (Negative)	<ul style="list-style-type: none"> ▪ Establish appropriate emergency procedures for accidental contamination of the surroundings. ▪ Mixing of cement or concrete must not take place on the soil surface, to be undertaken on 	Low (Negative)	High

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OPERATIONAL PHASE										
Potential Impact Description	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance Rating (Positive or Negative)	Proposed Mitigation	Significance Rating after Mitigation	Degree of Confidence
								designated areas		
Diversion and impedance of surface water flows and increased potential for erosion.	Site specific	Short term	Substantial	Probable	High	Moderate	Low (Negative)	<ul style="list-style-type: none"> ▪ Storm-water Management Measures should be implemented. ▪ Storm-water and any run-off generated by the hard surfaces should be discharged into retention swales or berms. ▪ Perform periodic inspections and maintenance of soil erosion measures and storm-water control structures 	Low (Negative)	High
Indirect Impacts										
Impact on Hydrological	Local	Long term	Unlikely	High	Moderate	Moderate	Low Negative	<ul style="list-style-type: none"> ▪ Footprint should be restricted to the 	Low Negative	Medium

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OPERATIONAL PHASE										
Potential Impact Description	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance Rating (Positive or Negative)	Proposed Mitigation	Significance Rating after Mitigation	Degree of Confidence
systems in the region								proposed 19 hectares		
The proposed from has the potential to create local employment and skill development.	Local	Long term	Substantial	High	High	N/A	Medium (Positive)	<ul style="list-style-type: none"> ▪ Maximise job creation and promote local employment and skills training. 	High (Positive)	High
The proposed project will contribute to the local economic through the supply of maize and beans to local markets and supplement food security to the local community.	Local	Long term	Substantial	Probable	High	N/A	Medium (Positive)	<ul style="list-style-type: none"> ▪ Ensure that local markets are utilized as consumers. 	High (Positive)	High
NO-GO ALTERNATIVE										
Direct impacts: N/A										
Indirect impacts: N/A										

OPERATIONAL PHASE										
Potential Impact Description	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance Rating (Positive or Negative)	Proposed Mitigation	Significance Rating after Mitigation	Degree of Confidence
Cumulative impacts:										
There are no cumulative impacts during the site preparation e.g. ploughing phase for the No-go Option.										

10.3.3 Impacts that may result from the Restoration or closure phase if the farming is successful then closer and restoration will not happen, but should it be closed then the following recommendations need to be implemented

IDENTIFIED IMPACTS- RESTORATION OR CLOSURE PHASE										
Potential impacts	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance rating of impacts (positive or negative):	Proposed mitigation:	Significance rating of impacts after mitigation:	Degree of Confidence
ALTERNATIVE A1 (PREFERRED ALTERNATIVE)										
Direct impacts										
Loss of economic activity in the area	Local	Long term	Substantial	Probable	High	High	High (Negative)	<ul style="list-style-type: none"> ▪ Closure of the development would result in job loss and no input into the local economy. Local economies should be supported and this establishment should be kept operational 	High (Negative)	High
Pollution of the surrounding environment as a result of the handling, temporary storage and disposal of solid waste from harvested	Local	Short term	Substantial	Probable	High	High	Medium (Negative)	<ul style="list-style-type: none"> ▪ General waste (plastic) Ensure that sufficient general waste disposal bins are provided for all personnel throughout the site. These bins must be 	Low (Negative)	High

IDENTIFIED IMPACTS- RESTORATION OR CLOSURE PHASE										
Potential impacts	Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Significance rating of impacts (positive or negative):	Proposed mitigation:	Significance rating of impacts after mitigation:	Degree of Confidence
ALTERNATIVE A1 (PREFERRED ALTERNATIVE)										
Direct impacts										
products.								emptied on a regular basis. <ul style="list-style-type: none"> ▪ Appropriately time demolition / rehabilitation activities to minimise sensory disturbance to fauna. 		
Soil erosion	Local	Long term	Substantial	Probable	Moderate	Low	High (Negative)	<ul style="list-style-type: none"> ▪ Implement erosion protection measures on site. ▪ Compact the soil and plant indigenous plants on site 	Medium (Negative)	High

SECTION F: ASSESSMENT METHODOLOGIES AND CRITERIA, GAPS IN KNOWLEDGE, UNDERLAYING ASSUMPTIONS AND UNCERTAINTIES

10.4 CUMULATIVE IMPACTS

Impacts arising from the operational phase include:

IDENTIFIED Cumulative IMPACTS- OPERATIONAL PHASE			
IMPACT	SIGNIFICANCE RATING OF IMPACT BEFORE MITIGATION	PROPOSED MITIGATION	SIGNIFICANCE RATING OF IMPACT AFTER MITIGATION
Loss of vegetation and faunal habitat.	High (Negative)	Limit vegetation removal to only the cultivation area, avoid disturbance to other areas	High (Negative)
Increase in dust and erosion	Medium (Negative)	Implement erosion protection measures on site. Limit vegetation removal to only the cultivation area, avoid disturbance to other areas.	Low (Negative)
Decrease in fauna and flora due to noise generated on site during operational phase	Low (Negative)	Ensure that cultivation takes place during the day.	Low (Negative)
Increased job opportunities and boosting of local economic development and skills transfer in the area.	Low (Positive)	No mitigation measures are identified	Medium (Positive)

Loss of vegetation: clearing of vegetation should be done on the cultivation site of 19 hectares only.

Noise pollution. This can be mitigated by activities occurring during working hours and during cultivation time one or twice a year.

Dust pollution. Dust reduction measures such as speed reduction for vehicles, wetting of surfaces should be implemented.

11. ENVIRONMENTAL IMPACT STATEMENT

The proposed development is a cultivation project that is deemed to have impacts on the environment. Clearance of vegetation, dust emissions, visual and noise impacts are anticipated from the proposed development. Most of these impacts are low to medium in the current environment, and with the recommended mitigation measures the proposed development will have overall low impacts of the environment. There will be no impact on freshwater resources on the site. However site clearance cannot be avoided during the cultivation phase. This phase will result in exposed soil, which could result in soil erosion and wind-blown dust. Erosion can lead to destruction of natural habitats. All reasonable measures need to be implemented to minimise erosion during the cultivation phase.

Findings from the Terrestrial Ecological Impact Study state that Conservation Important habitats and species are present on site. It is the opinion of the specialist that the site is highly sensitive and it will see significant transformation of a portion of grassland located in an area of the Drakensberg foothills that continues to be and has been, subject to significant transformation through urban settlement. The specialist does not support the proposed cultivation of the land.

However, it is the opinion of the EAP that from a biodiversity conservation perspective, the proposed project could move forward provided that all recommendations within the EMPr are adhered to.

Operational Phase: Cultivation and Harvesting

Potential Impact Description	Significance Rating (Positive or Negative)	Significance Rating after Mitigation	Extent of impact	Duration of impacts	Likelihood of potential impacts actually occurring
Loss of vegetation and faunal habitat.	High (Negative)	High (Negative)	Local	Long term	Highly Significant
Loss of Conservation Important (CI) or medicinally important flora.	Medium (Negative)	Low (Negative)	Local	Long term (>15 years)	Low probability (10-25% chance)
Introduction and increase in alien vegetation.	Medium (Negative)	Low (Negative)	Local (<2km from site)	Permanent	Permanent
Possible soil contamination due to temporary fuel storage on site.	Medium (Negative)	Low (Very low negative)	Local	Medium term	Probable (25-50% chance)
Potential deterioration of the existing gravel road due to use by tractor to collect the produce	Medium (Negative)	Low (Negative)	Local <2km from site)	Long term (>15 years)	Highly probable (50-90% chance)

Restoration Phase

Potential Impact Description	Significance Rating (Positive or Negative)	Significance Rating after Mitigation	Extend of impact	Duration of impact	Likelihood of potential impacts actually occurring
Disturbance of CI fauna from increase in vehicle and human activity, noise and dust, environmental contamination, unnatural fires, and proliferation of alien species	Medium (Negative)	Low (Negative)	Local (<2km from site)	Long term (>15 years)	Highly probable (50-90% chance)

11.1 ASSUMPTIONS, LIMITATIONS OR GAPS IN KNOWLEDGE

Reasons for not finding certain species during the late summer site visit may be due to:

- The site visit was limited to a few day time hours and, therefore, not all potentially occurring (especially nocturnal) species were likely to be detected.
- The site visit was performed in late summer (i.e. February), when many animal species become less active or prepare to migrate.
- Some species, which are uncommon, small, migratory, secretive or otherwise difficult to detect may not have been detected even though they were potentially present.
- Some plant species, which are small, have short flowering times, rare or otherwise difficult to detect may not have been detected even though they were potentially present on site.

SECTION G : RECOMMENDATION OF THE EAP

The recommendations and opinion that is provided below are informed by the following context:

The objective of the BA process is to conduct a consultative process that assesses the positive and negative impacts of the proposed project on the geographical, physical, biological, social, economic, heritage and cultural sensitivity of the site and it's surrounding location (as stated in section 2(d) of Appendix 1, EIA Regulations). A holistic approach that considers the livelihoods of poor rural communities is therefore taken by the EAP in reaching this opinion.

This BA is conducted as part of the Special Needs programme that provides support to applicants who have been assessed to have "special needs" (as provided for in section 47 of the EIA Regulations, entitled "Assistance to people with special needs") and are from disadvantaged backgrounds with very limited access to resources such as finances and land. For example, the applicant does not have access to alternative sites for cultivation.

This project is within tribal authority land where historically the rights of the Nkosi would have provided sufficient authority for the applicant to grow maize and beans on this site. When the applicant was informed that an additional approval is required in terms of NEMA, they acted in good faith and left the land unutilised for the past two years. The BA process was initiated in 2015 and the Background Information Document was released to all stakeholders in November 2015.

Given this context, it is reasonable to suggest that the BA process and the inputs of stakeholders such as government authorities should be oriented towards seeking a constructive solution that does not frame NEMA and the EIA Regulations as a "green handbrake" to socio-economic development.

In summary, the key findings of the Basic Assessment process for the proposed 17 ha of maize and bean cultivation by the Khanyani Agricultural Cooperative are as follows:

- the biodiversity loss as a result of the cultivation of 17 ha of Mooi River Grassland is a negative impact of high significance, noting that this habitat is rated as Vulnerable on the national SANBI BGIS database and that 174 407 ha of this grassland currently exists (i.e. the footprint constitutes approximately 1/10 000th of the remaining area of this habitat);
- the site falls within an Ecological Support Area (ESA) as shown in the SANBI database;
- with regards to the National Forest Act (Act 84 of 1998), a letter dated 26 May 2017 was provided by Ms Nandipha Sontangane of the KZN Forestry Regulations and Support sub-directorate of the national Department of Agriculture, Fisheries and Forestry (DAFF), based in Pietermaritzburg (tel. 033-392 7733). This letter states that the site is mostly covered by grasslands and that no forest or woody vegetation is noted on the site, and that consequently this sub-directorate of DAFF has no objections to the proposed project in terms of the above Act.
- the site is on a flat hill top and does not include any National Freshwater Ecosystem Priority Areas (NFEPA) wetlands or watercourses;
- the agricultural potential is rated as low moderate and moderate in the national agricultural potential mapping and a site visit was conducted by the CSIR confirms that the site does have agricultural potential for maize and beans;
- employment opportunities created for the local community (estimated as 12 to 24 work opportunities) and increased food security are predicted to result in a positive impact of high significance;
- the heritage impact is assessed to be of low significance, as confirmed by 17 February 2017 in their input to the BA;
- from a planning perspective, the site is an area zoned for agricultural use and does not form part of any protected area expansion network. The proposed development does not conflict with the municipality's IDP and SDF (see letter from Inkosi Langalibalele Local Municipality dated 15 August 2017, see Appendix E);

- from a cultural perspective, the site is part for the Abambo Traditional Council area and the use of this 26 ha site was allocated to the applicant by the INkosi Sbonelo N. Mkhize, and the Nkosi has stated clearly that unfortunately he has no other sites that are available for this applicant (confirmed in a letter dated 31 July 2017; see Appendix E);
- in terms of land use, the site has been used for grazing cattle for many years and contains invasive alien grasses;
- in terms of development trends in the local area, the development of the site for maize and beans is not out of character with the area as there are existing plantations and other agricultural activities in the surrounding local area.

In post-colonial societies, the perception amongst indigenous communities, and often their direct experience, is that the law is being imposed upon and suppresses the activities of disadvantaged communities, instead of supporting them. In the Khanyani BA process, with this being part of the DEA Special Needs Programme, the CSIR team has endeavored to create collaboration amongst the authorities involved from the start of the BA process in late 2015, in order to provide meaningful support to the Khanyani Agricultural Cooperative. This has resulted in inputs being received from all spheres of government (from national, provincial and local government) as well as relevant state bodies. In providing their inputs, each authority is obliged to act according to their mandate and best practice. The role of the CSIR team is to provide a consultative and transparent process that collates the relevant inputs and assists the competent authority in reaching a balanced and informed decision.

If the project is to proceed, then the EMPr for this proposed development must form part of the authorisation conditions and be adhered to by the applicant. In order to ensure the effective implementation of the mitigation and management actions, an EMPr has been compiled and is included in the BA report (see Appendix F). The mitigation measures required to ensure that the project is planned and conducted in an environmentally responsible manner are listed in the EMPr. The EMPr is a dynamic document that should be updated as required and provides clear and implementable measures for the proposed project.

The recommendations of the ecological specialist, with regards to vulnerable fauna found on site were considered when preparing this BA Report and EMPr. *Sagittarius serpentarius* (Secretary bird) and *Chrysospalax villosus* (Rough-haired Golden Mole) are listed as Vulnerable species and occur on the site (Red data book, 2000). Therefore the Regulations of the National Environmental Management Biodiversity Act 10 of 2004 (NEMBA) on Threatened and Protected Species were also taken into consideration in preparation of this BAR and EMPr.

Negative impacts with regards to the loss of 17 hectares of grassland of biodiversity importance have been identified within this BAR that, in the opinion of the EAP, should not be considered as "fatal flaws" when considered in the broader context of the biophysical and socio-economic impacts of the project.

The project proponent, i.e. the Khanyani Agricultural Co-operative, is being assisted under the DEA Special Needs and Skills Development Programme on a pro bono basis as it qualifies as an applicant with special needs. As such it does not have the financial means to have an alternative site available other than the preferred site which was given to them by the Kwa-Mkwize Traditional Council. It is therefore recommended by the EAP that the proposed layout and preferred site (this proposal) be included in the Environmental Authorisation (should such authorisation be granted for the proposed project).

Concluding statement from EAP: Taking into consideration the contextual observations, key findings and recommendations listed above, as well as the broad range of stakeholder inputs received during this BA process over the past 20 months, it is the opinion of the EAP that this project for 17 hectares of maize and bean cultivation should be granted Environmental Authorisation in terms of the EIA Regulations promulgated under the NEMA, provided that the specified buffer zones of natural vegetation on site are maintained and the other mitigation measures outlined in the EMPr are applied effectively.

THE FOLLOWING APPENDIXES WERE ATTACHED AS APPROPRIATE:

Appendix A	Site plan(s)
Appendix B	Photographs
Appendix C	Facility illustration(s) - N/A
Appendix D	Specialist Reports
Appendix E	Comments and responses report
Appendix F	Final Environmental Management Programme (EMPr)
Appendix G	Other information
Appendix H	CVs of the EAPs (project team who prepared the report)

DECLARATION BY THE EAP

The following is hereby affirmed by the EAP to be included in this report:

- The correctness of the information provided in the reports;
- The inclusion of all comments and inputs from stakeholders and I&APs;
- The inclusion of all inputs and recommendations from the specialist reports where relevant, and
- Any information provided by the EAP to I&APs and any responses by the EAP to comments or inputs made by interest and affected parties

12. REFERENCE

Agricultural Research Council Annual Report 2014/2015:

http://www.daff.gov.za/daffweb3/Portals/0/SOE/ARC_201415%20Annual%20Report%20-%201pgView%20-%20Sept%202015.pdf Accessed 15 September 2016

Boyd Escott, Felicity Elliott and Tamsyn-Claire Livingstone. (2016). Ezemvelo KZN Wildlife Draft KwaZulu-Natal Biodiversity Spatial Planning Terms and Processes Version 3.3. KwaZulu-Natal South Africa

Department of Agriculture Forestry and Fisheries. 2010. Soya beans production guidelines

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Appendix A	Site plan(s)
Appendix B	Photographs
Appendix C	Facility illustration(s) - N/A
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Appendix E	Comments and responses report
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Appendix H	CVs of the EAPs (project team who prepared the report)

Basic Assessment for the proposed maize and
bean cultivation and harvesting enterprise for
the Khanyani Agricultural Cooperative,
Emthebeni, Inkosi Langalibalele Local
Municipality, KwaZulu Natal.



DRAFT BASIC ASSESSMENT REPORT (Version 2)

APPENDICES

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PROPOSED MAIZE AND BEAN CULTIVATION PROJECT OF THE KHANYANI AGRICULTURAL COOPERATIVE

APPENDIX A: SITE LAYOUT PLANS

- Appendix A.1: The proposed site of Khanyani Agricultural Cooperative Project
- Appendix A.1.1: Proposed reduced site for cultivation of 17 Hectares
- Appendix A.2: The Site Plan of Khanyani Agricultural Cooperative Project
- Appendix A.3: The Sensitivity Map of Khanyani Agricultural Cooperative Project Site

APPENDIX B: PHOTOGRAPHS

- Appendix B.1: Photographs taken from the centre of the site in 8 compass directions

Appendix C Facility illustration(s) – N/A

Appendix D Specialist Reports

Appendix E Comments and responses report

Appendix F Final Environmental Management Programme (EMPr)

Appendix G Other information

Appendix H CVs of the EAPs (project team who prepared the report)

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PROPOSED MAIZE AND BEAN CULTIVATION PROJECT OF THE KHANYANI AGRICULTURAL COOPERATIVE

BASIC ASSESSMENT REPORT

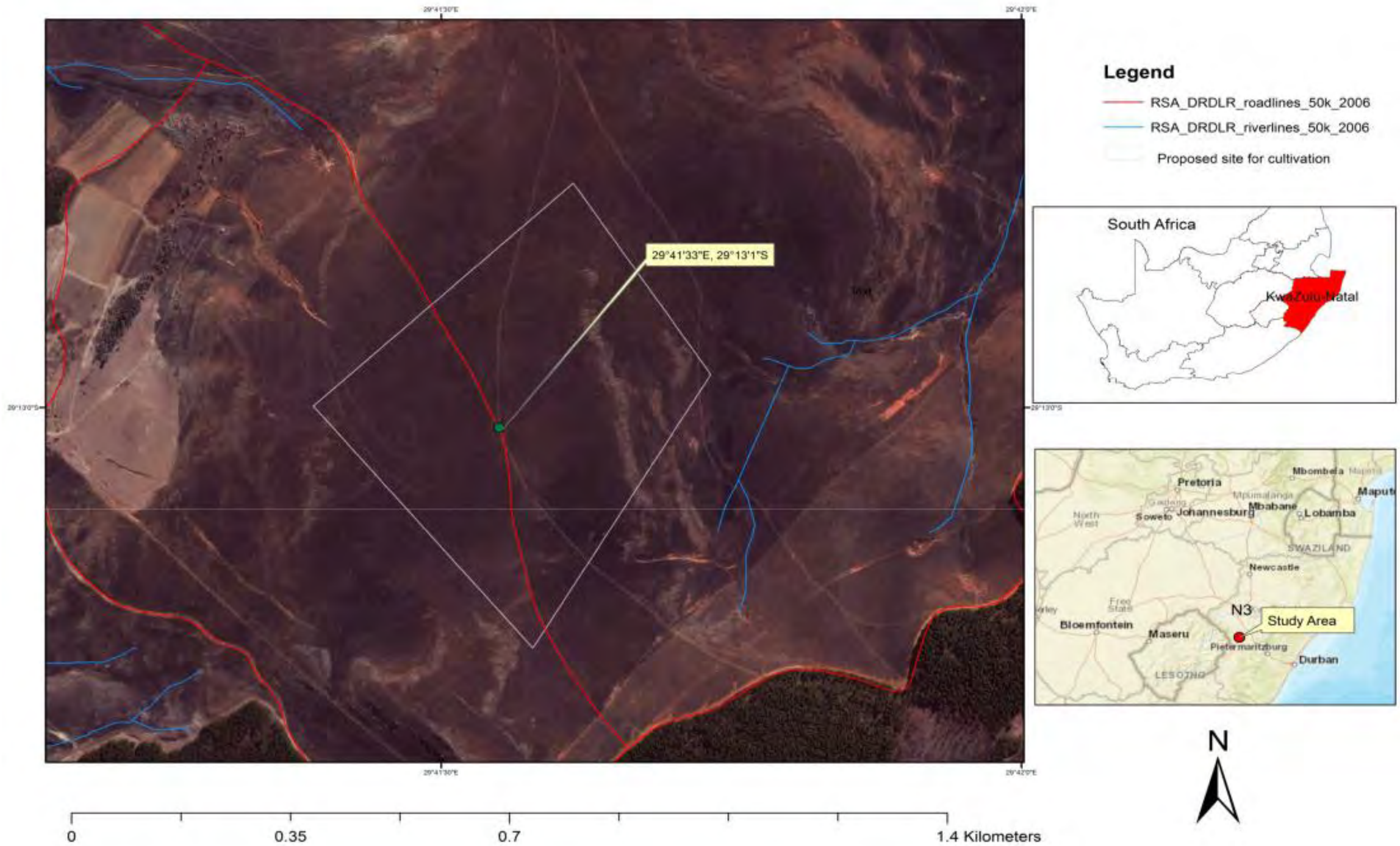
APPENDIX A: SITE LAYOUT PLANS

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Appendix A.1: The proposed site of Khanyani Agricultural Cooperative Project



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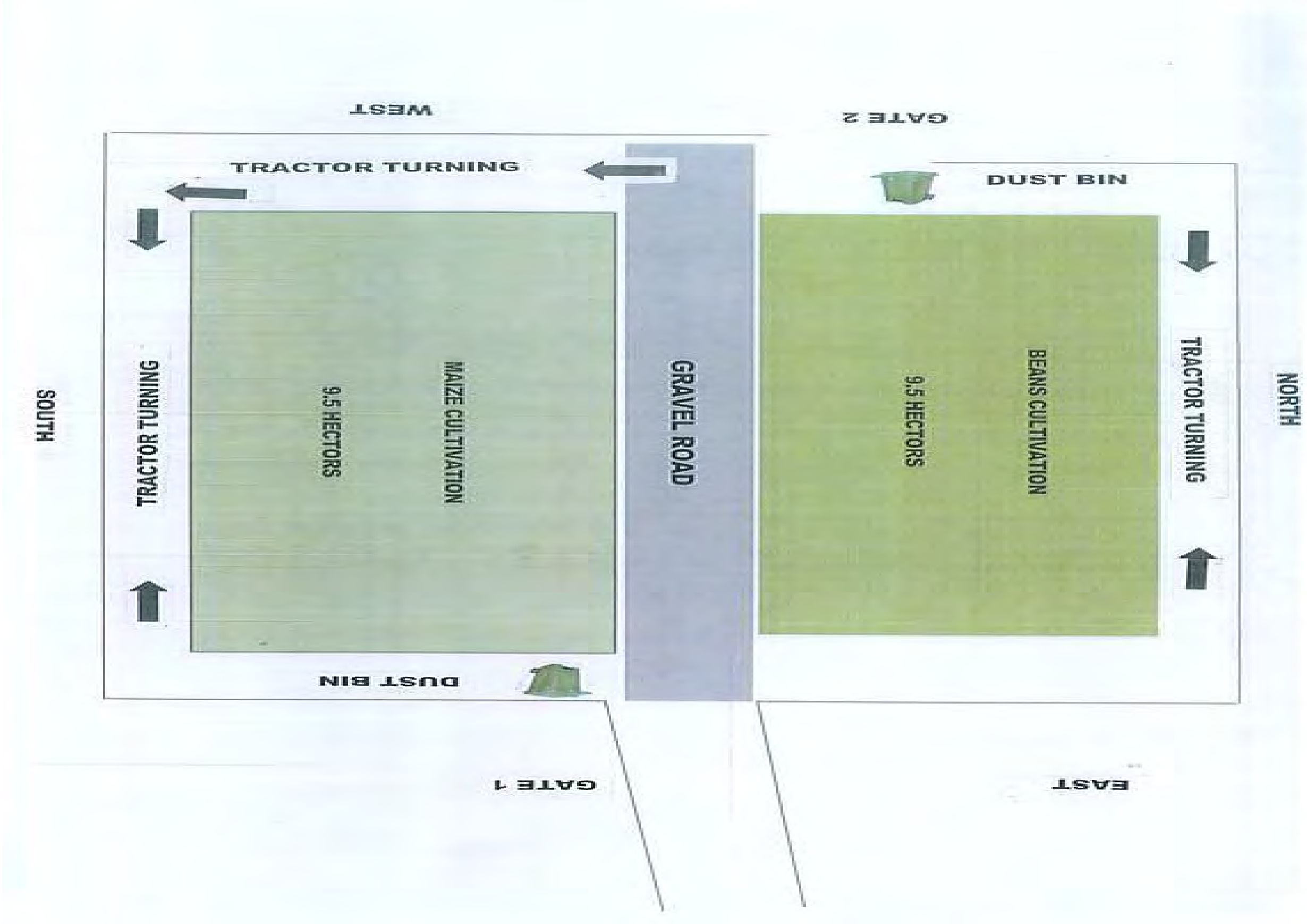
The figure below shows the refined proposed layout site for cultivation

Appendix A.1.1: Proposed reduced site for cultivation of 17 Hectares



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Appendix A.2: The Site Plan of Khanyani Agricultural Cooperative Project



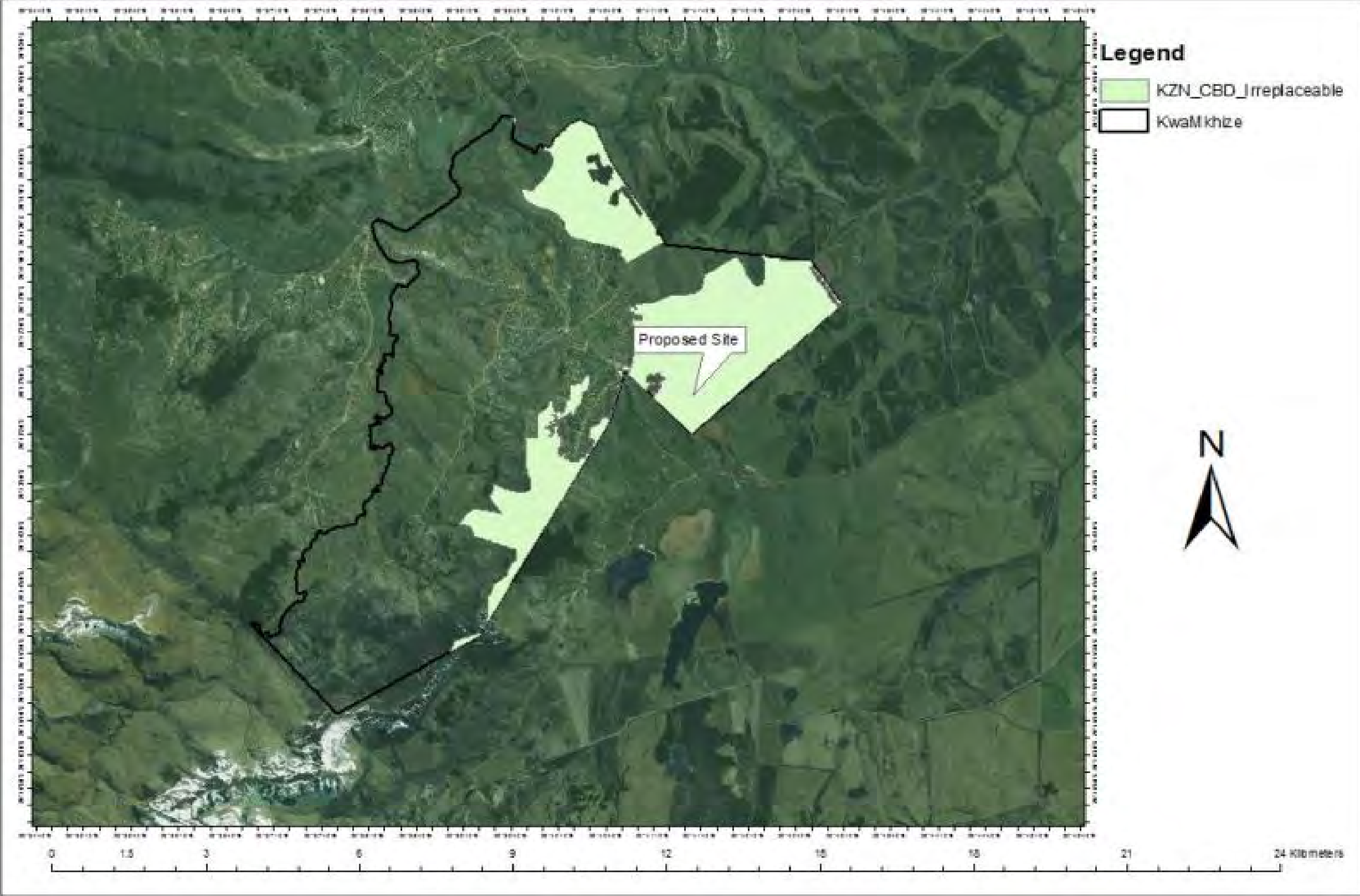
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Appendix A.3: The Sensitivity Map of Khanyani Agricultural Cooperative Project Site





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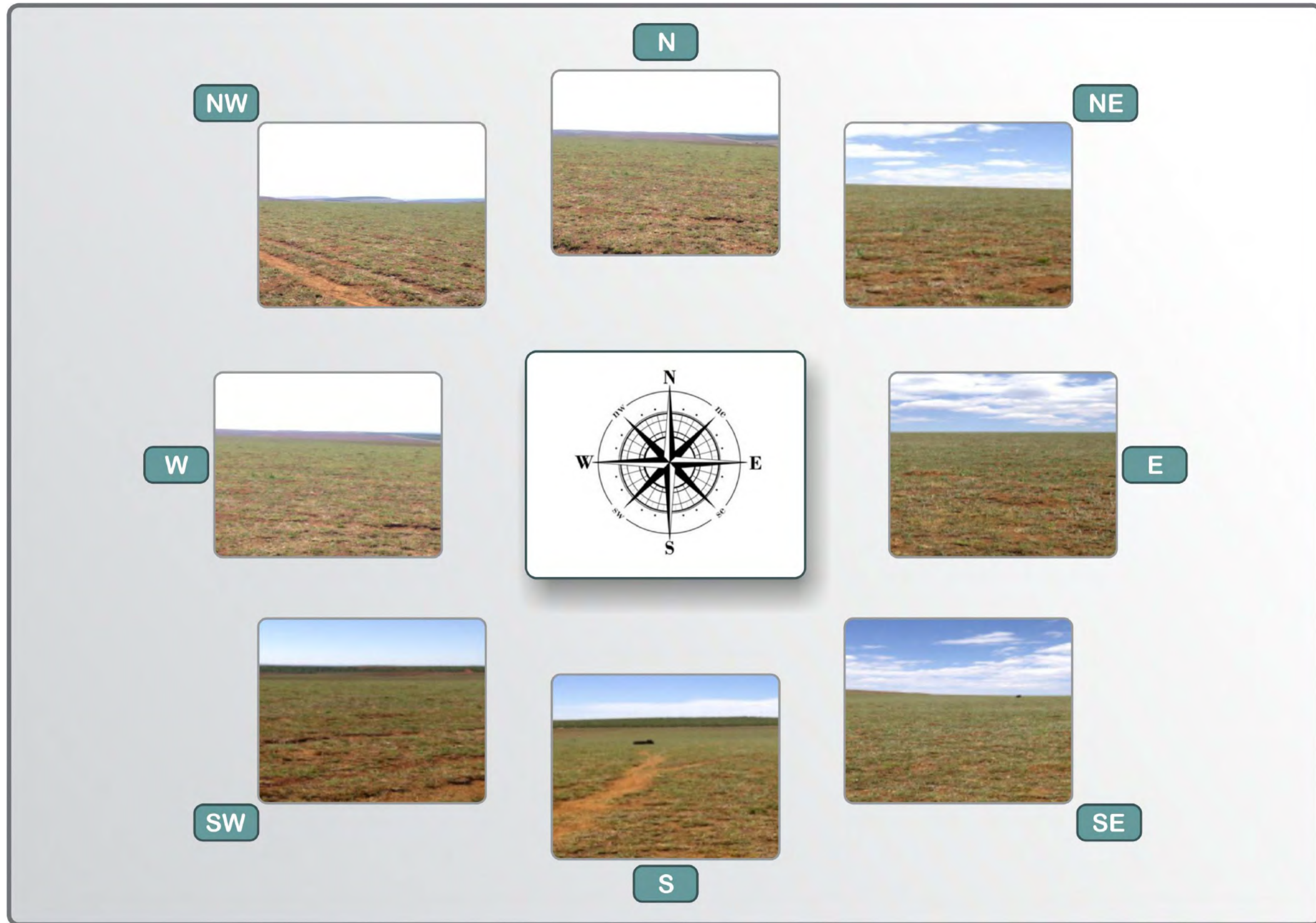
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Appendix B.1: Photographs taken from the centre of the site in 8 compass directions



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APPENDIX C: FACILITY ILLUSTRATIONS

N/A

Basic Assessment for the proposed maize and bean cultivation and harvesting enterprise for the Khanyani Agricultural Cooperative, Emthebeni, Inkosi Langalibalele Local Municipality, KwaZulu Natal.



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APPENDIX D1: SPECIALIST REPORT

Ecological Review of Portion of Land
at Inkosi Langalibalele nr Kamberg,
KwaZulu Natal

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KHANYANE AGRICULTURAL CO-OPERATIVE PROJECT

Ecological Review of Portion of Land at iMbabazane nr Kamberg, KwaZulu Natal

S C Bundy BSc MSc (Pr.Sci. Nat.)
SDP Ecological and Environmental
Services cc

Compiled for
Council for Scientific and Industrial
Research (Ms K Mashabela)

March 2016 rev August 2017

Env proj / khany / 1601/02/scb

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**ECOLOGICAL REVIEW – KHANYANE AGRICULTURAL PROJECT
IMBABAZANE, nr KAMBERG
Rev 01**

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Front page image	Lower portion of site

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Acronyms and Abbreviations / Terminologies

CBA	Critical biodiversity area
CSIR	Council for Scientific and Industrial Research
DAFF	Department of Agriculture, Forestry and Fisheries
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
Mesic	Dry land. Land that is neither aquatic or “wetland”
NEMA	National Environmental Management Act 1998
PCA	Principle Component Analysis. Statistical method of identifying variation within data
PES	Present Ecological State
SANBI	South African National Biodiversity Institute
Transect	A “cut” or length over which sampling of a portion of ground or similar environment is undertaken
TWINSpan	Two Way Indicator Species Analysis. Statistical method of identifying similarities within data
Veld type	Vegetation or habitat form
Wetland	An area of land intermediate between aquatic and mesic environments

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1. INTRODUCTION

The Council for Scientific and Industrial Research (CSIR) are the appointed environmental assessment practitioners evaluating the proposed establishment of approximately 17ha of cultivated land at Imbabazane near Kamberg (kwaMkhize area), in the Kwa Zulu Natal Midlands, (Fig. 1 below). The identified study site, situated at S 29°41' 33"E 29°13'01"S, lies within a larger portion of elevated plateau, some 26 ha or more in extent. This land has been identified for agricultural purposes by the tribal authority and the Khanyani Agricultural Co-operative, a community based initiative in the region.

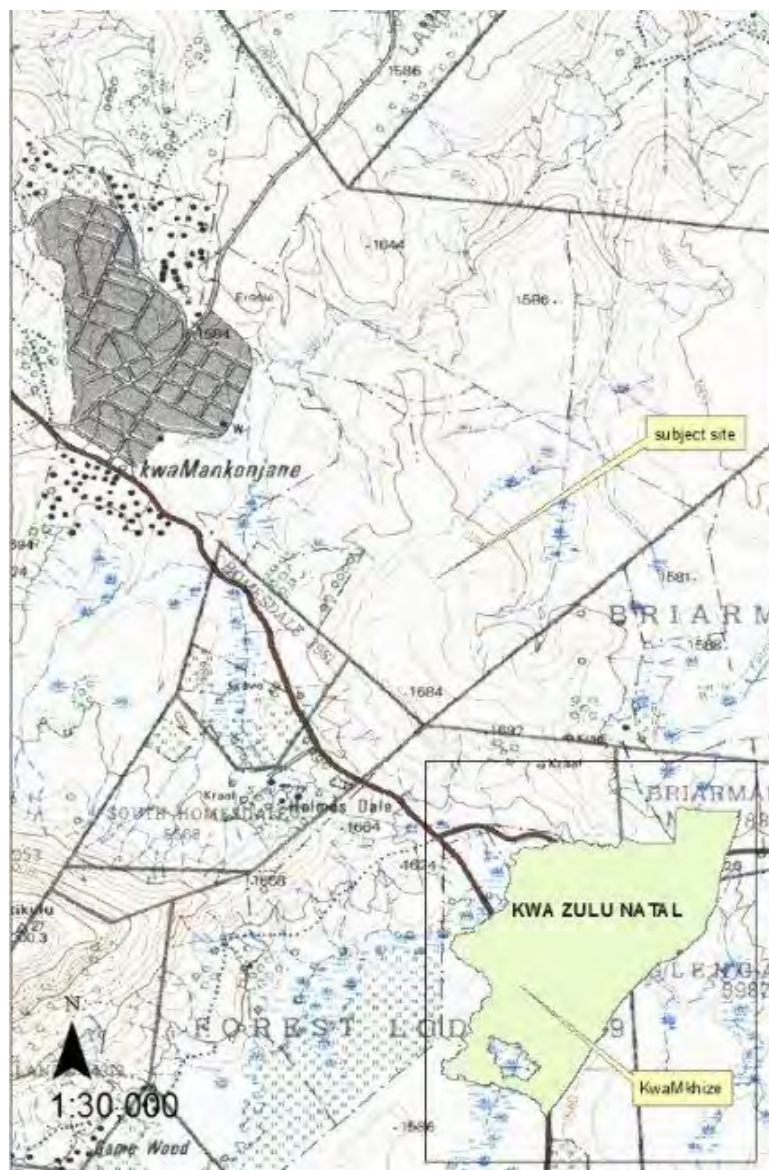


Fig. 1 Topographic map showing subject site and position of Imbabazane / KwaMkhize TA within region

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According to the background information document compiled by the CSIR in respect of this project, as well as further review of the project during the EIA process, the intention of the Khanyane Agricultural Community Project is to cultivate approximately 17 ha of land for the purposes of establishing maize and bean production. Given the extent of the proposed cultivated area, the activity is noted to require environmental authorisation from the mandated authorities in terms of GNR 983 of the National Environmental Management Act (107 of 1998). As such, this report has been commissioned by the CSIR in order to provide guidance in respect of the proposal to cultivate the subject site and allow for an impartial evaluation of the ecological impacts of such cultivation through the environmental authorisation process.

This report identifies the findings of the ecological review of the selected site (Fig. 2), giving due consideration to the bio physical factors inherent within the site, as well as the botanical and faunal components of the site and their significance from an ecological perspective. No alternative sites or properties were considered, however alternative options in respect of the positioning of the plantation within the study area, is given due consideration.

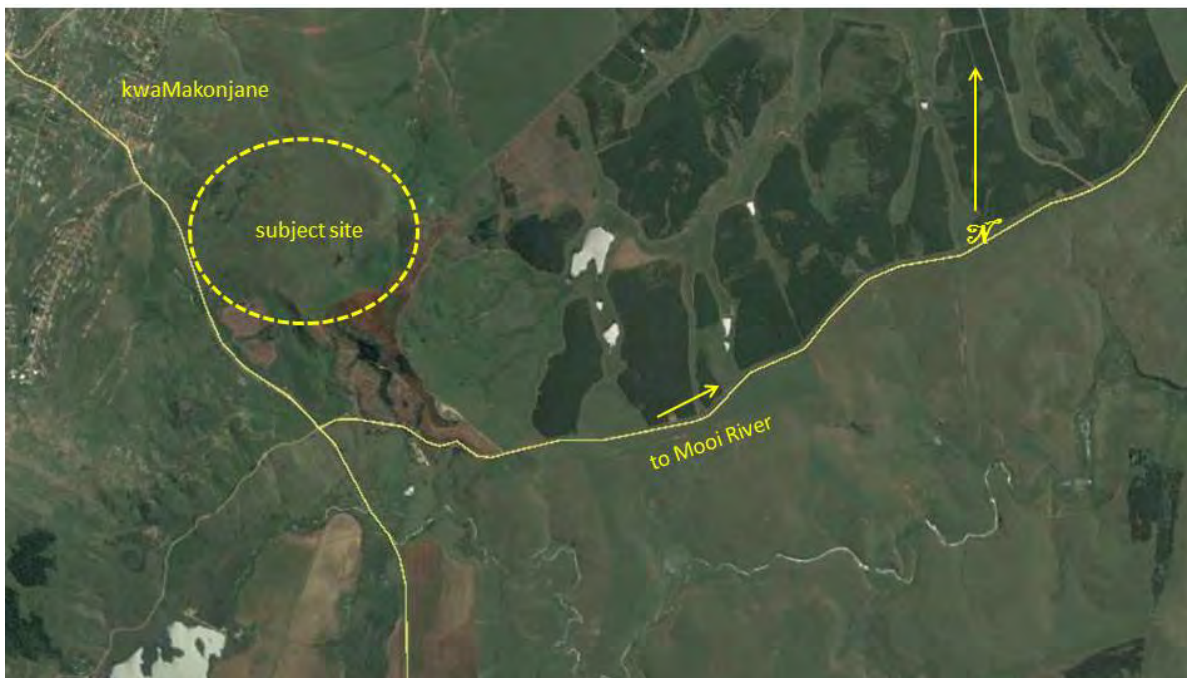


Fig. 2 Google Earth image indicating site in regional context (yellow outline). (Source Google Earth ; not too scale.)

Further to the above, in 2017 the EAP, after consultation with the applicant, identified that although the 2016 ecological report did not support the cultivation of the site from an ecological basis, no alternative land was available for such activities. The EAP thus provided a second spatial planning option as depicted below in Figure 3, whereby an area of 17ha is to be cultivated. Figure 4, below

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indicates the 2016 land capability spatial data, derived from the DAFF Directorate of Land Use and Soil Management.



Figure 3. Map indicating 17ha extent of site, set aside for cultivation. Source CSIR.

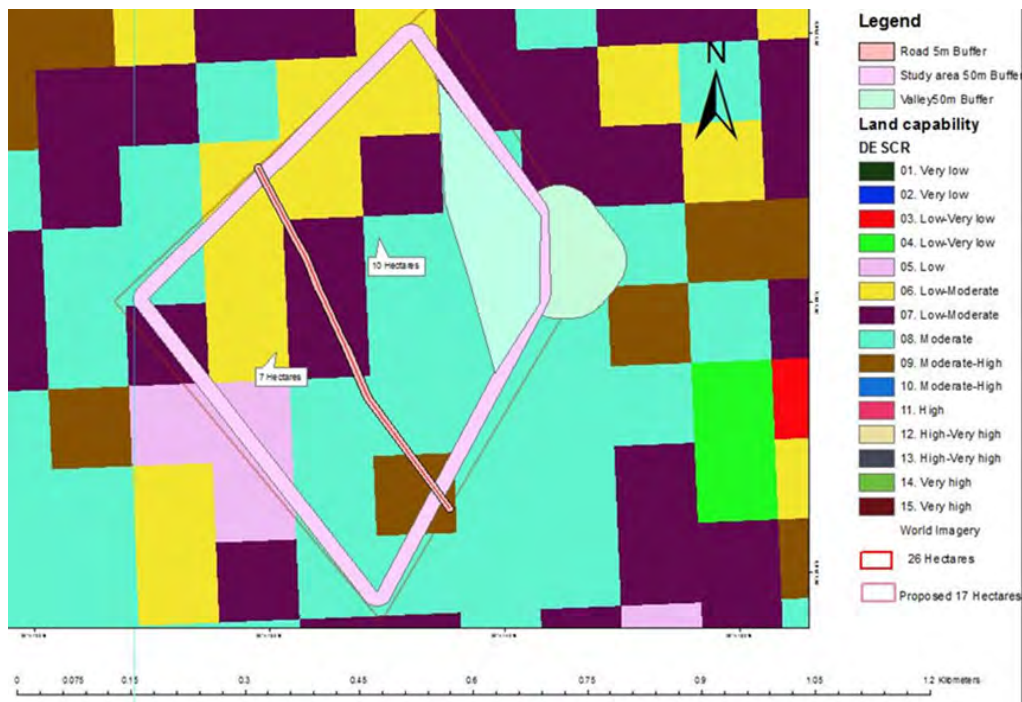


Figure 4. Map indicating land capability or agricultural potential on site. Source DLUSM,2016.

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In addition to the above, the EAP also provided confirmation from the Traditional Authority that available land for cultivation in the region, was limited and that alternative sites for cultivation were not available. A further review of this report was undertaken by independent ecological consulting firm, Enviroswift (Ms L Zdanow) . Enviroswift’s report (dated July 2017) identified two textual errors in the reviewed report (which have subsequently been addressed) and considered in particular, spatial planning data related to the site. Using such data, as well as the contents of this report, Enviroswift concluded that cultivation of the land would “result in a high negative impact significance” (*sic*). Such conclusion supports the findings contained within this report. This report thus seeks to provide an update of the 2016 report and reiterate the findings of the 2016 evaluation.

2. METHODOLOGY

In pursuance of the above, SDP Ecological & Environmental Services undertook the following activities in the compilation of this report.

1. A desktop review of the site using aerial imagery.
2. A field review of the site was undertaken on 19 February 2016, whereby the general landscape and landscape features were considered, prior to the undertaking of a number of sample transects across site.
3. Sample transects were established at 10 sites across the study area (Fig. 5). These sample sites were deemed to be suitably representative of the site through:
 - a. Variation in topography
 - b. Variation in slope or gradient
 - c. Differentiation in aspect
 - d. Spread of sample across site
4. At each site a linear transect of 40m was established using a “drop stick method” of sampling, whereby the species closest to the sample point was recorded. A total of 20 points (2m intervals) were recorded from each site and recorded using a “presence – absence” methodology.

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Fig. 5. Image indicating position of sample points across site

5. All data was logged and recorded in Excel.
6. All data was analysed using linear techniques and multivariate analysis (TWINSPAN and PCA) in order to identify:
 - a. The similarity or dissimilarity of data / plant community structure within the sampled sites.
 - b. The nature and structure of the data / plant communities across site in general.
 - c. Any anomalies that may be noted within the data.
7. From interpretation of the above results and the observations undertaken at site, the nature of the habitat within the site was given due consideration from an ecological perspective, which included the suitability for transformation.
8. Consideration was given to the identification of aquatic and wetland systems at a preliminary level during the site reconnaissance and through the use of geohydromorphic soil indicators, as well as other physical indicators, as per the Guidelines for the Delineation of Wetlands. All wetlands that were noted to be proximal to the subject site were given consideration. No wetland systems were identified on the proposed site.

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Indicators of a riparian system include the following (as per DWAF 2005):

1. An obvious floodplain and active channel.
2. Evidence of active erosion indicating a high energy system.
3. The absence of classic hydromorphic vegetation, with species associated with riparian areas dominant, or simply a change in vegetation density and structure.

The approach to defining the riparian zone is not strictly defined (DWAF 2005) and a number of methods can be used. Accepted riparian indicators include (Fig 6 below):

- 1) **Topography:** identification of flood terraces and macro-channels.
- 2) **Vegetation: identification** of a distinct area of vegetation change, often in close association with the macro-channel. Changes can be in relation to species diversity or physical nature (density or health).
- 3) **Alluvial soils and deposited material:** identification of recent deposits of sand or mud serves as a confirmatory indicator of the higher extent of river associated inundations

A number of methods exist for identifying riparian indicators. Acceptable methods include (DWAF 2005):

1. The use of topographical maps.
2. Aerial photographs and aerial videos
3. Ecoregions (e.g. using climatic, geological or vegetative community indicators can be useful as a predictive method)
4. Field work (i.e. confirming desktop observations by locating indicators on site).

Wetland systems are considered to be intermediate areas between mesic and aquatic systems. These systems are generally considered to be *temporary* (where evidence of inundation of water under a high level precipitation event is apparent), *seasonal* (where regular inundation arises) or *permanent* (where the area is permanently saturated). Such areas are typically identified by:

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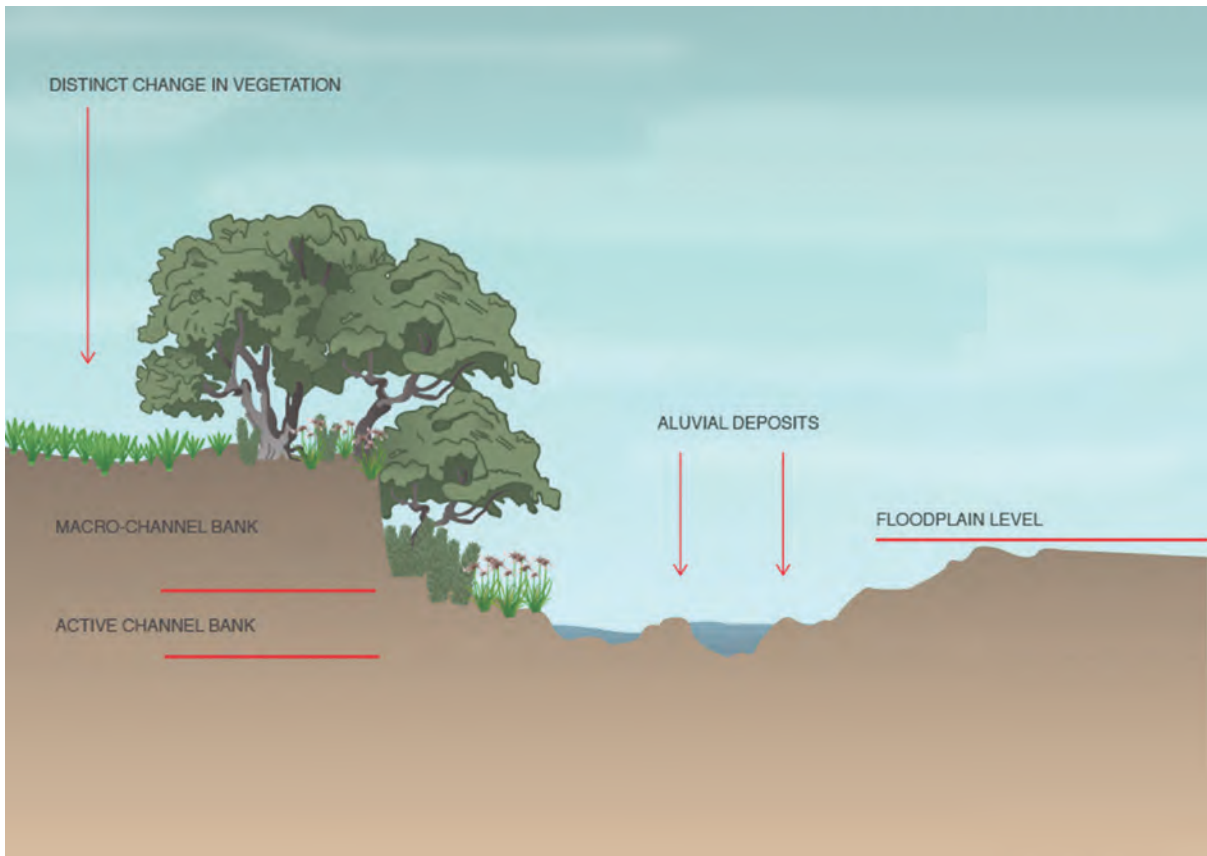


Fig 6. Illustration of a typical riparian cross section (Adapted from DWAF 2005)

- **Topography and geomorphology**
- **Edaphics** – mottled and gley soils being evidence of such environments
- **Habitat** – *obligate* hydrophytes (e.g. *Phragmites* spp) are indicative of permanent inundation and *facultative* (e.g. *Centella asiatica*) are indicative of areas where inundation is regular to irregular in nature.

Such indicators are used to identify the nature and structure of wetland systems. No wetland systems were identified within the study site, however proximal systems were identified using the above determinants and the outer extent of such systems was delineated.

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3. REGIONAL ECOLOGICAL PERSPECTIVE OF THE AREA

The subject site falls within Quaternary V70C, which encompasses a portion of the Bushmans River and its tributaries (Fig. 7). The Bushmans River ultimately serves the Tugela River. From Fig. 7 it is evident that drainage from the site is in a northerly direction, eventually serving the Mtshezana River. (Notably the differentiation between the extent of the Mtshezana and Boesmans River differs according to various references).

According to the Department of Water and Sanitation, PESEIS data obtained from www.dwaf.gov.-iwqs/reip-eco-PESEIS indicates that the Mtshezana River has an overall PES Category of “B” and a mean ecological importance (EI) rating of “High”, with a mean ecological sensitivity (ES) rating of “High”. As such, the Mtshezana can be considered to be a system that is presently subject to minimal anthropogenic perturbation and exhibits generally intact and untransformed eco-system services. In addition, the system, via the Boesmans River, serves the Wagendrift dam, which is utilised for agricultural, domestic and industrial water supply.

The subject site lies upon a portion of the Mtshezana watershed, which encompasses level plateaux and buttes with relatively steep sandstone scarps. Occasional shale geologies are noted to prevail at points. Such geology gives rise to the regular occurrence of seep zones at elevated points, while within the valleys, floodplain wetland systems are evident, comprising of deep alluvial clays with occasional sandstone boulder wash. Fig. 8 indicates that the subject site, while not lying upon any wetland system, does lie within 500m of a number of NFEPA listed wetland systems. A separate report has been compiled and is annexed to this report whereby those wetlands within 500m of the site have been delineated.

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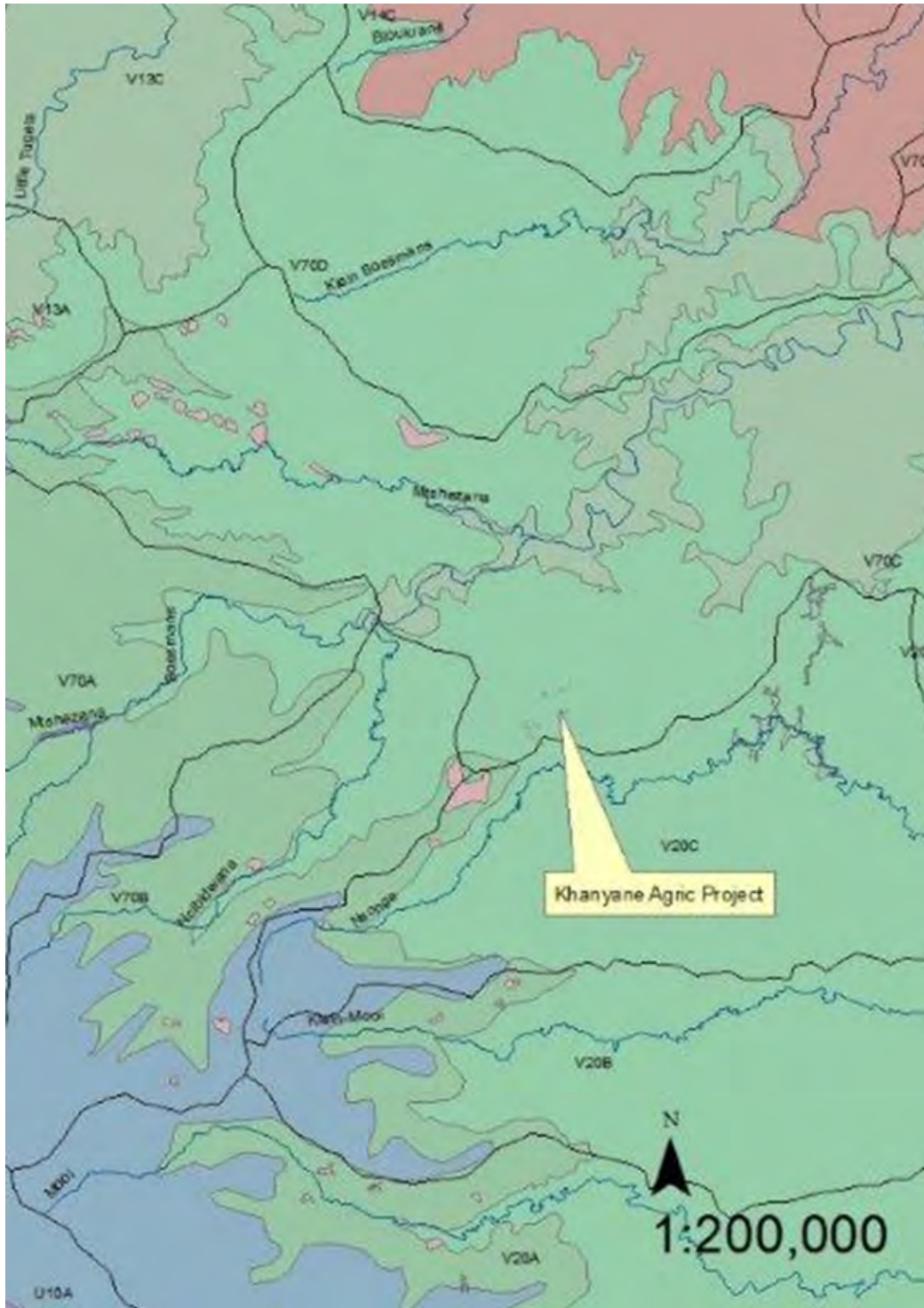


Fig. 7. Map indicating subject site within catchment quaternaries .

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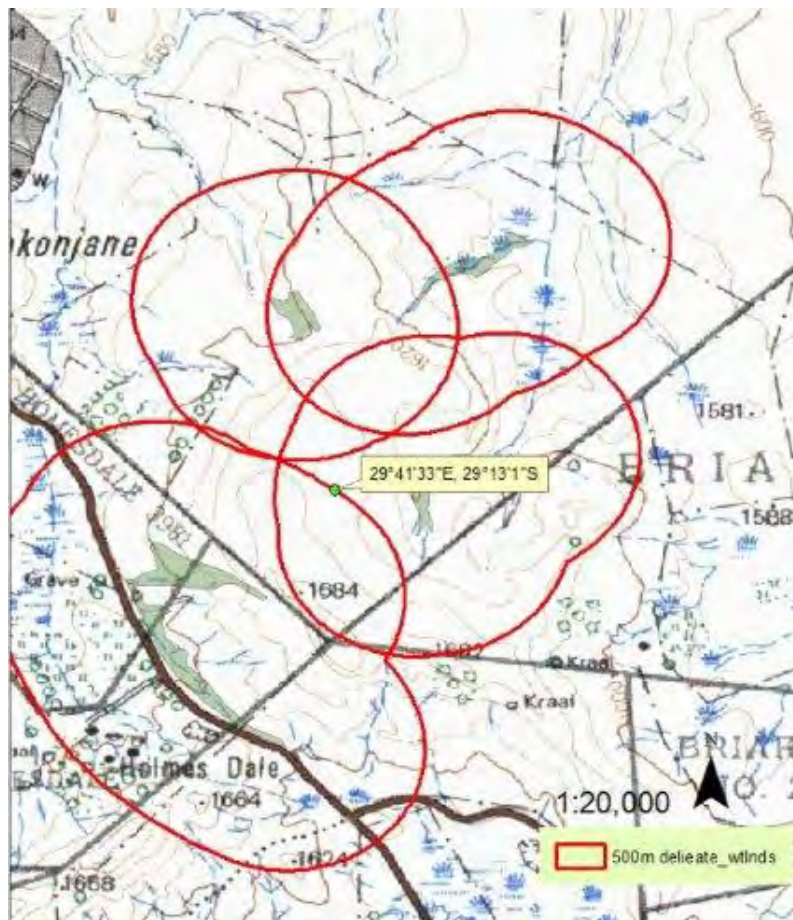


Fig. 8. Image indicating subject site in relation to prevailing wetland systems and 500m from the subject site.

The dominant vegetation form within the region is Gs8, The Mooi River Highland Grassland, a *Heteropogon – Themeda- Tristachya* complex, as indicated in Figure 8 below. The area is dissected with numerous wetlands and riparian zones with deeper soils. This veld type is considered “vulnerable” in terms of its conservation importance, with only a 23% target for conservation (SANBI 2006). In addition, Mooi River Highland Grassland contributes to some 8% of vulnerable vegetation (habitat) with Kwa Zulu Natal. Much of the regional ecology correlates with the abovementioned habitat form, although it is evident that in much of the iMbabazane area, the predominant land use is grazing, often intensively, as well as silviculture, which has given rise to *Aristida* dominated meadow type environments, or alternatively *Pinus* sp dominated plantations (Fig. 10). Such activities, have served to alter both the localised ecology around iMbambazane and the regional hydrology.

In addition, the area falls within a CBA categorised as “irreplaceable”, while at a regional conservation level the site falls within the Tugela North Corridor, identified as part of the Provincial Terrestrial Systematic Conservation Plan. The habitat and site is thus of conservation importance.

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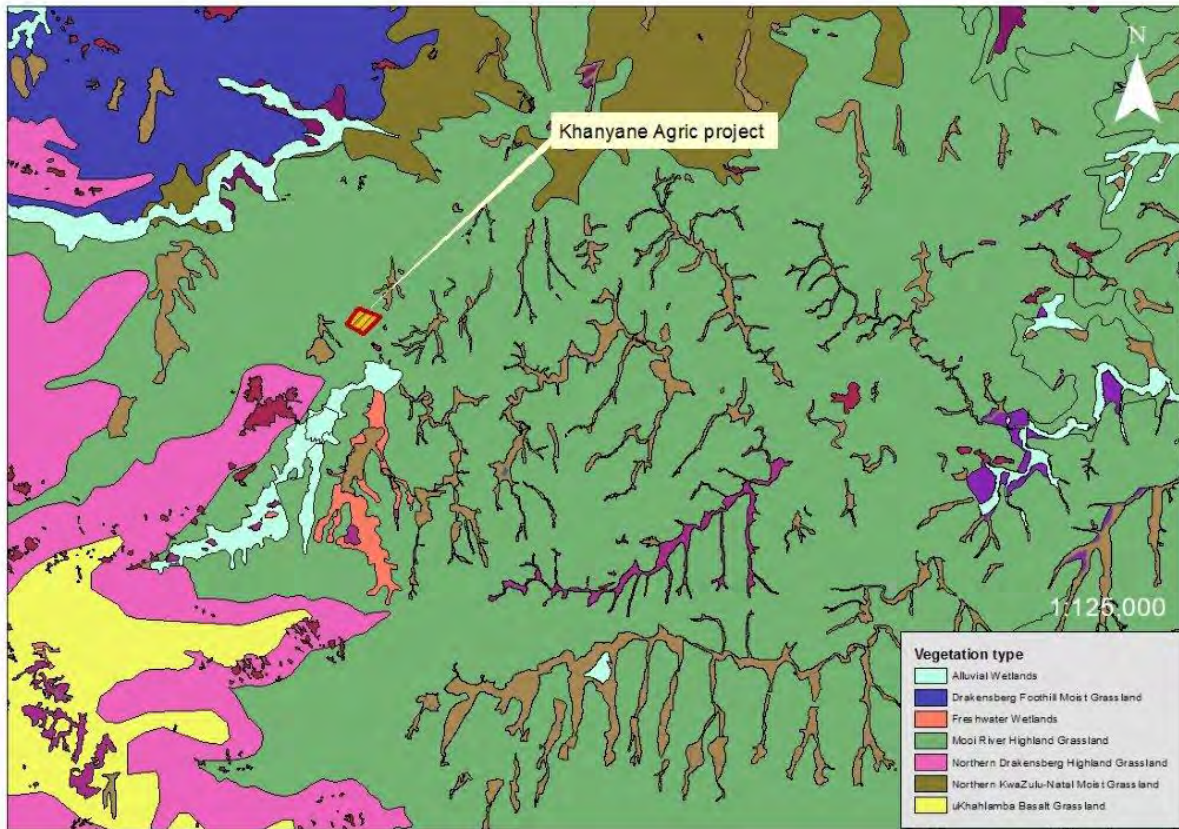


Fig. 9 Map indicating placement of subject site within veld types



Fig. 10 Image of subject site in foreground and plantation in background.

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4. SITE EVALUATION

The study site lies approximately one kilometre south east of the town of KwaMakhonjane located at 29° 13' 04" S / 29° 41' 28" E (Fig.1 above). The study site, some 26ha in extent can be described as a broad hilltop comprising of a sandstone geology overlain by a clayey soil of variable depth. The variable soil depth from the site indicates that surface flow is rapid, with low levels of percolation being expected within the site itself. Where the vegetative stabilisation is compromised, erosion is likely to result (Fig.11)



Fig. 11 Image of site indicating erosion gully arising where vegetation cover is reduced.

The subject site is presently utilised for the grazing of cattle and may be subject to intermittent burning. In addition, the area is subject to significant levels of frost which maintains the grassland sere on the subject site.

The site is dominated by a graminoid – forb associations comprising of a number of grasses, primarily *Aristida junciformis* and *Tristachya leucothrix*, with *Themeda triandra* and *Eragrostis* spp also being common across the site (Fig. 7). Other common species identified across the subject site included,

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Oxalis smithiana and *A junciformis* , while species including *H cymosum*, and graminoids, (*Eragrostis* spp) also were noted as being dominant. No woody species invasion was noted on site and no exotic species were evident during the site reconnaissance . The high level of forbs encountered within the subject transects are in keeping with the forb-rich nature of the veld type. Other forbs identified on site and within the various sample points included *Eucomis autumnalis*, *Agapanthus campanulata* and *Brunsvigia grandiflora*, while the common orchid *Satyrium longicauda* was also identified on site (Fig. 12).



Fig. 12 Various forbs identified within subject site; top left: *B grandiflora*, top right: *S longicauda* ; bottom left: *E autumnalis*; bottom right *A campanulata*

A total of 38 species were recorded within the 10 transects established. Fig. 13 below, identifies the species recorded and their prevalence within the sample sites. *A junciformis* and *O smithiana* were the most commonly encountered species, while it is noted that 14% of the species recorded were graminoids, with the balance of species recorded being forbs/herbs (using a *presence-absence* method of sampling). Further consideration of the species and their placement across the site can be achieved by using a multivariate analysis (TWINSPAN). The results of the TWINSPAN analysis are indicated below in Fig's 14 and 15.

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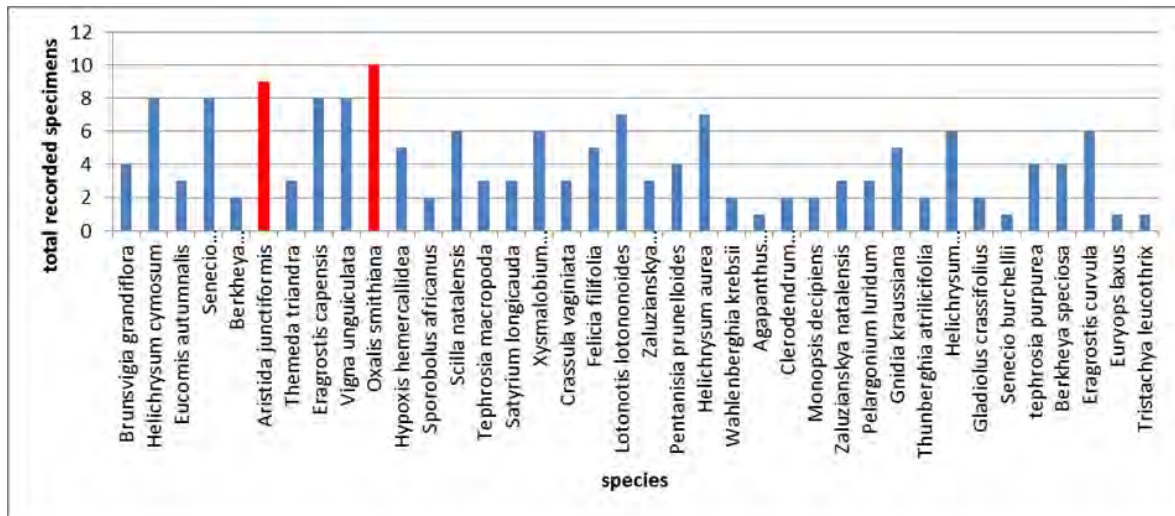


Fig. 13 Graph indicating the prevalence of species encountered within sample sites, with the two most prevalent species being highlighted in red.

Fig. 14 indicates the various associates that were identified across site and can be utilised to identify such associations on a spatial level within the site and therefore possible “drivers” of such association.

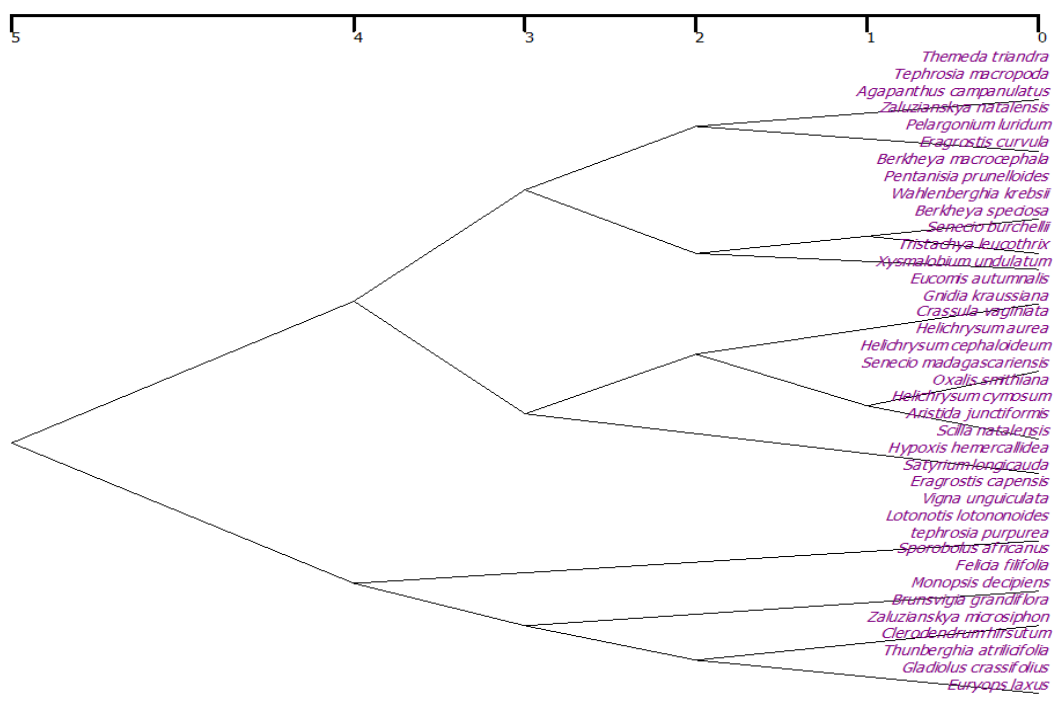


Fig. 14. Dendrogram indicating TWINSpan results for species association

Fig. 15 below, identifies those sites that show similarity according to the botanical associations identified within the site. As can be identified from Fig. 15, the sample transects indicated similarities across site that showed little spatial association. Such result indicates that factors such as soil depth or possibly grazing intensity may be drivers of such association.

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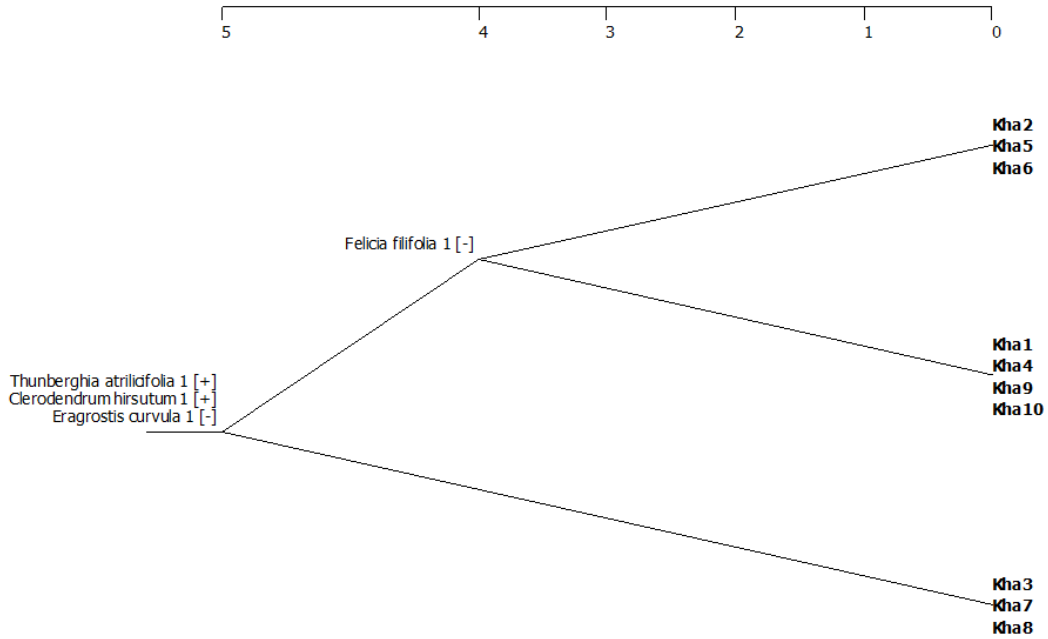


Fig. 15. TWINSPAN Dendrogram indicating site association results

Additional analysis of the collated data was undertaken using Principle Component Analysis (PCA). PCA is utilised to summarise the relationship between a large number of species and samples. The PCA was weighted to omit outlier species. The results of the PCA analysis (Fig. 16) indicated some minor differences in site associations, however as per the TWINSPAN results, these results showed no significant relationships/trends across site.

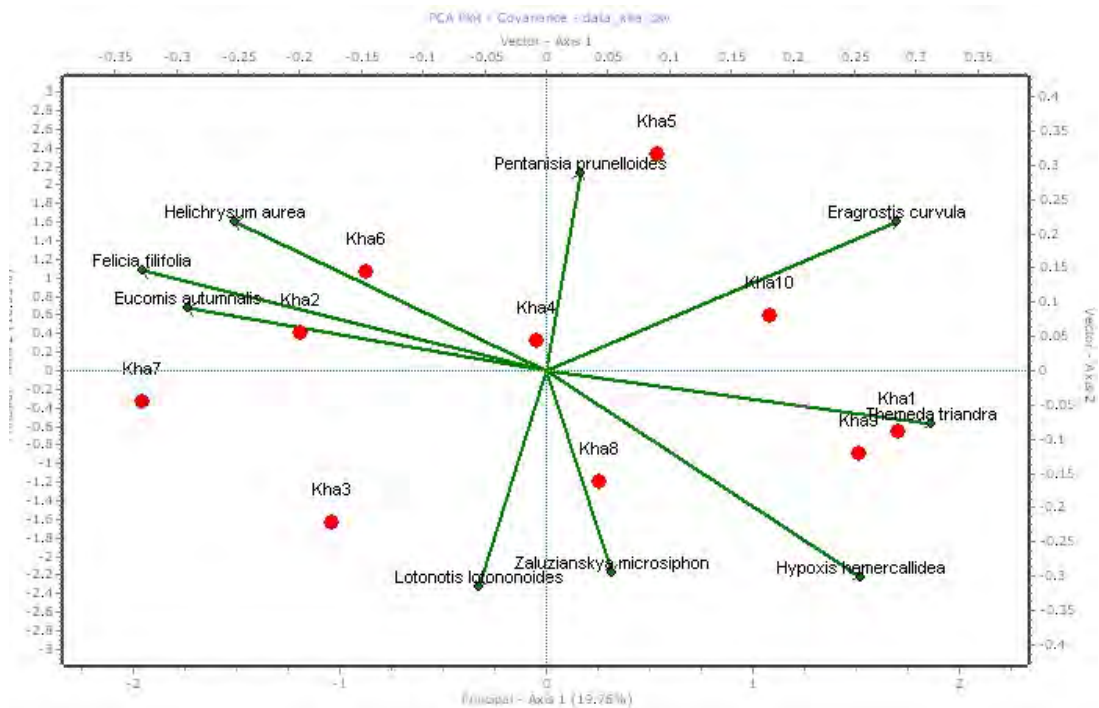


Fig.16 PCA results in graphic form indicating species to site associations

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Given the above, it can be concluded that from a botanical perspective that:

- The study area shows a high level of botanical diversity across the site.
- Such diversity does not appear to follow any trends (i.e. is not associated with aspect or elevation).
- Given the prevailing terrain, influences on species diversity are possibly random and relate to depth of soils and grazing intensity.

4.1 Fauna

Further consideration of the site indicated that the area was of significance in terms of forage for a number of grassland associated aves. Noted on the site were *Sagittarius serpentarius* (Secretary bird), an uncommon to locally common species listed as “near threatened” (Roberts 2012), and *Macronyx capensis* (Cape longclaw), a species typical of higher altitude grasslands.

Consideration of the SABAP2 atlas (Pentad 2929BC) indicated that a total of 212 species had been logged in the area including a number of raptors and other species associated with grassland environments (http://sabap2.adu.org.za/coverage.php#menu_top). Amongst these species are wattled crane (*Bugeranus carunculatus*) and white winged flufftail (*Sarothrura ayresi*) which are of particular conservation significance.

Furthermore, although limited in terms of larger vertebrates, evidence of the presence of *Chrysoxalax villosus*, the rough haired golden mole, was identified on site. (Fig. 17). *C villosus* is listed as “vulnerable” according to the IUCN Red List, primarily on account of disturbance to its preferred habitat. A number of invertebrates and vertebrates are noted within the EKZNWildlife C Plan data base as being specific to the area including oribi (*Ourebia ourebi*) and the millipedes *Centrobolus tricolor* and *Doratogonus montanus*.



Fig. 17 image of *C villosus* (www.afrotheria.net) and entrance to fortress on site.

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4.2 Wetland and other hydrological linkages

A preliminary review of wetland systems within the region indicated that all wetlands are associated with hillside seeps and riparian zones (floodplain wetlands). Given the placement of the subject site within the landscape and with reference to Fig. 18 below, it is evident that the subject site does not impinge directly on any wetland systems, however as indicated above, the site does fall within 500m of such wetland systems. It is clear that disturbance of ground as a result of cultivation may have indirect effects upon hydrological systems in the region. Such impacts would be ameliorated through good agricultural practices being instituted.

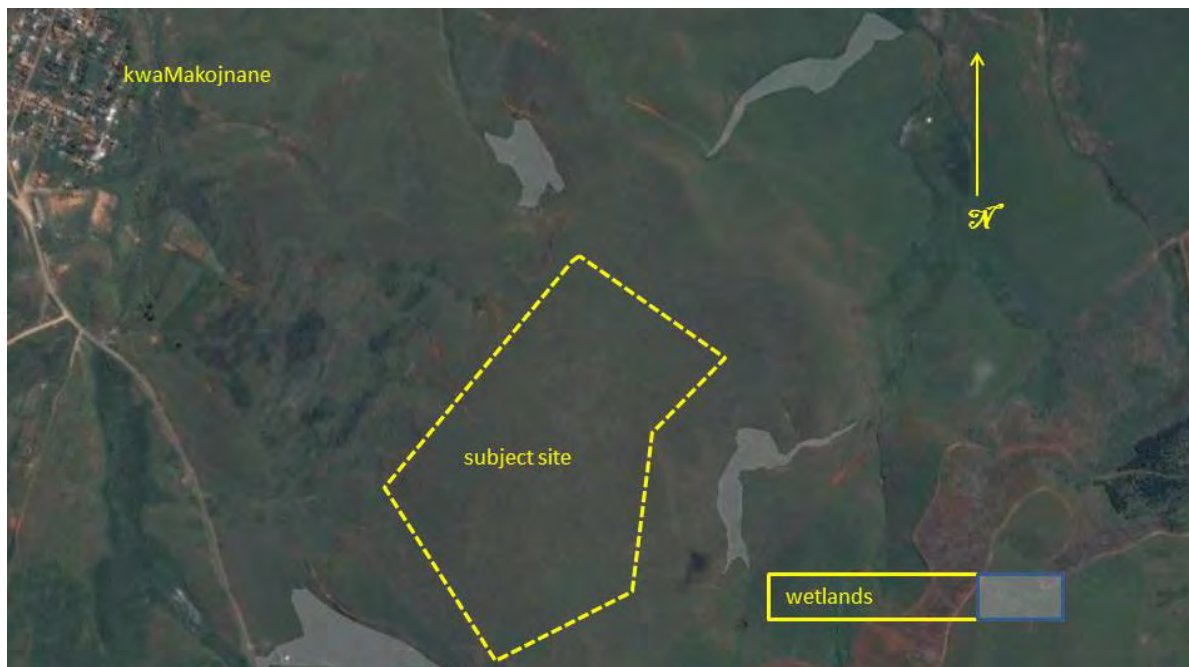


Fig. 18 image indicating wetland systems identified around site

5. CONCLUSION

From the above the following summary of bio physical and geophysical information is provided. This data indicates that:

1. The selected site comprises primarily of a grassland veld form, which aligns with Drakensberg Foothill Moist Grassland veld type in terms of species composition. SANBI data and data from EKZN Wildlife identify the area as falling within Mooi River Highland Grassland.

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2. The site shows high botanical diversity with limited disturbance from other land uses, as well as little invasion by exotic vegetation.
3. Faunal affiliation with the site is considered to be strong on account of the high level of transformation of adjacent lands (primarily plantation and urban settlement), while evidence and observation of the presence of primarily aves and a fossorial mammal identified on site were made.
4. Wetland and riparian systems are associated with the Mtshezana and Boesmans River systems and lie in close proximity to the site. No wetland systems are identified on site, however some sites do fall within 500m of the subject property.

As described above, the EAP in 2017 in consultation with the applicant, requested a revision of this report in order to take into consideration the contents of a peer review document, as well as give consideration to a proposed amendment to the layout of the area to be cultivated (See Figures 3 and 4 above). It is clear from Figures 3 and 4 that such layout does indicate a reduced area of veld to be transformed and this is evidently associated with land capability class mapping. However, it is also evident from the site investigation that the area in question remains of ecological value and at a broader spatial consideration, such value is related to the eco-morphology of the site; namely the placement of the site within the regional landscape. As such, the area forms an elevated area, comparative to its surrounds with sandstone exposures and relatively shallow soils. As a consequence of these factors within the regional landscape, the area has been spared from cultivation and other forms of severe transformation and remains an outlier of relic, natural grassland. This report thus serves to reiterate the findings of the original report that states that the area should not be subject to cultivation and that “alternative land use options for the site may include conservation and the maintenance of the present land use which is livestock grazing”. It is maintained that “alternative sites for consideration in respect of the cultivation of various crops may be considered in close proximity to kwaMankonjane or proximal to the existing plantations” and that the nature of the area in general does not lend itself to cultivation, see Figure 19 below.

It is also reiterated that this report forms a component of the EIA process and should not be seen in isolation to other aspects of such process. It is anticipated that an agro-economic investigation of the site would identify the true viability or feasibility of cultivation and either prove or disprove the benefit of transforming this species-rich land parcel to cultivation. Furthermore, the impact significance of such transformation remains unchanged from that presented in the 2016

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report. Table 1 below indicates the significance of such impacts on the ecological components of the site.



Fig. 19. Image across site indicating sandstone outcrops and graminoid dominance

Table 1. Table indicating qualitative forecast of impact significance for proposed site development

Khanyane Agricultural Project – ecological loss and mitigation					
Spatial extent	Duration	Probability	Significance	Status	Confidence
Local	Long term	Definite	Highly Significant	Negative	Very High
Comment:					
<p>The proposed cultivation of approximately 17 ha of grassland at the identified Khanyane Agricultural site will see significant transformation of a portion of grassland located in an area of the Kamberg region that continues to be and has been, subject to significant transformation through silviculture and urban settlement. As such the site can be considered a relic grassland within the local region and although it is used for grazing of livestock this is a passive activity from an ecological perspective. Biodiversity within the botanical community remains high and the association of fauna with the site is implicit.</p> <p>It is strongly recommended that alternative sites be sought for the cultivation of crops on a commercial basis. Preferred land use options for the site could be considered as</p> <ul style="list-style-type: none"> • Grazing of livestock under a managed regime • Tourism (bird watching etc) • Conservation 					

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Assessment status after all mitigation measures are applied					
Spatial extent	Duration	Probability	Significance	Status	Confidence
Local	Long term	Definite	Highly Significant	Negative	Very High

5.1 Mitigation Measures

The proposed cultivation of the land in question will result in the effective removal of much of the prevailing habitat form and will effectively convert the present climax sere to an earlier seral phase, which, if left fallow, is unlikely to give rise to the habitat structure present at the time of this assessment. It therefore follows that mitigation measures in respect of the cultivation of the site are, from an ecological perspective, not available to the proponent.

Should the cultivation of land proceed, in order to prevent the further degradation of surrounding habitat it would be prudent to employ the following measures;

- Contour ploughing should be employed at all times to prevent or reduce soil erosion from site.
- Fencing of the site should be undertaken to contain activities to within the identified cultivated area.
- Exotic weed control should be practised at all times to prevent invasion by common weeds into the surrounding grasslands

5.2 Monitoring requirements

Monitoring of impacts on the surrounding land may be practised to reduce the impact of the farming activities if these are approved. Monitoring may be of value from an academic perspective but will serve little in remediating impacts, as any actions to address such impacts are likely to elicit their own impact on the surrounding ecology. This said, the following aspects may be monitored in surrounding lands or lands immediately adjacent to the site:

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- **Vegetation change:** The identification of one or more permanent transects around the site may be established to monitor aspects such as;
 - possible change in species composition
 - exotic species invasion.
 - changes in botanical structure.

- **Exotic weed control:** The identification of exotic weeds, particularly those associated with agricultural lands may be undertaken and possibly redressed through the application of herbicides or through manual removal.

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Annexure Ä

	Kha1	Kha2	Kha3	Kha4	Kha5	Kha6	Kha7	Kha8	Kha9	Kha10
<i>Brunsvigia grandiflora</i>	1	1	1	0	0	0	1	0	0	0
<i>Helichrysum cymosum</i>	1	1	1	1	1	0	1	0	1	1
<i>Eucomis autumnalis</i>	0	1	0	0	0	1	1	0	0	0
<i>Senecio madagascariensis</i>	1	1	0	0	1	1	1	1	1	1
<i>Berkheya macrocephala</i>	1	1	0	0	0	0	0	0	0	0
<i>Aristida junctiformis</i>	1	1	1	1	1	0	1	1	1	1
<i>Themeda triandra</i>	1	0	0	0	0	0	0	0	1	1
<i>Eragrostis capensis</i>	1	1	1	1	0	1	1	1	1	0
<i>Vigna unguiculata</i>	1	1	1	1	0	1	1	1	1	0
<i>Oxalis smithiana</i>	1	1	1	1	1	1	1	1	1	1
<i>Hypoxis hemerallidea</i>	1	0	1	0	0	0	0	1	1	1
<i>Sporobolus africanus</i>	0	1	1	0	0	0	0	0	0	0
<i>Scilla natalensis</i>	1	0	0	1	0	1	1	1	0	1
<i>Tephrosia macropoda</i>	1	0	0	1	0	0	0	0	1	0
<i>Satyrium longicauda</i>	1	0	1	0	0	0	0	0	0	1
<i>Xysmalobium undulatum</i>	1	1	0	1	1	1	0	1	0	0
<i>Crassula vaginiata</i>	1	1	1	0	0	0	0	0	0	0
<i>Felicia filifolia</i>	0	1	1	0	1	1	1	0	0	0
<i>Lotonotis lotonoides</i>	1	1	1	1	0	0	1	1	1	0
<i>Zaluzianskya microsiphon</i>	0	0	1	0	0	0	0	1	1	0
<i>Pentanisia prunelloides</i>	0	1	0	1	1	0	0	0	0	1
<i>Helichrysum aurea</i>	0	1	1	1	1	1	1	0	0	1
<i>Wahlenberghia krebsii</i>	0	0	0	1	0	1	0	0	0	0
<i>Agapanthus campanulatus</i>	1	0	0	0	0	0	0	0	0	0
<i>Clerodendrum hirsutum</i>	0	0	1	0	0	0	1	0	0	0
<i>Monopsis decipiens</i>	0	0	0	0	1	0	1	0	0	0
<i>Zaluzianskya natalensis</i>	0	1	0	1	0	0	0	0	0	1
<i>Pelargonium luridum</i>	1	0	0	0	1	0	0	0	1	0
<i>Gnidia kraussiana</i>	1	1	0	0	1	1	1	0	0	0
<i>Thunberghia atrilicifolia</i>	0	0	0	0	0	0	1	1	0	0
<i>Helichrysum cephaloideum</i>	0	1	1	1	0	1	1	0	1	0
<i>Gladiolus crassifolius</i>	0	0	0	0	0	0	1	1	0	0
<i>Senecio burchellii</i>	0	0	0	0	1	0	0	0	0	0
<i>tephrosia purpurea</i>	0	0	1	1	0	0	1	0	0	1
<i>Berkheya speciosa</i>	1	1	0	0	1	0	0	0	1	0
<i>Eragrostis curvula</i>	1	0	0	1	1	1	0	0	1	1
<i>Euryops laxus</i>	0	0	0	0	0	0	0	1	0	0
<i>Tristachya leucothrix</i>	0	0	0	0	1	0	0	0	0	0

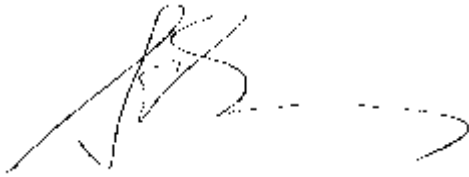
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Declaration

I Simon C Bundy (ID No 6609097 5257 081), declare that I have no vested interest in the proposed development of the Khanyane Agricultural Project , Imbambazane.

I am a registered ecologist with the South African Council of Natural Scientific Professionals (No.400093/06) with 24 years' experience. A curriculum vitae is attached below



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CURRICULUM VITAE SIMON COLIN BUNDY

NAME OF FIRM : Sustainable Development Projects cc

NAME OF STAFF Simon Colin Bundy

PROFESSION Ecologist / Environmental Assessment Practitioner

DATE OF BIRTH 7 September 1966

PLACE OF BIRTH Glasgow, Scotland

NATIONALITY South African / British

MEMBERSHIP OF PROFESSIONAL BODIES : South African Council of Natural Scientific Professionals No. 400093/06 – Professional Ecologist

KEY QUALIFICATIONS

Simon Bundy has been involved in environmental and development projects and programmes since 1991 at provincial, national and international level, with employment in the municipal, NGO and private sectors, providing a broad overview and understanding of the function of these sectors. With a core competency in coastal ecology and coastal management, Bundy has worked on coastal projects in the Seychelles and Tanzania providing ecological and general environmental advice and support. Within South Africa, Bundy has been involved in a number of large coastal projects including residential estates, infrastructure and linear developments in KwaZulu Natal, Eastern Cape and Western Cape. In such projects Bundy has provided both technical ecological support, as well as the undertaking of environmental impact assessments.

Allied to the above, Bundy has provided technical assistance to the “Save the Wild Coast” initiative through a technical report outlining the concerns relating to dune mining in and around the Xolobeni prospecting region while also evaluating critically, a number of environmental impact assessments and technical reports for various clients. Such evaluations have included “sea defence structures at Buffalo Bay, Western Cape”, through the Nelson Mandela University. Bundy has also assisted iSimangaliso Wetland Park in its initiatives against unlawful developments in the Bangha Nek region. Bundy has also acted as expert witness on ecological issues on a number of legal cases. From a technical specialist perspective, Bundy is competent in a large number of ecological methodologies and analytical methods including statistical methods ; multivariate analysis and canonical analysis. Bundy is competent in wetland delineation and has formulated ecological coastal set back methodologies for EKZN Wildlife and the Oceanographic Research Institute. Bundy acts as botanical specialist for Eskom Eastern Region, with specific interest in coastal habitat forms.

EDUCATION

Matriculation : DHS 1986

BSc Biological Science (1990) University of Natal

Diploma Project Management (1997) Executive Education

MSc (2004) University of KwaZulu Natal

1998 : Guest of Konrad Adenauer Foundation to Berlin to consider “sustainable development initiatives” in Europe

2000 : Training course : “Environmental Economics and Development”. University of Colorado (Boulder) USA.

SELECTED RELEVANT PROJECT EXPERIENCE

Task Team Chair and Project Ecologist : Task Team for Coastal Disaster Management, KwaDukuza 2007 - 2011

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Management of coastal clean up programme immediately following March storm event of 2007. Activities included introduction of geofabric bag protection options, coastal retreat implementation and development of policy on coastal management following destruction of coastline.

Ecological Review of Lake Mzingazi for Umhlatuze Water : University of kwaZulu Natal – (2010)

Review of habitat structure and integrity of Mzingazi Lake System at Richards Bay required to interpret transformation of aquatic system over time and evaluate forecast for future reference.

Ecological Review of Lake Mzingazi for Umhlatuze Water : CSIR – (2013)

Review of water quality and habitat structure and integrity of Mzingazi Lake System as expansion of existing knowledge base at uMhlatuze Water

Project Leader and Coastal Specialist : Addington Farm Strategic Environmental Assessment (2010)

Strategic assessment in and around the Addington Farm / KwaDukuza region relating to development in sensitive coastal and estuarine environments including the Seteni and Umvoti River estuaries.

Ecologist and Environmental Specialist : Dukuduku Resettlement Programme (2008 - date)

As environmental consultant to this COGTA led initiative, the project has entailed understanding the ecological function of various components of the Dukuduku forest and identifying an ecologically defensible boundary line between the iSimangaliso Park and the proposed Dukuduku development area. Other components of project have included defining “development regions”, providing ecological and general environmental guidance and liaising with various government departments.

Terrestrial and Coastal Ecologist : Environmental management and ecological component - Port of Richards Bay Expansion (2010)

Investigation and due diligence report into the requirement for “off set” and “connectivity” following the proposed expansion of the Port of Richards Bay for Transnet. Project entailed identification and evaluation of various estuarine and coastal components and recommendations on the opportunity to offset, mitigate and avoid destruction under a port expansion scenario.

Ecological Services for Ennambithi Open Space System review – Ennambithi Municipality(2010)

Review and identification of ecological components within the Ennambithi Municipal area in order to establish an open space management system within the Municipal area.

Ecological and Dune retreat investigation of the Sodwana Bay Node Isimangaliso Wetland Park Authority (2013)

Specialist investigation into the retreat of frontal and secondary dune forms at the Sodwana Beach node, calculating retreat and progradation over a 60 year timeframe and provision of management recommendations on redevelopment of node.

PUBLICATIONS

Bundy S C and Smith A M 2009 “ *Analysis of the Recovery of Two Separate Coastal Dune Systems Following the 2006 – 2007 Marine Erosion Event and Assessment of the Artificial Dune System in Coastal Management*” KZN Marine and Coastal Management Symposium, Durban South Africa.

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Bundy S C , Smith AM, Mather AA 2010“ Dune retreat and stability on the Northern Amanzimtoti Dune Cordon” EKZN Wildlife Conservation Symposium 2010

Smith, A Mather AM Bundy SC, Cooper AS Guastella L, Ramsay PJ and Theron A ; 2010 “*Contrasting styles of swell-driven coastal erosion: examples from KwaZulu-Natal, South Africa*” Geology Journal”, Cambridge University Press

Smith, AM, L Guastella , SC Bundy and AA Mather 2007“*Coastal Storm Damage in the March 2007 Storm SA Journal of Science* 2007 “A Synopsis of Recent Storm Events”

Guastella L, Smith A Mather A and Bundy S 2008 “*As Memories Fade - A Review of the Post 2007 Coastal Erosion Events*” African Wildlife 32 / 2008

Smith A, Mather A, Theron A, Bundy S and Guastella L 2008 “*The 2006-2007 KwaZulu – Natal Coastal Erosion Event in Perspective*” 2009 Contribution to the The South African Environmental Observation Network publication “ Climate Change in Southern Africa”

Smith A and Bundy S 2009 “*Coastal erosion: reparative work on the Ballito coastline, KwaZulu-Natal, South Africa, was it enough?*” 2009 International Multi Purpose Reef and Coastal Conference, Jeffrey’s Bay South Africa.

Smith AM, SC Bundy 2012 “Review of Coastal Defence Systems in Southern Africa” Article for Springer Scientific Publications through Ulster University, Pilkey and Cooper

Bundy SC AM Smith, L Guastella 2012 “*A Review of Select Dune Rehabilitation Initiatives and a Proposed Methodology towards Ensuring a Prudent Approach towards the “Greening of Dunes”* VI International Sandy Beaches Symposium Emphakweni Port Alfred

Various popular articles including documentaries on coastal and climate change issues

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ECOLOGICAL REVIEW



Leiden Cresent
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July 2017

The CSIR
11 Jan Celliers Road
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7559
Tel: +27 (21) 888 2482
Email: kmashabela1@csir.co.za

Attention: Ms Karabo Mashabela

RE: A BRIEF DESKTOP ASSESSMENT AND PEER REVIEW OF THE ECOLOGICAL ASSESSMENT REPORT FOR THE PROPOSED KHANYANI AGRICULTURAL CO-OPERATIVE PROJECT.

EnviroSwift KZN was appointed by the Council for Scientific and Industrial Research (CSIR) to review the findings of the ecological specialist appointed to undertake an ecological assessment for the proposed Khanyani Agricultural Co-operative Project. The reviewed specialist report, dated March 2016, was prepared by Mr Simon Bundy of SDP Ecological and Environmental Services.

This review included a brief desktop assessment utilising background information as defined by provincial and national databases and utilising Google Earth Imagery (2017) in order to determine whether there has been any change in the status quo of the vegetation on site.

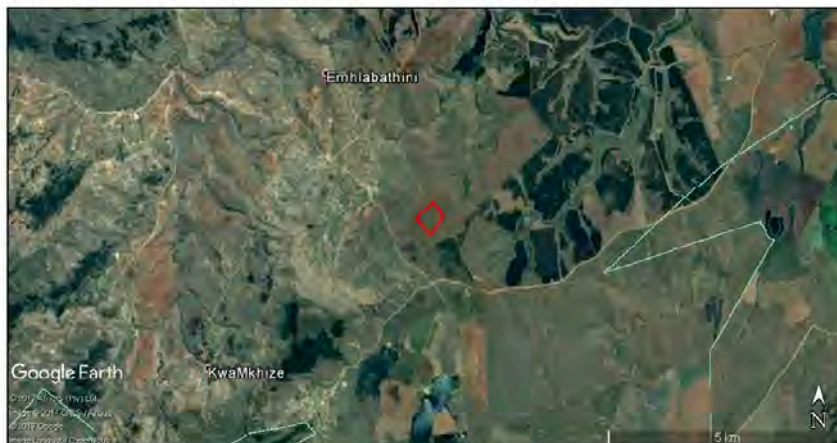


Figure 1: Study area (indicated in red) in relation to surrounding areas (Google Earth Pro, 2017).

Khanyani Agricultural Co-operative Project: Desktop Assessment and Peer Review

July 2017

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1. Limitations and Assumptions

The scope of work includes a brief desktop assessment, the review of the ecological assessment undertaken by Mr Simon Bundy, and the provision of a letter including the findings of the desktop assessment and review, only. The scope of work does not include a site assessment or any additional detailed assessments.

Google Earth imagery can only be utilised to determine whether any general disturbance of the site has taken place since the initial ecological study was undertaken and cannot be used to confirm the species composition of the vegetation on site.

This review makes no effort to interrogate specialist expertise in carrying out ecological assessments. It is assumed that the professional involved has sufficient experience and expertise for the assessment undertaken.

2. Desktop Assessment

National and Provincial Databases

The study area is not located within a formally protected area, an informally protected area or within a focus area for protection (National Biodiversity Assessment, 2011 and the National Protected Areas Expansion Strategy, 2010). According to Mucina and Rutherford (2006), the study area is located within the Grassland Biome.

Various conservation categories have been defined for the vegetation types of South Africa and are listed in the table to follow.

Table 1: Conservation status thresholds of South African vegetation types (Jewitt, 2011).

Conservation Status	Description
Critically Endangered	Ecosystems that have undergone severe degradation of ecological structure, function or composition as a result of human intervention and are subject to an extremely high risk of irreversible transformation. Remaining natural habitat <= biodiversity target
Endangered	Ecosystems that have undergone degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems. Remaining natural habitat <= biodiversity target+ 15%
Vulnerable	Ecosystems that have a high risk of undergoing significant degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems or endangered ecosystems. Remaining natural habitat <= 60% of the original area of the ecosystem
Least Threatened	Remaining natural habitat >60% of the original area of the ecosystem

The vegetation type documented for the study area by Bundy (2016) is indicated as the Drakensberg Foothill Grassland which is indicated as Least Threatened within the Region by Mucina and Rutherford (2006). However, a subsequent study of vegetation types for KwaZulu Natal (KZN) was undertaken by Scott-Shaw and Escott (2011) in which the vegetation types provided by Mucina and Rutherford have been refined to develop an accurate representation of the pre-transformation extent of the vegetation types present¹. According to Scott-Shaw and Escott (2011), the vegetation associated with the study area is considered to be more representative of the Mooi River Highland Grassland vegetation type which is listed as **Vulnerable** within the region with only 146 301ha remaining (Jewitt, 2011). The total area of vulnerable habitat remaining within KZN is 1 837 155ha (Jewitt, 2011), therefore Mooi River Highland Grassland contributes to approximately 8% of the total area of Vulnerable vegetation within the province.

¹ Although the latest vegetation map refers to the pre-transformation extent of vegetation types and therefore does not reflect the current situation in transformed areas, the ecological assessment undertaken by Bundy (2016) confirmed that the site is currently not transformed and so the vegetation classification is still considered to be applicable.

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The Vulnerable status of the vegetation type as indicated by Scott-Shaw and Escott (2011) is supported by the National List of Threatened Terrestrial Ecosystems (2011) which also lists the study area as Vulnerable due to the presence of habitat which supports the Drakensburg Foothill Wattleed Crane. KZN covers approximately 1 164 000ha of Vulnerable habitat as listed by the National List of Threatened Terrestrial Ecosystems (Government Gazette No. 34809).



Figure 2: Vegetation type associated with the study area (Scott-Shaw and Escott, 2011).

Bundy (2016) did not go into detail regarding regional fine scale plans such as the KZN Terrestrial Systematic Conservation Plan (TSCP) (Ezemvelo KZN (EKZN) Wildlife, 2010), KZN Landscape Ecological Corridors (EKZN Wildlife, 2010) as well as the more recent KZN Biodiversity Sector Plan (BSP, EKZN Wildlife, 2016). These plans provide a better understanding of the regional context of the study area.

The KZN TSCP was developed in order to ensure the conservation of biodiversity within the province and the wise use of the provinces natural resources. The TSCP divides the province into four planning units, these include:

Critical Biodiversity Area 1 Mandatory

- The CBA1 designated planning units contain one or more features within an irreplaceability = 1. This means that there are no other localities which we have been able to identify as alternates to try and meet the conservation target for this feature(s).

Critical Biodiversity Area 2 Mandatory

- CBA2 indicate the presence of one (or more) features with a very high irreplaceability score. In practical terms, this means that there are alternate sites within which the targets can be met, but there aren't many.

Critical Biodiversity Areas 3 Optimal

- CBA3 indicate the presence of one (or more) features with a low irreplaceability score. Even though these areas may display a lower Irreplaceability value or selection frequency score than the previous categories, it must be noted that these areas, together with the above two

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categories, collectively reflect the minimal reserve design required to meet the Systematic Conservation Plans targets and as such, they are also regarded as CBA areas.

Biodiversity Area

- These areas are not open for wholesale development and important species are still located within them which should be accounted for in the EIA process. Biodiversity areas cover all untransformed areas of vegetation within the province which do not fall within one of the above-mentioned categories and therefore cover an extensive area.

The study area was indicated as a Biodiversity Area by the KZN TSCP (Figure 3). Important species indicated for the Biodiversity Area by the KZN TSCP include *Kniphofia breviflora*, *Kniphofia brachystachya*, *Eremidium erectus* (grasshopper), *Spinotarsus triangulosus* (millipede), *Centrobolus tricolor* (millipede), *Euonyma lymnaeiformis* (land snail), *Transvaaliana draconis*, *Doratogonus montanus* (millipede) and *Capys penningtoni* (Pennington's Protea). None of these species were identified within the study area by Bundy (2016), however, the study area may still provide suitable habitat to support such species.



Figure 3: Biodiversity Areas indicated by the Terrestrial Systematic Conservation Plan (2010).

The study area is indicated to fall within the Tugela North Corridor. This corridor has been created to supplement the Tugela Corridor which passes through highly transformed landscapes and frequently could not meet the minimum width criteria for a corridor (EKZN Wildlife, 2010)

According to the more recent KZN BSP (Ezemvelo KZN Wildlife, 2016) the study area is located within an Irreplaceable CBA and within an ESA² (Figure 3). CBAs are natural or near-natural

² it is important to note that categorical classes of CBA and ESA are reflected differently in the TSCP as compared to the KZN Biodiversity Spatial Planning. The TSCP highlights the key priority areas of biodiversity conservation as reflected against a uniform biome i.e. the marine, estuarine, freshwater and terrestrial biomes analysed separately. In order to reflect higher levels of prioritisation within each of these assessments, lower order CBA categories are utilised. The KZN Biodiversity Spatial Planning products are higher order spatial planning tools which surmise the high level of detail reflected in the Systematic Conservation Plan products in a simplified manner so that the core essence of the Systematic Conservation Plan process, the identification of priority biodiversity areas, can be easily translated into other spatial planning tools. What also distinguishes the products from the above described Systematic Conservation Plan is that they also take into account other locally identified CBA and ESA localities, as well as incorporate priorities identified at a national level.

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EnviroSwift (Pty) Ltd

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landscapes considered critical for meeting biodiversity targets and thresholds, and which are required to ensure the persistence of viable populations of species and the functionality of ecosystems. Irreplaceable CBAs include areas where there are no alternative sites available in order to meet conservation targets. The loss of the area of CBA associated with the study area will therefore have an impact on the conservation targets for biodiversity in the region. The objective for irreplaceable CBAs is to maintain the area in a natural state with limited to no biodiversity loss. Irrigated crop production, extensive crop production, intensive crop production and agri-industry are seen as incompatible land uses in irreplaceable CBAs and are not recommended in these areas (EKZN Wildlife, 2016). Furthermore, ESAs are required to support and sustain the ecological functioning of Critical Biodiversity Areas (CBAs).



Figure 4: Critical Biodiversity Area and Ecological Support Area indicated by KZN Biodiversity Sector Plan (2016).

According to the National Freshwater Ecosystems Priority Areas project (NFEPAs, 2011) the study area does not contain any wetland features. However, the study area is located within the 500m regulated area of wetlands as confirmed by Bundy (2016). Furthermore, drainage from the study area eventually augments the Bushmans River which is located to the north of the study area. The Bushmans River and its associated catchment area are indicated as a Freshwater Ecosystem Priority Area (FEPA) by the NFEPAs project³. For river FEPAs the whole sub-quaternary catchment is indicated as a FEPA, although FEPA status applies to the actual river reach within such a sub-quaternary catchment. The indication of the whole sub-quaternary catchment as a FEPA indicates that the surrounding land and smaller stream network need to be managed in a way that maintains the good condition (A or B ecological category) of the river reach. Any disturbance to wetlands and drainage features surrounding the study area may therefore ultimately impact on the downstream FEPA river.

³River FEPAs achieve biodiversity targets for river ecosystems and threatened fish species, and were identified in rivers that are currently in a good condition (A or B ecological category). Their FEPA status indicates that they should remain in a good condition in order to contribute to national biodiversity goals and support sustainable use of water resources.

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Review of Google Earth Imagery

Following the survey undertaken by CSIR there is reason to believe that the study area has deteriorated to such an extent that it cannot be considered of ecological importance as was indicated by Mr. Simon Bundy who undertook the ecological assessment in February 2016. Google Earth imagery was therefore consulted in order to determine whether a loss of biodiversity has indeed occurred within the study area.

Historical and current Google Earth imagery (2017) was consulted in order to determine whether any significant disturbance of the study area has occurred since the initial ecological assessment was undertaken in February 2016. No significant disturbance was noted between February 2014⁴ and the end of October 2016⁵ and it has been confirmed that no additional earth moving activities and disturbance has occurred which would have resulted in a significant loss of floral diversity within the area in question.

The vegetation within the study area may currently appear to be degraded due to the prolonged period of drought within the region which has presumably resulted in the drying out of the vegetation and in a lack of germination of bulbs and forbs which would only appear after sufficient rainfall. However, the soil within the study area has remained undisturbed and the natural seedbank would presumably have persisted, regardless of drought. Vegetation diversity is therefore likely to increase during spring, after sufficient summer rainfall, and it is therefore the opinion of the specialist that the vegetation status quo would not have changed significantly since the initial assessment. This would however need to be confirmed during a site assessment undertaken after sufficient rainfall.



Figure 5: Aerial imagery indicating the lack of disturbance between February 2014 and October 2016 (Google Earth Pro, 2017).

⁴ No aerial imagery is available for February 2016, however it is assumed that site conditions would have been similar between February 2014 and February 2016.

⁵ The most recent aerial imagery available for the site is dated the 26th of October 2016.

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3. Peer Review

Methodology

The method of assessment adopted by the ecological specialist is considered appropriate and is considered likely to have provided adequate information in order to assess the ecological importance of the study area. Only two criticisms are raised by this reviewer regarding the methodology:

- The methodology did not include the consideration of fine scale plans for the province and the most recent fine scale vegetation mapping for the province
- It was specified that a site survey was undertaken on the 19th of February 2016 during which species were identified along multiple transects. However, it was not specified as to whether a general walk down of the study area was undertaken in order to determine whether additional Species of Conservation Concern (SCC) and protected species were encountered which were not encountered within transects.

However, the overall findings of the specialist report would not have been significantly affected by exclusion of the above.

Regional Ecological Perspective of the Area

It is stated that the drainage from the site is in a northerly direction, eventually serving the Mtshezana River. However, according to the National Freshwater Ecosystems Priority Area dataset (NFEPA, 2011), drainage from the study area would eventually serve the Bushmans River which is located downstream of the Mtshezana River. However, the PESEIS data obtained from www.dwaf.gov.-lwqs reip-eco-PESEIS indicates that the overall PES category, mean ecological importance (EI) and mean ecological sensitivity (ES) is the same for the Bushmans River as it is for the Mtshezana River, and the overall findings of the assessment will not be impacted as a result.

Site Evaluation

A few minor errors and omissions were encountered within the report. These include:
Page 13, third paragraph: Reference to Figure 5 is incorrect.

No reference is made to floral SCC and protected species, however, this does not impact on the final findings of the report. If anything, the identification of these species would confirm the sensitivity of the study area. A floral species list was provided by Bundy (2016) within his report. The following SCC and protected species were extracted from this list.

SCC included

Scilla natalensis (now *Merwillia plumbea*) – Near Threatened according to the South African National Biodiversity Institute (SANBI) Red List of South African Plants; and Vulnerable according to Threatened or Protected Species Regulations (TOPS)

Protected species (KZN Nature Conservation Ordinance, No 15 of 1994) included

Brunsvigia grandiflora
Satyrium longicauda
Gladiolus crassifolius

The removal of these species from the study area would require a permit from EKZN Wildlife.

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4. Conclusion and Way Forward

The ecological report as prepared by Mr Simon Bundy of SDP Ecological and Environmental Solutions provides a clear description of the site, the floral and faunal composition of the site and the impact significance should the proposed project prove feasible. According to Bundy (2016), "the site is dominated by graminoid – forb associations comprising of a number of grasses, primarily *Aristida juncoformis*⁶ and *Tristachya leucothrix*⁷, with *Themeda triandra* and *Eragrostis* spp also being common across the site". The description of the Mooi River Highland Grassland (Mucina and Rutherford, 2006) states that both *Tristachya leucothrix* and *Themeda triandra* are dominant grasses in well managed veld. Furthermore, *Aristida juncoformis* and *Eragrostis* spp are listed as important taxa which are associated with the vegetation type. It is therefore the opinion of this specialist that vegetation within the site is representative of the Mooi River Highland Grassland vegetation type and has not been transformed as a result of grazing. EnviroSwift is therefore in agreement with the general findings and conclusion of the ecological assessment and supports the findings of the impact assessment.

Based on the findings of this review, it is the opinion of the specialist that the cultivation of the study area and the loss of Vulnerable Mooi River Highland Grassland vegetation which is indicated to fall within an Irreplaceable CBA, a Biodiversity Area, an ESA as well as a landscape corridor (EKZN Wildlife 2010 and 2016), will result in a high negative impact significance.

It is recommended that an additional site assessment is undertaken after sufficient rainfall in order to confirm the ecological sensitivity of the habitat present.

5. Specialist Details and Experience

Louise is the Managing Director of EnviroSwift KZN (Pty) Ltd. She has a BSc Honours degree in Botany from the University of Cape Town. She began working as an environment specialist in 2012 and has since gained extensive experience in conducting freshwater as well as botanical assessments in the residential, mining and infrastructure development industries. Louise is a registered Professional Natural Scientist (Pr. Sci. Nat.) with the South African Council for Natural Scientific Professions (SACNASP Reg. no. 114072, registered under the field of Botany) and is a member of the South African Wetland Society, the Botanical Society of South Africa and the International Association of Impact Assessments South Africa. She has received a certificate of competence for the Tools for Wetland Assessments course attended at Rhodes University and has attended the SASS5 Aquatic Biomonitoring course presented by Dr Mark Graham as well as a soil classification course presented by Jon Atkinson of the KZN Department of Agriculture and Rural Development.

6. References

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⁶ Low grazing value.

⁷ Average grazing value.

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PROPOSED MAIZE AND BEAN CULTIVATION PROJECT OF THE KHANYANI AGRICULTURAL COOPERATIVE



Louise Zdanow (Pr. Sci. Nat)

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Professional Profile

Louise is the Managing Director of EnviroSwift KZN (Pty) Ltd. She has a BSc Honours degree in Botany from the University of Cape Town. She began working as an environment specialist in 2012 and has since gained extensive experience in conducting freshwater as well as botanical assessments in the residential, mining and infrastructure development industries. Louise is a registered Professional Natural Scientist (Pr. Sci. Nat.) with the South African Council for Natural Scientific Professions (SACNASP) and is a member of the South African Wetland Society, the Botanical Society of South Africa and the International Association of Impact Assessments South Africa. She has received a certificate of competence for the Tools for Wetland Assessments course attended at Rhodes University and has attended the SASS5 Aquatic Biomonitoring course presented by Dr Mark Graham as well as a soil classification course presented by Jon Atkinson of the KZN Department of Agriculture and Rural Development.

Employment History

EnviroSwift KZN (February 2016 – Present)

Freshwater and Botanical Specialist

Roles and Responsibilities:

- Project management and client liaison;
- Identification and delineation of wetlands and riparian zones according to the method supplied by DWA (2005, updated 2008) in combination with wetland soil characteristics guidelines drafted by Job (2009);
- Buffer allocation according to industry best practice guidelines as well as application of the preliminary guideline drafted by MacFarlane *et al.* (2015) for freshwater features in South Africa;
- Background information gathering with the use of information resources such as ARC GIS and BGIS;
- Classification of freshwater systems according to Ollis *et al.*, 2013;
- Assessment of Wet-Health according to Macfarlane *et al.*, 2009;
- Assessment of Wet-Ecosystems according to Kotze *et al.*, 2008;
- Application of the Wetland Index of Habitat Integrity according to DWAF, 2007;
- Application of the river Index of Habitat Integrity Assessment according to Kemper, 1999;
- Application of the Riparian Vegetation Response Assessment Index according to Kleynhans *et al.*, 2007;

1
Directors: Louise Zdanow
Company Registration: 2016/065904/07



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- Determination of the Ecological Importance and Sensitivity according to Rountree *et al.*, 2013.
- Vegetation Present Ecological State assessments;
- Species of Conservation Concern assessments;
- Assessment of the Ecological Importance and Sensitivity of vegetation;
- Assessment of impacts (construction and operation) associated with projects;
- Providing mitigation measures and recommendations in line with the National Water Act as well as National Environmental Management Act;
- Assistance with Water Use Licenses and General Authorisations; and
- Assistance with plant permit applications.

SAS Environmental (January 2012 - November 2015)

Field Biologist

Roles and Responsibilities:

- Vegetation Assessments;
- Freshwater Assessments;
- Desktop Evaluations;
- Permit Applications for Protected Trees and Plants;
- Water Use Licence Applications (WULAs); and
- River Rehabilitation Plans.

Additional Courses Attended

- Grass identification course presented by Frits van Oudtshoorn
- Fynbos identification course presented by Wendy Hitchcock
- Tools for Wetland Assessment course presented by Prof Fred Ellery
- SASS5 Aquatic Biomonitoring course presented by Dr Mark Graham
- Soil Classification course presented by Jon Atkinson of the KZN Department of Agriculture and Rural Development

Professional Society Memberships

- SACNASP Professional Natural Scientist (Registration number:114072)
- IAIAsa
- Botanical Society of South Africa
- Organisation of the South African Wetland Society

Work Experience

- South Africa (KwaZulu Natal, Western Cape, Eastern Cape and Northern Cape)
- Mozambique

A detailed description of responsibilities and projects is available on request

References

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PROPOSED MAIZE AND BEAN CULTIVATION PROJECT OF THE KHANYANI AGRICULTURAL COOPERATIVE

EnviroSwift
Where nature meets development



THE INDEPENDENT PERSON WHO COMPILED A SPECIALIST REPORT OR UNDERTOOK A SPECIALIST PROCESS

I Louise Zdanow, as the appointed independent specialist hereby declare that I:

- Acted as the independent specialist;
- Regard the information contained in this report as it relates to my specialist input/study to be true and correct, and do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the ECA, the NEMA, the Environmental Impact Assessment Regulations and any specific environmental management Act(s);
- Will not have any vested interest in the proposed activity proceeding;
- Have disclosed, to the applicant, EAP and competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the Environmental Impact Assessment Regulations and any specific environmental management Act(s);
- Am fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations (specifically in terms of Regulation 17 of GN No. R. 543) and any specific environmental management Act, and that failure to comply with these requirements may constitute and result in disqualification;

Signature of the specialist:

Louise Zdanow

Name of company:

ENVIROSWIFT KZN

Date:

15/08/2017

Basic Assessment for the proposed maize and bean cultivation and harvesting enterprise for the Khanyani Agricultural Cooperative, Emthebeni, Inkosi Langalibalele Local Municipality, KwaZulu Natal.



DRAFT BASIC ASSESSMENT REPORT (Version 2)

APPENDIX D2: SPECIALIST REPORT

WETLAND DELINEATION & RISK ASSESSMENT

**KHANYANE COMMUNITY AGRICULTURAL
PROJECT, near MOOI RIVER, KWA ZULU-NATAL**

CSIR

our future through science





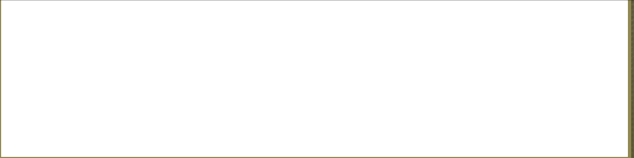
**WETLAND DELINEATION
&
RISK ASSESSMENT
KHANYANE COMMUNITY AGRICULTURAL
PROJECT, near MOOI RIVER, KWA ZULU-
NATAL**

Compiled by : L P Maingard (BSc)

Reviewed by : S C Bundy (Pr. Sci. Nat)

Compiled for: The Council for Scientific and Industrial Research
(Ltd)

Date : 22 July 2017



**WETLAND DELINEATION
&
RISK ASSESSMENT
KHANYANE COMMUNITY AGRICULTURAL PROJECT**

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5.	CONCLUSION	17
ANNEXURE A : DELINEATION OF PROXIMAL WETLAND ENVIRONMENTS		
ANNEXURE B : RISK ASSESSMENT MATRIX		

Name of Document	Wetland delineation : Khanyane Agricultural Project
Compiled by	L P Maingard BSc.
Reviewed by	S C Bundy
Document date	July 2017
Client	CSIR

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1. INTRODUCTION

The Council for Scientific and Industrial Research (CSIR) are the appointed environmental assessment practitioners evaluating the proposed establishment of approximately 19ha of cultivated lands at Imbabazane near kwaMkhize, in the Kwa Zulu Natal Midlands, (Fig. 1 below). The project site is situated at S 29°41' 33"E 29°13'01"S. The proposed site lies upon an elevated sandstone plateau that is devoid of watercourses and wetland environments, however the area does lie within the watershed of a number of drainage features and wetlands, some of which lie within 500m of the site.

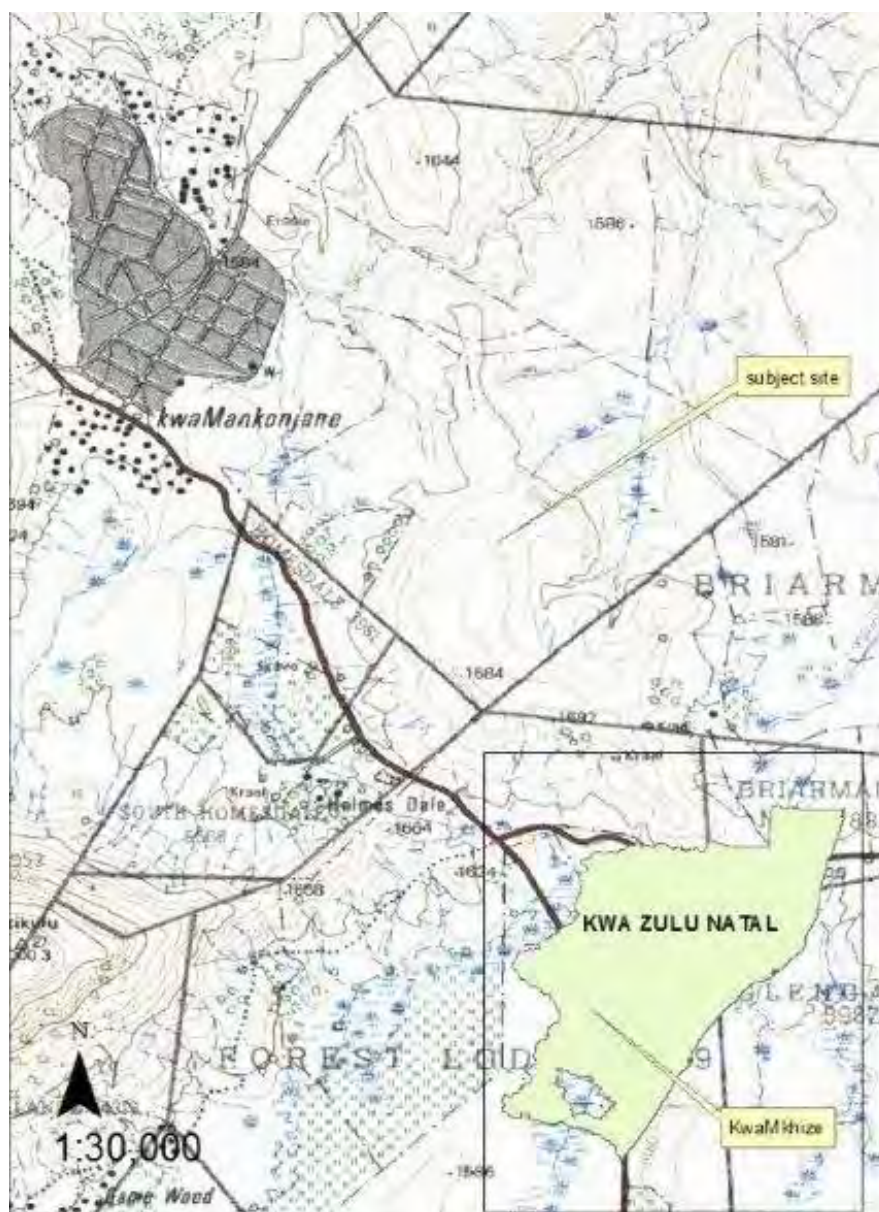


Figure. 1 Topographic map showing subject site and position of Imbabazane / KwaMkhize TA within region

Correspondence from the Department of Water and Sanitation to the CSIR, dated 17 July 2017 states that these wetland areas should be identified and delineated using the established DWS protocols.

In order to comply with the DWS requirement, desktop and site reconnaissance was undertaken of the three surrounding drainage and wetland features that lie in close proximity to the Khanyane site. The following short report and attached Annexure A indicate the placement of the delineated wetland environments, as well as the form and structure of these systems. Annexure B provides a risk assessment using the prescribed matrix, for the project on wetland and riparian systems.

2. ASSUMPTIONS

The nature of the investigation is at a level of detail that will satisfy the requirements for deliberation on the applicability of an application and possible issuance of a general authorisation, by the Department of Water and Sanitation (DWS). The findings of this investigation represent those undertaken during the winter period of 2017, with limited rainfall in the area antecedent to the site investigation.

In addition, upon arrival at site, much of the subject area was found to have been burnt for grazing or related purposes. Such controlled burn can be considered a “hot burn” in terms of its timing (late season), while notably, portions of the wetland environment were subject to burning. As such, use was made of geohydromorphic indicators in order to evaluate the extent of wetland environments.

3. METHOD

A desktop analysis of the subject site was undertaken where the following data and information was sourced and evaluated:

- National Freshwater Priority Area (NFEPA) wetland (and water resource data) was reviewed.
- Pertinent literature relating to site and the region
- Sourced orthophotography obtained from the SG Office, ESRI and Google Earth.

From the above data, watercourses and wetland systems that lie proximal to the site, as identified in the ecological assessment for the Khanyane Agricultural Project dated March 2016, were identified and were targeted for assessment during site reconnaissance. Site reconnaissance was undertaken on 21 July 2017 where the following tasks were undertaken:

- Wetland and riparian systems were identified according to recognised procedures, as indicated below
- Both biotic and geohydromorphic sampling was undertaken at appropriate points at the three identified wetland sites
- Using the specific wetland and riparian indicators, the augur points and the extent of wetland environments were logged using a Garmin Montana 7 GPS (Figure 2).

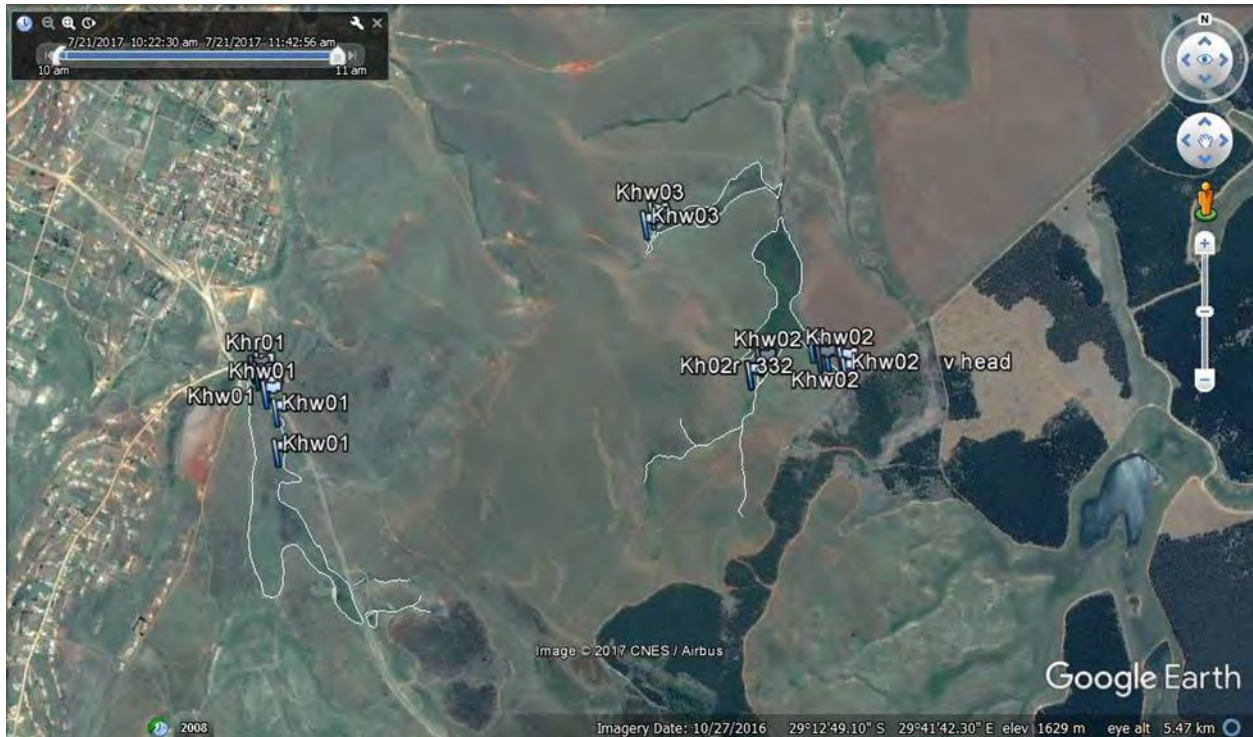


Figure 2. Image indicating sample points at three wetland systems identified as being in close proximity to and associated with the Khanyane Agricultural Project

3.1 Delineation method

The following method was utilised in order to delineate the “riparian edge” or “wetland edge” and located within the study area. Reference was made to the delineation protocols contained within the Department of Water Affairs’ “A Practical Field Procedure for Identification of Wetlands and Riparian Areas” (2005). Indicators of a riparian system include the following (as per DWAF 2005):

1. An “obvious” floodplain and active channel.
2. Evidence of active erosion indicating a high energy system.
3. The absence of “classic” hydromorphic vegetation, with species associated with riparian areas dominating, or simply a change in vegetation density and structure.

As such, the approach to defining the riparian zone is not strictly defined (DWAF 2005) and a number of methods can be used. Accepted riparian indicators include;

- 1) **Topography**: identification of flood terraces and macro-channels.
- 2) **Vegetation**: identification of a distinct area of vegetation change, often in close association with the macro-channel. Changes can be in relation to species diversity or physical nature (density or health).
- 3) **Alluvial soils** and deposited material: identification of recent deposits of sand or mud, serves as a confirmatory indicator.

(See Fig. 3 below)

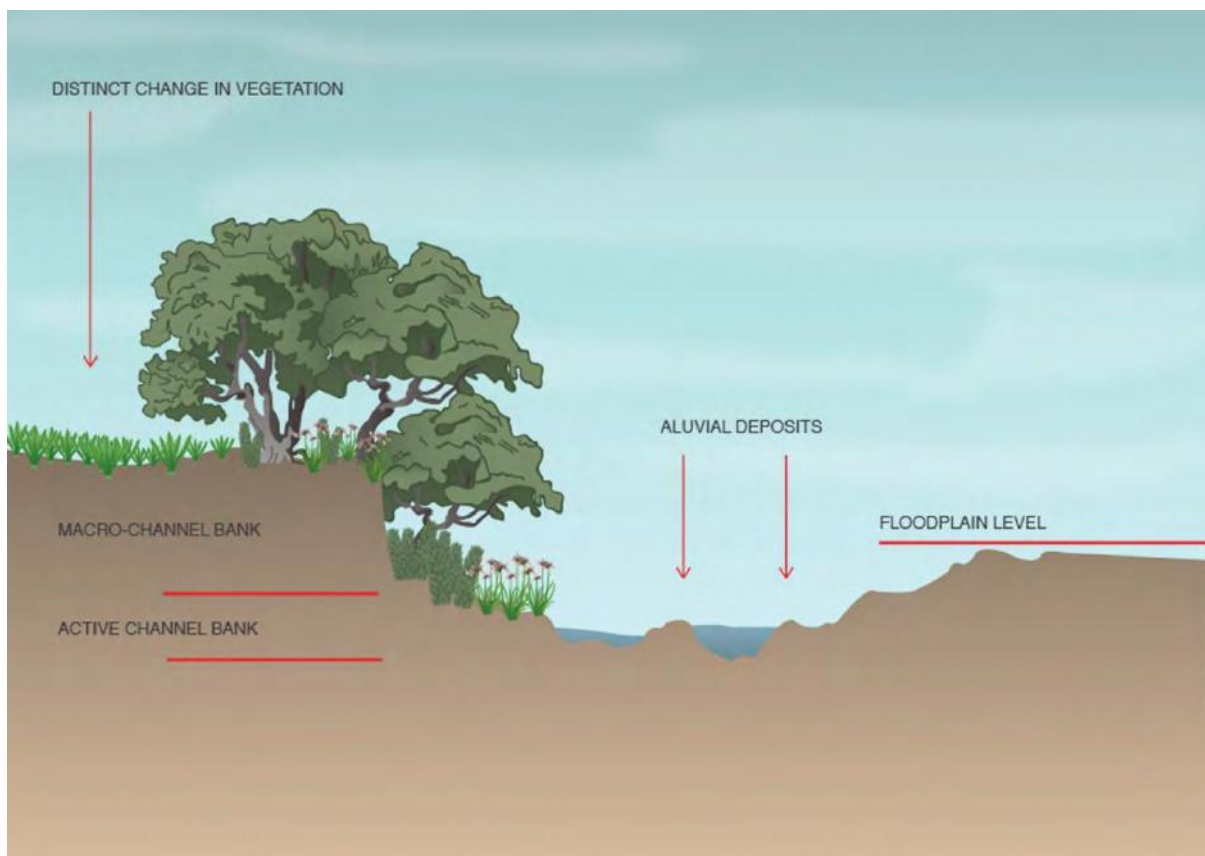


Fig 3. Illustration of a typical riparian cross section (Adapted from DWAF 2005), indicating riparian edge (arrow).

Wetland delineation methods described by DWAF (2005) prescribe the use of topography, hygrophilous vegetation and the presence of geohydromorphic soils to determine the outer edge and wetland type/ zonation. In this regard soil was excavated to a level of 500mm at select points around the identified wetland environment. Consideration was given to the presence of “mottles” or gleying

within soils within the sample (Figure 4). Where geohydromorphic soils were encountered, further augur samples were taken at points distal from the central point of the wetland and this was repeated until points were identified here no geohydromorphic conditions were identified. These points were identified as the outer extent of the wetland environment.



Figure 4 Typical gleyed soils encountered within permanent wetland environments on site

Use was made of Ollis et al (2013), a recent classification method for the identification of wetland systems. This system serves to differentiate and classify aquatic systems into inland, estuarine and marine systems with various levels of categorization being developed for various aquatic resources.

Utilization of the Department of Water and Sanitation's Risk Matrix System (DWS 2015), was undertaken to determine the level of risk that the activity posed to the identified wetlands. This involves the identification of the various hydro-geomorphic (HGM) units and water resource components using the above described methods, followed by an assessment of a number of factors associated with the project, which may affect or alter the nature of the system.

The Risk Matrix utilizes a scoring system in order to identify the "level of risk" to the wetland / water resource that may arise as a consequence of the project's implementation.

4. DESCRIPTION AND CLASSIFICATION OF WETLANDS

Three wetland systems were identified that lie within or proximal to a point 500m from the proposed site. These wetlands were identified as Kh01, to the south of the site and Kh02 and Kh03, to the north of the site (Figure 2 and Annexure A). The nature and structure of these wetland environments is presented below in Figures 5 to 8.

The wetland environments proximal to the agricultural project fall within Quaternary V70C, which encompasses a portion of the Bushmans River and its tributaries and eventually leads into the Tugela River. The three wetland systems identified, all feed the most proximal river system the Mthshezana River.

The present ecological status of the Mthshezana River and its ecological importance and sensitivity as presented in the Department of Water and Sanitation data base (www.dwaf.gov.za-iwqs-rhp-eco-PESEIS) are presented in Table 1 below. It follows from Table 1, that minor wetlands and water resources within the catchment are important local resources from in particular, a social use perspective.

Table 1. PES, EI and ES classification of the Mthshezana River

	PES Median	EI Class (mean)	ES Class (mean)	Default or overall ES
Mthshezana	B	High	High	A

Using Ollis et al (2013), the broad categorisation of the wetlands in the subject region can be determined.

Level 1 : Classification						
Marine		Estuarine		Inland		
Level 2 : Reg. setting framework						
DWA		NFEPA			Other	
Level 3 : Landscape setting						
Valley floor		Slope		Plain		Bench
Level 4 : Hydrogeomorphic Unit						
River	Channeled valley bottom wetland	Unchanneled valley bottom wetland	Floodplain wetland	Depression	Seep	Wetland flat

Mnt headwater stream	Mnt stream	Transition al	Upper foothills	Lower foothills	Lowland river	Rejuvenated bedrock fall	Rejuvenated foothills	Upland floodplain
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Active channel
Riparian zone

Floodplain depression
Floodplain flat

Exhoreic	With channel inflow
	Without channel inflow
Endorheic	With channel inflow
	Without channel inflow
Dammed	With channel inflow
	Without channel inflow

Seep	With channel inflow
	Without channel inflow

Inundation periodicity	Perm. inundated			Seasonally inundated			Intermittently inundated				Never inundated			Unknown			
Saturation periodicity within 0.5m of ngl	n/a			Perm. saturated	Seasonally	unknown	Perm. saturated	Seasonally	Intermitt. saturated	unknown	Perm. saturated	Seasonally	Intermittent	unknown	Perm	Seasonally	Intermittent
	limnetic	littoral	unknown														

Green blocks indicate identified classification criteria used to determine the nature and structure of the system under consideration.

Fig. 5 Wetland classification for system Kh01 associated with study area(after Ollis et al 2013).

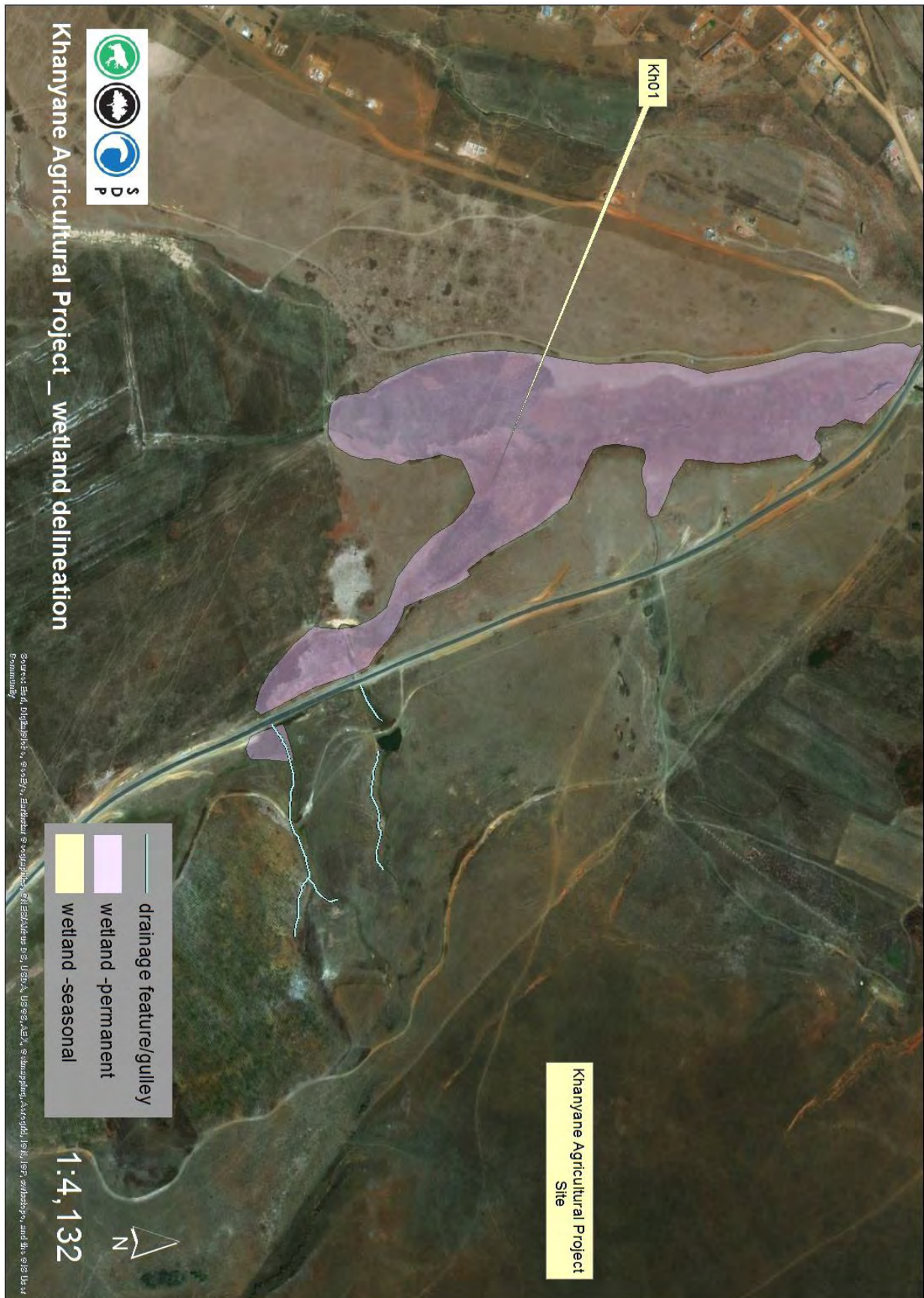


Figure 6. Aerial image indicating extent of wetland Kh01

Level 1 : Classification						
Marine	Estuarine		Inland			
Level 2 : Reg. setting framework						
DWA		NFEPA		Other		
Level 3 : Landscape setting						
Valley floor	Slope		Plain		Bench	
Level 4 : Hydrogeomorphic Unit						
River	Channeled valley bottom wetland	Unchanneled valley bottom wetland	Floodplain wetland	Depression	Seep	Wetland flat

Mnt headwater stream	Mnt stream	Transitional	Upper foothills	Lower foothills	Lowland river	Rejuvenated bedrock fall	Rejuvenated foothills	Upland floodplain
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Active channel
Riparian zone

Floodplain depression
Floodplain flat

Exhoreic	With channel inflow
	Without channel inflow
Endorheic	With channel inflow
	Without channel inflow
Dammed	With channel inflow
	Without channel inflow

Seep	With channel inflow
	Without channel inflow

Inundation periodicity	Perm. inundated	Seasonally inundated			Intermittently inundated				Never inundated			Unknown			
Saturation periodicity within 0.5m of ngl	n/a	Perm	Seasonal	unknown	Perm	Seasonal	Intermitt. saturate	unknown	Perm saturate	Seasonal	Intermittent	unknown	Perm	Seasonally	Intermittent
	limnetic	littoral	unknown												

Green blocks indicate identified classification criteria used to determine the nature and structure of the system under consideration.

Fig. 7 Wetland classification for system Kh02 and Kh03 associated with study area(after Ollis et al 2013).

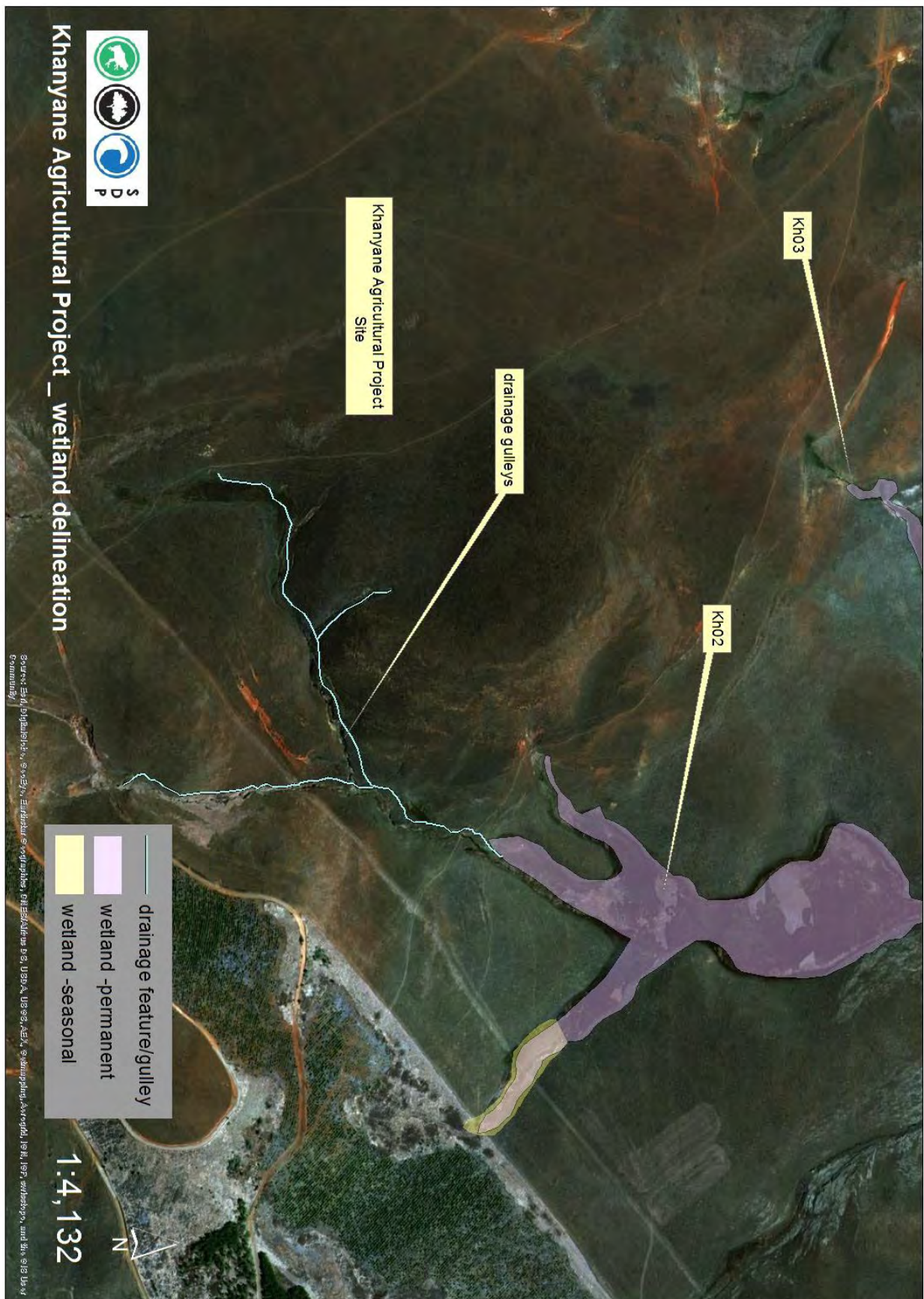


Figure. 8 Aerial image indicating extent of wetlands Kh02 and Kh03.

Wetland Kh01

Wetland Kh01 is considered to be a channelled valley floor wetland, with sub surface seep being the primary source of water to this system. The wetland comprises primarily of *Aristida junctiformis*, ostensibly on account of regular burning. Frosting and other meteorological factors may also affect this system during the winter period.



Figure. 9 View of wetland across KH01



Figure 10. Geologically controlled riparian edge below Kh01

The wetland system is traversed by a road system at the point where, on account of geological controls, a riparian system arises (Figure 10). Flow is evident year round and as such, most of the system is considered to be a permanent wetland environment, with little seasonal variation.

Wetlands Kh02 and Kh03

These wetland systems are considered to be unchannelled valley bottom wetlands that are fed by deeply incised gulleys and drainage features that arise abruptly from elevated points, including the proposed Khanyane Agricultural Project site. While these systems are served primarily by surface run off and sub surface seep, piping is evident at points, where preferential recharge areas directly serve the sub surface aquifer (See Figure 13).

There is a distinct juncture between the wetland and mesic terrestrial environments inherent within these areas (Figure 12) with only one area being noted to show distinct variation in geohydromorphic conditions and this area being considered to be seasonal in nature, see Figure 8, above.



Figure 11. Image depicting gleyed and mottled soils, (left) with dry, Hutton soils to the right



Figure 12. Image showing distinct juncture between wetland and terrestrial environments.



Figure 13. Piping, which serves to recharge wetland environments, present on site

5. CONCLUSION

The delineated wetland environments have been presented above and in Annexure A. Although hydrologically connected to the site in terms of surface run off through gulleys and perhaps geological piping, the systems are positioned distally from the site (Annexure A). A risk assessment associated with the project area and the intended activities is presented as Annexure B. This risk assessment identifies that risks to these wetlands from the project are “low” with the greatest risks being associated with sedimentation within surface run off and the influence of the project on water quality.

Reference

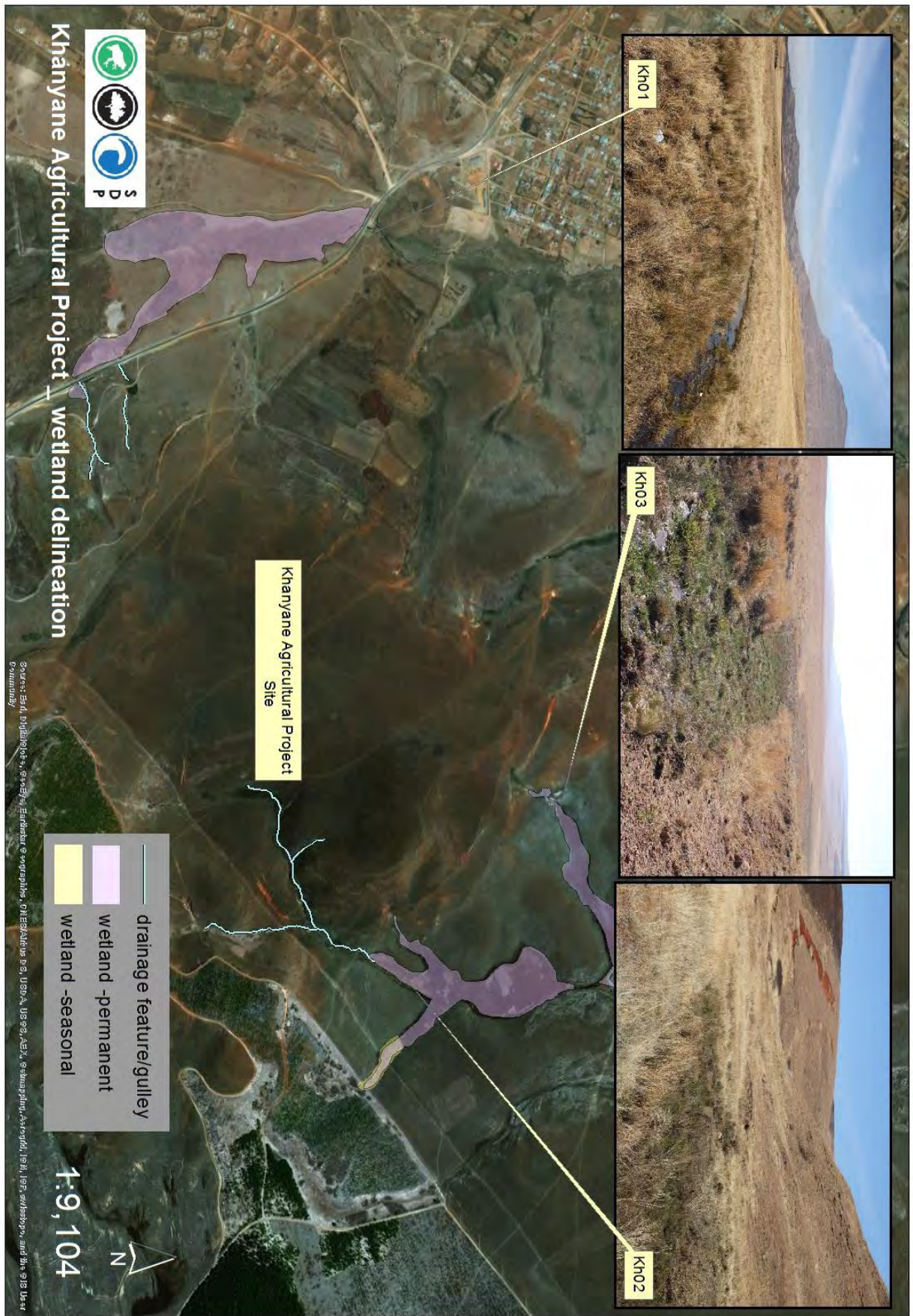
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Ollis D. J Snaddon C D Job N M & Mbona N (2013). *Classification System for Wetlands and other Aquatic Ecosystems in South Africa. User Manual : Inland Systems.* SANBI BioDiversity Series 22. South African National BioDiversity Insitute. Pretoria.

www.dwaf/WARS/systems.html DWAF Quaternary Listing 2013.2



RISK ASSESSMENT MATRIX

ASPECTS AND IMPACT REGISTER/RISK ASSESSMENT FOR WATERCOURSES INCLUDING RIVERS, PANS, WETLANDS, SPRINGS, DRAINAGE LINES
 COMPILED BY: CSIR for Khanyani Agricultural Project

Khanyane Agricultural Project																						
Risk Assessment for cultivation of lands within Quat V70C Boesmans River																						
Nr.	Phases	Activity	Aspect	Impact	Severity										Likelihood	Significance	Risk Rating	Control Measures	Borderline LOW MODERATE Rating Classes	Type Watercourse		
					Flow Regime	Physico & Chemical (Water Quality)	Habitat (Geomorph+Vegetation)	Biota	Spatial scale	Duration	Consequence	Frequency of activity	Frequency of impact	Legal Issues							Detection	
1		Clearing of vegetation and groundbreak	Creating Access roads to site	Access to site is via informal but existing roadways. Any new roadways required may require the traversing of minor streams. The disturbance to vegetation on site (grass cover) may give rise to sediment influx to streams and rivers if not controlled. The application of chemical additives to correct factors such as soil pH may, if run off is severe cumulatively impact upon water quality within local river systems over the short term. Fire breaks and other disturbances may at a localised level affect surface flow and local hydrology	2	1	2	1		1	1	3.5	1	1	1	4	7	24.5	L	not applicable - use of existing roadways to access site	LOW	river with floodplain wetlands
			Removal of vegetation through ploughing under		1	1	1	1		1	1	3	1	1	1	4	7	21	L	contour ploughing to be practised with appropriate stormwater control	LOW	river with floodplain wetlands
			Application of chemical additives (e.g. nematocides, pH correction etc etc - to be determined)		1	2	1	2		1	1	3.5	1	2	1	4	8	28	L	Application as per MSDS of chemical. Additive to be applied under management guidelines	LOW	river with floodplain wetlands
			Creation of fire breaks		1	1	1	1		1	1	3	1	1	1	4	7	21	L	not applicable	LOW	river with floodplain wetlands
			Grubbing of rock and related materials		1	1	1	1		1		2	1	1	1	4	7	14	L	not applicable	LOW	river with floodplain wetlands
2		Preparation and establishment of site	Alteration of surface drainage patterns	During site establishment and preparation of site, further impacts on water quality in close proximity to the site may arise if there is severe run off from site with silt laden waters	1	1	1	1	1	1	3	1	1	1	4	7	21	L	Chemical additives to be utilised as per MSDS of additive. Used under scrutiny of experienced persons	LOW	river with floodplain wetlands	
			Further introduction of chemical additives		1	2	1	2	1	1	3.5	1	2	1	4	8	28	L		LOW	river with floodplain wetlands	
			Planting / sowing regime		1	1	1	1	1	1	3	1	1	1	4	7	21	L		LOW	river with floodplain wetlands	
			Additional Associated Infrastructure - if and where		1	1	1	1	1	1	3	1	1	1	4	7	21	L		LOW	river with floodplain wetlands	
3		General site management	Weed control using chemical and mechanical methods	Further cumulative impacts on water quality may arise with the use of herbicides and other chemicals, further altering local water chemistry in local resources from time to time	1	2	2	2	1	1	3.75	3	2	1	4	10	37.5	L	Chemical additives to be utilised as per MSDS of additive. Used under scrutiny of experienced persons	LOW	river with floodplain wetlands	
			Harvest and related activities		1	1	1	1	1	1	3	3	1	1	4	9	27	L		LOW	river with floodplain wetlands	
			Application of other chemical agents - insecticides, ripeners etc as per crop requirement		1	2	1	2	1	1	3.5	3	2	1	4	6	21	L		LOW	river with floodplain wetlands	
4		Decommissioning of cultivation practices	Cessation of cultivation practices and / or fallow phase Excavation to remove foundation; Backfilling foundation holes use of heavy machinery	With the cessation of activities and abandonment of cultivation there may initially be erosion of surface soils if not stabilised, while exotic weed invasion may arise on site which may act as a propagule reservoir for further invasion of wetlands and waterways in the area (e.g. Rubus cuneiformis)	1	2	2	2	1	3	5.75	1	1	1	4	7	40.25	L	Allow lands to re establish with controlled burning and weed control over two to three seasons	LOW	river with floodplain wetlands	
key																						
May not be authorised under GA																						

SECTION H: APPENDICES

DRAFT BASIC ASSESSMENT REPORT (VERSION 2, August 2017)

PROPOSED MAIZE AND BEAN CULTIVATION PROJECT OF THE KHANYANI AGRICULTURAL COOPERATIVE

BASIC ASSESSMENT REPORT

APPENDIX E: COMMENTS AND RESPONSES REPORT

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APPENDIX E: PUBLIC PARTICIPATION

PUBLIC PARTICIPATION REPORT

Two notice boards (84.1 cm x 59.4 cm) were fixed at the entrance gate to the existing proposed development site 20 January 2016. The notice boards were provided in both English and Zulu.

Refer to:

Appendix E.1: Copy of the letter to I&APs to notify them of the initiation of the Basic Assessment process.

Appendix E.2: Copy of the newspaper advertisements and proof of placement.

Appendix E.3: Copy of the site notice boards and proof of placement thereof.

Appendix E.4-E.6: Proof of registered mail to notify I&APs of the release of the BID.

Appendix E.7: Comments received from I&APs following the release of the BID.

Appendix E.8: The comments and responses trail

Appendix E.8b: Comments and Response Report for Draft BAR

Appendix E.9: The I&P database.

SECTION H: APPENDICES

Appendix E.1: Letter to I&APs to notify them of the initiation of the Basic Assessment Process



CSIR Specialist Services

PO Box 320
Stellenbosch
7599
South Africa
Tel: +27 21 888 2432
Fax: +27 21 888 2693
Email: manivate@csir.co.za

9 November 2015

Dear Interested and/or Affected Party

PROPOSED MAIZE AND BEAN CULTIVATION AND HARVESTING ENTERPRISE ON A PORTION OF LAND OWNED BY KWAMKHWE TRADITIONAL COUNCIL, IMBABAZANE LOCAL MUNICIPALITY, KWAZULU NATAL (CSIR REFERENCE NO: CSIR/CAS/EMS/IR/2015/00011/A)

The National Department of Environmental Affairs (DEA) and the Council for Scientific and Industrial Research (CSIR) have initiated the Special Needs and Skills Development Programme, whereby small-medium micro-enterprises and community trusts who are lacking financial means are provided with *pro-bono* environmental services to decrease the burden of the cost associated with starting a business. Khanyan Agricultural Cooperative (the Project Applicant) has been identified as an eligible client for this service and is proposing a maize and bean cultivation and harvesting enterprise. The proposed project will be located on a portion of land owned by Kwamkhwe Traditional Council, Imbabazane local municipality, KZN, with the centre point having the following GPS coordinates: 29° 41' 33" E, 29° 13' 1" S and the total area for cultivation is 19.5 hectares.

In terms of Government Notice Regulations (GNR) 983, 984 and 985 of 8 December 2014 of the National Environmental Management Act (Act 107 of 1998) published in Government Gazette 38282 on 4 December 2014, Environmental Authorisation from the Competent Authority, in this case the KwaZulu-Natal Economic Development, Tourism and Environmental Affairs (EDTEA), is required prior to the undertaking of any activity triggered within GNR 983, 984 and/or 985. The need for a Basic Assessment process is required by the inclusion of the activities listed within GNR 983: Activity 27. The CSIR, as the independent Environmental Assessment Practitioner (EAP), will be managing the Basic Assessment and Public Participation Process for this proposed project.

In line with the Environmental Impact Assessment requirements of December 2014, Interested and Affected Parties (I&APs) are requested to register for this project in order to receive future correspondence on this project and/or provide comments on issues of concern that will be considered during the Basic Assessment process. You have 30 days from the date of this notice (before 14 December 2015) to register and submit your comments for this project. To register and submit comments for the project please complete the Registration Form. Use the CSIR Reference Number above together with your full name, contact details (preferred method of notification, e.g., full postal or email address), fax/phone number(s) and an indication of any direct business, financial, personal or other interest you have in the application to the contact person listed below.

Please find enclosed with this letter a Background Information Document (BID) on the proposed activity as well as a Comment and Registration form.

Yours sincerely

Abulele Adams
Project Manager

Contact **Ms. Abulele Adams**
Postal address: PO Box 320, Stellenbosch, 7599 South Africa
Tel: 021 888 2482
Fax: 021 888 2693
E-mail: a.adams1@csir.co.za
Website: <http://www.csir.co.za/ems/specialneeds/>

Board members: Prof. T. Majumdar (Chairperson), Dr. G. Bapela, Ms. P. Bant, Dr. P. Soyibo, Dr. A. Looze, Dr. P. Masango, Ms. M. Meeley, Ms. J. Mtshelele, Ms. A. Nosh, Prof. M. Zokweni, Dr. S. Sison (CEO)

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Appendix E.2a: Newspaper Advertisement (Estcourt and Midlands 13 November 2015)

Visit our online site for daily news update:
estcourtnews.co.za



**UMTSHEZI MUNICIPALITY
PUBLIC NOTICE**

Notice is hereby given that an application has been lodged with Umtshezi Local Municipality in terms of Chapter 3, Subdivision and Chapter 6-Removal of restrictive conditions of the Kwa-Zulu Natal Planning and Development Act No. 6 of 2008 and in terms of Chapter 6 of Spatial Planning and Land Use Management Act No 16 of 2013 on Portion 15 (of 1) of the Farm Wilgen Spuit No. 500.

Any person having an interest in the proposed application may lodge written comments not later than 23 December 2015 to the Acting Municipal Manager, Mr E.H. Dladla, Umtshezi Municipality, P.O. Box 15, Estcourt, 3310 or deliver such written comments to Zamaqhahle Mthethwa, Old Post Office Building, corner of Connor and Lorne Street, Estcourt.

Copies of the application document will be available for inspection in the Town Planning Office, situated at corner of Connor and Lorne Street, Estcourt, in the Old Post Office Building during normal office hours.

Please be advised that failure to lodge or forward comments in response to this notice by the aforementioned date disqualifies a person from further participating in the process.

Enquiries: Z.N Mthethwa 036 352 2363

ACTING MUNICIPAL MANAGER
E.H DLADLA

NOTICE NO: 54/15

**CUSTOMER CARE
NUMBER**



0860 104 257

The public is hereby advise to make use of the above customer care number which is available 24H / 7 days per week, should they wish to log any water or sewer related queries.
All queries that are logged, will be issued with a reference number.



LEGALS

All Advertisers Take Note

Our deadline is Monday at 10.00.
All bookings and ad copy must reach us by 10.00. Cancellations will only be accepted in writing.

IN THE MAGISTRATE'S COURT FOR THE DISTRICT OF MOOI RIVER HELD AT MOOI RIVER:

In the matter between: **CASE NO. 119/2015**
DR A. D. DYRS Execution Creditor
and
N. SAKTU Execution Debtor

SALE IN EXECUTION

KINDLY TAKE NOTICE that in terms of a Judgment granted on the 12 SEPTEMBER 2015 in the Pietermaritzburg Magistrate's Court and Warrant of Execution issued therefor, a sale in execution of the undermentioned goods will be held at 123 Alfred Street, Estcourt on 27 November 2015 at 10h00, consisting of:

- GOODS:**
1 x 3 Piece Lounge Suite
1 x Glass Top Coffee Table
1 x 32 inch Plasma TV
1 x Sony Hi-Fi System
1 x Steel & Glass TV Stand
1 x Double Door Refrigerator Fridge
1 x LED Microwave
1 x 6 Piece Dining Room Suite
to the highest bidder IN CASH.

TAKE FURTHER NOTICE THAT:
1. The sale is in the sale of execution pursuant to a Judgment obtained in the above Court.
2. The Rules of this auction is available 24 hours before the auction at the office of the Sheriff Estcourt.
3. Registration as a buyer is a pre-requisite subject to specific conditions. It is available at: Director of Consumer Protection Act 68 of 2008; at FICA – legislation in respect of proof of identity and address particulars;
4. Payment of a Registration fee of R. 1000.00 in cash;
5. Registration conditions.

The office of the Sheriff/ the Executive Officer will conduct the sale in execution.

**EXECUTION CREDITOR'S ATTORNEY
PITCHER & FIMMER ATTORNEYS
TEL: 033 – 3442868
FAX: 033 – 344 2117
E-MAIL: greg@pitcherfimmers.co.za
(REF: OMS/MT/15/065)**

ESTATE NOTICE

IN THE ESTATE OF THE LATE **NARESH RAMAL**, Identity Number: 8112111000053 of 85 Cavendish Crescent, 5356001, 2310
302719 2314

ESTATE NOTICE

IN THE TESTATE ESTATE OF THE LATE **MURIEL JEAN ZIMMENELO** of No. 281013 0687 08 is wanted out of claimants of property of 8 Hillside Place 48-0493 Road ESTCOURT 3310 and who died on 16 September 2015.

NOTERS REFERENCE: 77410016PMB

Creditors and Debtors in the above estate are hereby called upon to lodge their claims and to pay their debts to the undersigned attorney (D) days from date of publication hereto.

In terms of Section 35 (1) of Act 66 of 1963 notice is hereby given that the Executor's Final and Final Liquidation and Distribution Account will be for inspection to all persons interested therein at the office of the Master of the High Court, PIETERMARTITZBURG, and the Magistrate's Court, for 21 days, calculated from the 15 November 2015.

Should no objection be lodged hereto during the said period the Executor will proceed to make payment in accordance therewith.

DATED AT EST COURT on the 02 November 2015

LEONARD BACHENORITING ATTORNEYS FOR EXECUTOR
81 SARCOMO STREET
P.O. BOX 18
ESTCOURT
REF: 11588801
TEL: 033 322 3133

JORDAAN DELDENHUY
210 Albert Street
P.O. Box 886
ESTCOURT
ESTATE NOTICE

In the Estate of the Late **DOUGLAS DEUDNEY SIMMONS** ID No. 890716 0065 060 of South Farm, Glendale Castle Road, Mooi River.

Estate No. 30542210PMB

Notice is hereby given that the Applicant's Final Liquidation and Distribution Account in the above Estate will be for inspection at the Mooi River Magistrate's Court for a period of twenty-one (21) days as from date of publication hereto.

Dated at Pietermaritzburg this 11th day of November 2015.

Mark Robert Daniel CA (SA) CFP, Greatham Fiduciary Services (Pty) Ltd, Pookiet Suite 60, Private Bag 31005, Pietermaritzburg, 3201.

Notice of Basic Assessment for the proposed notice and bauxite cultivation and harvesting enterprises on a portion of land owned by KwaZulu Natal Traditional Council, Imbedabana Local Municipality, KwaZulu Natal.

CSIR ENG Reference No: CSIR/ENG/2015/001/0001/15

Notice is hereby given that the Applicant (AA) proposes to establish or extend an activity on a portion of land owned by the Applicant (AA) in terms of the proposed notice and bauxite cultivation and harvesting enterprises. The proposed project will be located on a portion of land owned by the Applicant (AA) in terms of the proposed notice and bauxite cultivation and harvesting enterprises. The proposed project will be located on a portion of land owned by the Applicant (AA) in terms of the proposed notice and bauxite cultivation and harvesting enterprises.

In terms of the NEMA (SA) Regulations published in Government Notice R209 of 19 December 2014 (Government Gazette Number 38252), a BA process is required as the project triggers the following listed activity (2014 REG Activity 21), namely: The excavation of any area of 7 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for: a) The construction of a linear activity; b) Agricultural purposes undertaken in accordance with a business development plan.

The Council for Scientific and Industrial Research (CSIR) is the Environmental Assessment Authority (EAA) who will be conducting the BA process.

You are invited to register as an interested party (IIP) and/or affected party (AP) in order to provide any written comments on the BA process by 14 December 2015. To submit further information on the project and/or to register as an IIP, please provide your full contact details (name, address, email address and telephone number) and/or contact to: Ms. Mabel Adams, CSIR, PO Box 339, Delmasburg 7299. Email: mab@csir.ac.za; Fax: (051) 866 5940 or Email: mab@csir.ac.za



Appendix E.2b: Newspaper Advertisement (Estcourt and Midlands 28 April 2017)

AUCTION
IN THE HIGH COURT OF SOUTH AFRICA
KWAZULU NATAL DIVISION, Pietermaritzburg
CASE NUMBER: 127/2016/1P

In the matter between
STANDARD BANK OF S.A LIMITED
 Registration No: 194290726926
Plaintiff
and
ROY STUART NASH
 Identity No: 71954 543 58 1
Defendant

NOTICE OF SALE
 IN PURSUANCE of a judgment of the KwaZulu Natal High Court, Pietermaritzburg and a writ of execution dated 25 JANUARY 2017 the following property will be sold in execution on 5 MAY 2017 at 10AM in front of the MAGISTRATE'S COURT, ESTCOURT:

BNF 306, ESTCOURT (EXTENSION NO 15), RED-STRUTION DRAGON RD., PROVINCE OF KWAZULU NATAL, MEASURING 1 359 ONE THOUSAND THREE HUNDRED AND FIFTY NINE SQUARE METRES, Held by Deed of Transfer T06A272 situated at 8 PUL, CRESCENT, ESTCOURT

IMPROVEMENTS: KITCHEN, DINING ROOM, LOUNGE, 3 BEDROOMS, 1 LAUNDRY, 2 BATH-ROOMS, 1 TOILET with outbuildings comprising of 2 GARAGES and a TOILET but nothing is guaranteed.

1. The purchase price is payable by an immediate payment of 10% in cash, bank guaranteed cheque or by way of an electronic transfer, provided that satisfactory proof of payment is furnished immediately on demand to the sheriff, and the unpaid balance shall be paid or secured by a bank guarantee within 21 (Twenty One) days after date of sale.
 2. The property is sold verbatim and subject to the conditions of the Title Deed.

TAKE FURTHER NOTICE THAT:
 1. This sale is a sale in execution pursuant to a judgment obtained in the above Court.
 2. The rules of this auction and a full advertisement are available 24 hours before the auction and may be inspected at the office of the Sheriff, 54 RICHMOND ROAD, ESTCOURT.
 3. Registration as a buyer is pre-requisite subject to specific conditions, to-wit:
 a) Directive of the Consumer Protection Act 68 of 2008;
 b) Payment of a Registration Fee of R 100.00 in cash;
 c) Registration conditions.
 The office of the Sheriff for Estcourt will conduct the sale with auctioneers M. Dion Chetty Advertising costs at current publication rates and sale costs according to court rules, apply.

DATED AT PIETERMARITZBURG this 24 MARCH 2017.
(sgd) VIKI SOUTHEY
SOUTHEY ATTORNEYS INC
Plaintiff's attorneys
 SHOP 55A, PARKLANE CENTRE
 12 CHEF ALBERT LUTHALI STREET
 PIETERMARITZBURG

AUCTION
IN THE HIGH COURT OF SOUTH AFRICA
KWAZULU NATAL DIVISION, Pietermaritzburg
CASE NUMBER: 341/15/1P

In the matter between
STANDARD BANK OF S.A LIMITED
 Registration No: 194290726926
Plaintiff
and
MANDLA SIMON MASAGO
 Identity No: 40102 6787 28 1
Defendant

NOTICE OF SALE
 IN PURSUANCE of a judgment of the KwaZulu Natal High Court, Pietermaritzburg and a writ of execution dated 25 JANUARY 2017 the following property will be sold in execution on 10 MAY 2017 at 10AM in front of the MAGISTRATE'S COURT, COLENDU.

LOT 35A, COLENDU (EXT NO 2), SITUATED IN THE COLENDU GRAMMERS TRADITIONAL LOCAL COUNCIL AREA, ADMINISTRATIVE DISTRICT OF NATAL, PROVINCE OF KWAZULU-NATAL., IN EXTENT ONE ONE THOUSAND THREE HUNDRED AND EIGHTY (1) SQUARE METRE, HELD UNDER DEED OF TRANSFER NO T070757, situated at 23 DUNKER STREET, COLENDU.

IMPROVEMENTS: LOUNGE, KITCHEN, 2 BEDROOMS, 1 BATHROOM, 1 GARAGE but nothing is guaranteed.

1. The purchase price is payable by an immediate payment of 10% in cash, bank guaranteed cheque or by way of an electronic transfer, provided that satisfactory proof of payment is furnished immediately on demand to the sheriff, and the unpaid balance shall be paid or secured by a bank guarantee within 21 (Twenty One) days after date of sale.
 2. The property is sold verbatim and subject to the conditions of the Title Deed.

TAKE FURTHER NOTICE THAT:
 1. This sale is a sale in execution pursuant to a judgment obtained in the above Court.
 2. The rules of this auction and a full advertisement are available 24 hours before the auction and may be inspected at the office of the Sheriff, 54 RICHMOND ROAD, ESTCOURT.
 3. Registration as a buyer is pre-requisite subject to specific conditions, to-wit:
 a) Directive of the Consumer Protection Act 68 of 2008;
 b) Payment of a Registration Fee of R 100.00 in cash;
 c) Registration conditions.
 The office of the Sheriff for Estcourt will conduct the sale with auctioneers M. Dion Chetty Advertising costs at current publication rates and sale costs according to court rules, apply.

DATED AT PIETERMARITZBURG this 24 MARCH 2017.
(sgd) VIKI SOUTHEY
SOUTHEY ATTORNEYS INC
Plaintiff's attorneys
 SHOP 55A, PARKLANE CENTRE
 12 CHEF ALBERT LUTHALI STREET
 PIETERMARITZBURG



Notice is hereby given that an application for environmental authorisation in terms of the EIA Regulations, 2014 (Regulations in terms of Chapter 8 of the National Environmental Management Act, 1998, as amended) will be lodged with the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs. A Water Use License Application (WULA) in terms of the National Water Act, 1998 (Act No. 36 of 1998) may also be required. All required documentation will be submitted to the Department of Water and Sanitation if deemed necessary.

The KZN Department of Transport (KZNDoT) proposes to upgrade, to 6m x 6m of Dekkers Road (489), the Bhekuzulu River Crossing, Gange River crossing and construct four new culverts along Road (489) within the Umhlatzi Local and Uthukela District Municipalities. The construction of the new culverts will trigger Activities 12 and 19 of Listing Notice 1 (GN 953) of 2014 published under NEMA. The upgrade of the road, bridges and the construction of the new culverts in terms of Section 21 (c) and (i) of the National Water Act, 1998 (Act No. 36 of 1998) also requires a Water Use License application (WULA). The coordinates for the proposed development are: Bhekuzulu River Bridge (km 532) E29°15'25.9" S, E29°41'13.4" E, Gange River Bridge (km 532) E29°15'18.24" S, E29°30'59.8" E, culvert at km 532.075 E29°15'21.1" S, E29°33'44.2" E, culvert at km 532.225 E29°15'54.06" S, E29°34' 48.80" E, culvert at km 532.450 E29°15'54.02" S, E29°15' 18.42" E, culvert at km 532.525 E29°15'18.42" S, E29°15' 34.71" S, Start Point of the road upgrade (km 532) E29°15' 18.72" S, E29°15' 4.72" E, End of the road upgrade (km 532) E29°15'18.82" S, E29°15' 2.06" E.

The proposed structures require application subject to a basic assessment and the need and structure requires a Water Use License Application (WULA) and all interested and affected parties (I & A's) are invited to register with the contact person below. By registering for the process, your name will be included in the register of I & A's and you will be notified of meetings and availability of reports for comment. You will be able to offer comments or queries on any written submission or information provided which will be included in the reports that will be distributed to the authorities.

KSEMS Environmental Consulting cc
 Contact: Patricia Nathaniel
 Phone: 031 749 1870
 Fax: 031 525 5251
 E-mail: ksems@ksems.co.za
 Website: www.ksems.co.za



Notice of Draft Basic Assessment for the proposed maize and bean cultivation and harvesting enterprise on a portion of land owned by KwaMkhotso Traditional Council, Imbabasane Local Municipality, KwaZulu Natal.

CSIR 6142 Reference No: CSIR/KA/6142/2016/0000K

Notice is given of a Basic Assessment (BA) process being undertaken on behalf of the KwaMkhotso Agricultural Cooperative (the Project Applicant) for the proposed activities and harvesting of maize and beans, comprising an area of 19 ha. The proposed project will be located on a portion of land owned by the KwaMkhotso Traditional Council, in the Imbabasane local municipality, KwaZulu-Natal. The GPS coordinates of the centre-point of the site are: 29° 4' 23" S, 29° 13' 7" E.

In terms of the National Environmental Management Act (Act No. 107 of 1998) and the Environmental Management Act (Act No. 107 of 1998), as amended, the project is required to undergo a BA process in terms of the proposed project. The BA process is required as the project triggers listed activity 27 of GN 953.

The Council for Scientific and Industrial Research (CSIR) is managing the BA process on behalf of the applicant.

No one is invited to register as an interested and/or Affected Party (I&A) and/or to provide any written comments on the BA process by 1 June 2017. To obtain further information on the project and/or to register as an I&A, please provide your full name, full postal address, phone numbers, email address and state your interest and/or concern to: Ms. Esmarie Mankwete, CSIR, PO Box 595, Imbabasane 2291, Phone: 031 855 2411, Fax: 031 855 2493 or Email: smankwete@csir.co.za



For all your LEGAL NOTICES & VACANCIES Contact ROXY on 036 352 5587 or Email: s@roxy.co.za

SECTION H: APPENDICES

Notice of Basic Assessment for the proposed maize and bean cultivation and harvesting enterprise on a portion of land owned by KwaMkhize Traditional Council, Inkosi Langalibalele Local Municipality, KwaZulu Natal.

CSIR EMS Reference No: CSIR/CAS/EMS/IR/2015/00011/A

Notice is given of a Basic Assessment (BA) process being undertaken on behalf of Khanyani Agricultural Co-operative (the Project Applicant) for the proposed maize and bean cultivation and harvesting enterprise. The proposed project will be located on a portion of land owned by KwaMkhize Traditional Council, Inkosi Langalibalele local municipality, KZN, with the centre point having the following GPS coordinates: 29° 41' 33" E, 29° 13' 1" S and a total area for cultivation is 19.5 hectares.

In terms of the NEMA EIA Regulations published in Government Notice Regulation (GNR) 983 on 8 December 2014 Government Gazette Number 38282, a BA process is required as the project triggers the following listed activities:

GNR 983 Activity 27.

The Council for Scientific and Industrial Research (CSIR) is the Environmental Assessment Practitioner (EAP) who will be managing the process.

You are invited to register as an Interested and/or Affected Party (I&AP) and/or to provide any written comments on the BA process by 14 December 2015. To obtain further information on the project and/or to register as an I&AP, please provide your full name, full postal address, phone numbers, email address and state your area of interest and/or concern to: **Ms. Abulele Adams, CSIR, PO Box 320, Stellenbosch 7599, Phone: (021) 888 2482, Fax: (021) 888 2693 or Email: aadams1@csir.co.za**

SECTION H: APPENDICES

Notice of Draft Basic Assessment for the proposed maize and bean cultivation and harvesting enterprise on a portion of land owned by KwaMkhize Traditional Council, Inkosi Langalibalele Local Municipality, KwaZulu Natal.

CSIR EMS Reference No: CSIR/CAS/EMS/IR/2015/00011/A

Notice is given of a Basic Assessment (BA) process being undertaken on behalf of Khanyani Agricultural Co-operative (the Project Applicant) for the proposed maize and bean cultivation and harvesting enterprise. The proposed project will be located on a portion of land owned by KwaMkhize Traditional Council, Inkosi Langalibalele local municipality, KZN, with the centre point having the following GPS coordinates: 29° 41' 33" E, 29° 13' 1" S.

In terms of the NEMA EIA Regulations published in Government Notice Regulation (GNR) 983 on 8 December 2014 Government Gazette Number 38282, a BA process is required as the project triggers the following listed activities:

GNR 983 Activity 27.

The Council for Scientific and Industrial Research (CSIR) is the Environmental Assessment Practitioner (EAP) who will be managing the process.

You are invited to register as an Interested and/or Affected Party (I&AP) and/or to provide any written comments on the BA process by 14 December 2015. To obtain further information on the project and/or to register as an I&AP, please provide your full name, full postal address, phone numbers, email address and state your area of interest and/or concern to: **Ms. Karabo Mashabela, CSIR, PO Box 320, Stellenbosch 7599, Phone: (021) 888 2482, Fax: (021) 888 2693 or Email: kmashabela1@csir.co.za**

SECTION H: APPENDICES

Appendix I.3: Site Notice Boards (placed on site)

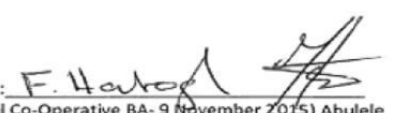


SECTION H: APPENDICES



SECTION H: APPENDICES

Appendix I.4: Proof of Notification of release of BID


 10/11/2015

Name & Signature of person responsible for post: F. Hlatshway
 41 items – Registered Post (Khanyani Agricultural Co-Operative BA- 9 November 2015) Abulele
 Adams 021 888 2482
 EMS0076 / RUN / 04100 / OKG10

Department of Environmental Affairs MMatlala Rabothatha Fedsure Building Private Bag X447 315 Pretorius Street Pretoria 0002	Department of Environmental Affairs Sibusisiwe Hlela Fedsure Building Private Bag X447 315 Pretorius Street Pretoria 0002	Department of Environmental Affairs Takalani Nemarude Fedsure Building Private Bag X447 315 Pretorius Street Pretoria 0002
Department of Agriculture, Forestry and Fisheries Mashudu Marubini Private Bag X138 Pretoria 0001	Department of Agriculture, Forestry and Fisheries Thoko Buthelezi Private Bag X120, Pretoria 0001	WESSA Tumi Lehabe PO Box 435, Ferndale, 2160
The Endangered Wildlife Trust, Adams Pires Private Bag X11, Modderfontein, 1609, Johannesburg	KZN Department of Economic Development, Tourism and Environmental Affairs- HOD Private Bag X9152 Pietermaritzburg 3200	KZN Department of Economic Development, Tourism and Environmental Affairs Reta Kallicharan Private Bag X07, Pietermaritzburg, 3202
KZN Department of Economic Development, Tourism and Environmental Affairs Kraigen Govindasamy Private Bag X07, Pietermaritzburg, 3202	KZN Department of Economic Development, Tourism and Environmental Affairs: South Region Mavis Padayachee Private Bag X6005, HILTON, 3245	Department of Agriculture, Forestry and Fisheries – KZN Karen Moodley Private Bag X9029, Pietermaritzburg, 3200
Department of Agriculture, Forestry and Fisheries – KZN Thembile Dlungwana Private Bag X9029, Pietermaritzburg, 3200	Department of Agriculture, Forestry and Fisheries – KZN Jeffrey Maivha Private Bag X9029, Pietermaritzburg, 3200	Department of Agriculture, Forestry and Fisheries –Land Use and Soil management B.N. De Lange private bag x120, Gezina
The Endangered Wildlife Trust, Carla van Rooyen Private Bag X11, Modderfontein, 1609, Johannesburg	The Endangered Wildlife Trust, Dr H Davies-Mostert Private Bag X11, Modderfontein, 1609, Johannesburg	Department of Agriculture, Forestry and Fisheries – Forestry regulations and Support- KZN Nandipha Sontangane Private Bag X9029, Pietermaritzburg 3200

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Department of Water and Sanitation Ms M Musekene Private Bag x313, Pretoria 0001	Department of Water and Sanitation Ms T Rakgotho Private Bag x313, Pretoria 0001	Council for Geoscience Private Bag x112, Pretoria 0001
Birdlife Simon Gear PO Box 515 Randburg, 2194	South African National Parks (SANParks) Dr Howard Hendricks PO Box 787, Pretoria, 0001	Department of Rural Development and Land Reform – KZN Babhekile Mpisane Private Bag X9000, Pietermaritzburg, 3200
Department of Rural Development and Land Reform – KZN Private Bag X9000, Pietermaritzburg, 3200	Department of Transport – KZN R. Ryan Private Bag X9043, Pietermaritzburg 3200	Department of Water Affairs– KZN Neo Leburu PO Box 1018, Durban, 4000
Department of Water Affairs– KZN Colleen Moonsamy PO Box 1018, Durban, 4000	Department of Co-operative Governance and Traditional Affairs: Development Planning KZN Ms D N Qhobosheane Private Bag X9078 Pietermaritzburg 3200	uThukela District Municipality Municipal manager PO Box 116 Ladysmith, 3370
Imbabazane Local Municipality Municipal Manager Po Box 750 Escourt 3310	South African Heritage Resources Agency (SAHRA) Marie South PO Box 4637, Cape Town, 8000	Khanyani Agricultural Co-Operative PO Box 54801 Estcourt 3310
Dry Bean producers' Organisation P.O. Box 26269 Arcadia 0007	Grain SA P. O. Box 88 Bothaville 9660	Ezemvelo KZN Wildlife Nerissa Pillay 1 Peter Brown Drive P.O. BOX 13053 Cascades 3200

SECTION H: APPENDICES

Zululand Chamber of Commerce and Industry Thula Mkhwanazi PO Box 649, Richards Bay, 3900	Zululand Environmental Alliance Debbie Smith PO Box 442, Kwambonambi, 3915	WWF – SA (Land Programme Manager) Natasha Wilson PO Box 23273; Claremont; 7735
South African National Biodiversity Institute (SANBI) – Invasive plants Michael Cheek PO Box 52099, Durban, 4000	AMAFA KZN PO Box 2685, Pietermaritzburg 3206	

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Appendix E.5: Proof of Notification of release of Background Information Document: Registered mail

REGISTERED LETTER GEREGISTREERDE BRIEF (with an insurance option/met 'n versekeringsopsie)	Postage paid R _____ c Service fee/Diensgeld R _____ c Insurance/Versekering R _____ c Total/Totaal R _____ c
Full tracking and tracing/Volledige volg en spoor	
Addressed to/Gedraesoor aan Bry Beem producers PO Box 26269 Arcadia 0007	Insured value of contents Verzekerde waarde van inhoud R _____ c Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502
The value of the contents of this letter is as indicated and compensation is not payable for a letter posted unconditionally. Compensation is payable if it is lost. No compensation is payable without compulsory proof. Compensation is payable if it is lost or damaged and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is soos aangegee en vergoeding sal nie betaal word vir 'n brief wat onvoorwaardelik gestuur is. Vergoeding is betaalbaar indien die brief verlore gaan. Geen vergoeding is betaalbaar sonder bewys. Vergoeding is betaalbaar indien die brief verlore gaan of beskadig is en slegs vir binnelandse geregistreerde briewe van toepassing.	S.A. POST OFFICE TELLENBOSCH 7599 10 NOV 2015 FOLIO 7 Paraaf van aanvaarder/Beampie Datum/tempel
REGISTERED LETTER GEREGISTREERDE BRIEF (with an insurance option/met 'n versekeringsopsie)	Postage paid R _____ c Service fee/Diensgeld R _____ c Insurance/Versekering R _____ c Total/Totaal R _____ c
Full tracking and tracing/Volledige volg en spoor	
Addressed to/Gedraesoor aan Sot	Insured value of contents Verzekerde waarde van inhoud R _____ c Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502
The value of the contents of this letter is as indicated and compensation is not payable for a letter posted unconditionally. Compensation is payable if it is lost. No compensation is payable without compulsory proof. Compensation is payable if it is lost or damaged and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is soos aangegee en vergoeding sal nie betaal word vir 'n brief wat onvoorwaardelik gestuur is. Vergoeding is betaalbaar indien die brief verlore gaan. Geen vergoeding is betaalbaar sonder bewys. Vergoeding is betaalbaar indien die brief verlore gaan of beskadig is en slegs vir binnelandse geregistreerde briewe van toepassing.	Initial of accepting officer Datum/tempel
REGISTERED LETTER GEREGISTREERDE BRIEF (with an insurance option/met 'n versekeringsopsie)	Postage paid R _____ c Service fee/Diensgeld R _____ c Insurance/Versekering R _____ c Total/Totaal R _____ c
Full tracking and tracing/Volledige volg en spoor	
Addressed to/Gedraesoor aan South African Heritage Resources Agency SAHRA Marie South PO Box 4637 Cape Town	Insured value of contents Verzekerde waarde van inhoud R _____ c Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502
The value of the contents of this letter is as indicated and compensation is not payable for a letter posted unconditionally. Compensation is payable if it is lost. No compensation is payable without compulsory proof. Compensation is payable if it is lost or damaged and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is soos aangegee en vergoeding sal nie betaal word vir 'n brief wat onvoorwaardelik gestuur is. Vergoeding is betaalbaar indien die brief verlore gaan. Geen vergoeding is betaalbaar sonder bewys. Vergoeding is betaalbaar indien die brief verlore gaan of beskadig is en slegs vir binnelandse geregistreerde briewe van toepassing.	S.A. POST OFFICE TELLENBOSCH 7599 10 NOV 2015 FOLIO 7 Paraaf van aanvaarder/Beampie Datum/tempel
REGISTERED LETTER GEREGISTREERDE BRIEF (with an insurance option/met 'n versekeringsopsie)	Postage paid R _____ c Service fee/Diensgeld R _____ c Insurance/Versekering R _____ c Total/Totaal R _____ c
Full tracking and tracing/Volledige volg en spoor	
Addressed to/Gedraesoor aan Zululand Environmental Alliance Debbie Smith P.O. Kwambanani 3915	Insured value of contents Verzekerde waarde van inhoud R _____ c Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502
The value of the contents of this letter is as indicated and compensation is not payable for a letter posted unconditionally. Compensation is payable if it is lost. No compensation is payable without compulsory proof. Compensation is payable if it is lost or damaged and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is soos aangegee en vergoeding sal nie betaal word vir 'n brief wat onvoorwaardelik gestuur is. Vergoeding is betaalbaar indien die brief verlore gaan. Geen vergoeding is betaalbaar sonder bewys. Vergoeding is betaalbaar indien die brief verlore gaan of beskadig is en slegs vir binnelandse geregistreerde briewe van toepassing.	S.A. POST OFFICE STELLENBOSCH 7599 10 NOV 2015 FOLIO 7 Paraaf van aanvaarder/Beampie Datum/tempel

SECTION H: APPENDICES

REGISTERED LETTER GEREGISTREERDE BRIEF			
(with an insurance option/met 'n versekeringsopsie)		Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Versekering R _____ C Total/Totaal R _____ C	
Full tracking and tracing/Volledige volg en spoor			
Addressed to/Gedresseer aan Birdlife Simon Gear P.O. Box 515 Randburg		Insured value of contents Versekerde waarde van inhoud R _____ C	
[] [] [] [] Postcode Postkode		Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502	
<small>The value of the contents of this letter is not payable for a later claim and compensation is limited to R100.00. No compensation is payable without a written receipt. Optional insurance up to R200.00 is available and applies to domestic registered letters only.</small> <small>Die waarde van die inhoud van hierdie brief is nie betaalbaar vir 'n latere aansoek om skadevergoeding nie. Die maksimum vergoeding is beperk tot R100.00. Geen vergoeding is betaalbaar sonder skriftelike bewys. Opsionele versekering tot R200.00 is beskikbaar en slegs op binnelandse geregistreerde briewe van toepassing.</small>		Initial of accepting officer Date stamp S.A. POST OFFICE STELLENBOSCH 7599 10 NOV 2015 FOLIO 7	
<small>Affix Track and Trace REGISTERED LETTER with a domestic insurance option (Maximum R200 000 cover) RC 102 748 333 ZA CUSTOMER COPY 36182R</small>		Paraaf van aanneem-beampte Datumstempel	

REGISTERED LETTER GEREGISTREERDE BRIEF			
(with an insurance option/met 'n versekeringsopsie)		Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Versekering R _____ C Total/Totaal R _____ C	
Full tracking and tracing/Volledige volg en spoor			
Addressed to/Gedresseer aan Dept of Water Affairs Colleen Moonsamy P.O. Box 1018 Durban		Insured value of contents Versekerde waarde van inhoud R _____ C	
[] [] [] [] Postcode Postkode		Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502	
<small>The value of the contents of this letter is not payable for a later claim and compensation is limited to R100.00. No compensation is payable without a written receipt. Optional insurance up to R200.00 is available and applies to domestic registered letters only.</small> <small>Die waarde van die inhoud van hierdie brief is nie betaalbaar vir 'n latere aansoek om skadevergoeding nie. Die maksimum vergoeding is beperk tot R100.00. Geen vergoeding is betaalbaar sonder skriftelike bewys. Opsionele versekering tot R200.00 is beskikbaar en slegs op binnelandse geregistreerde briewe van toepassing.</small>		Initial of accepting officer Date stamp S.A. POST OFFICE STELLENBOSCH 7599 10 NOV 2015 FOLIO 7	
<small>Affix Track and Trace REGISTERED LETTER with a domestic insurance option (Maximum R200 000 cover) RC 102 749 148 ZA CUSTOMER COPY 36182R</small>		Paraaf van aanneem-beampte Datumstempel	

REGISTERED LETTER GEREGISTREERDE BRIEF			
(with an insurance option/met 'n versekeringsopsie)		Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Versekering R _____ C Total/Totaal R _____ C	
Full tracking and tracing/Volledige volg en spoor			
Addressed to/Gedresseer aan Khanyani Agricultural P.O. Box 54801 Kestelville 3310		Insured value of contents Versekerde waarde van inhoud R _____ C	
[] [] [] [] Postcode Postkode		Enquiries/Navrae Toll free number Tolvry nommer 0800 111 502	
<small>The value of the contents of this letter is not payable for a later claim and compensation is limited to R100.00. No compensation is payable without a written receipt. Optional insurance up to R200.00 is available and applies to domestic registered letters only.</small> <small>Die waarde van die inhoud van hierdie brief is nie betaalbaar vir 'n latere aansoek om skadevergoeding nie. Die maksimum vergoeding is beperk tot R100.00. Geen vergoeding is betaalbaar sonder skriftelike bewys. Opsionele versekering tot R200.00 is beskikbaar en slegs op binnelandse geregistreerde briewe van toepassing.</small>		Initial of accepting officer Date stamp S.A. POST OFFICE STELLENBOSCH 7599 10 NOV 2015 FOLIO 7	
<small>Affix Track and Trace REGISTERED LETTER with a domestic insurance option (Maximum R200 000 cover) RC 103 749 135 ZA CUSTOMER COPY 36182R</small>		Paraaf van aanneem-beampte Datumstempel	

REGISTERED LETTER GEREGISTREERDE BRIEF			
(with an insurance option/met 'n versekeringsopsie)		Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Versekering R _____ C Total/Totaal R _____ C	
Full tracking and tracing/Volledige volg en spoor			
Addressed to/Gedresseer aan WWF-SA (Brand Programme Manager) Natasha Wilson P.O. Box 23273 Claremont 7735		Insured value of contents Versekerde waarde van inhoud R _____ C	
[] [] [] [] Postcode Postkode		Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502	
<small>The value of the contents of this letter is not payable for a later claim and compensation is limited to R100.00. No compensation is payable without a written receipt. Optional insurance up to R200.00 is available and applies to domestic registered letters only.</small> <small>Die waarde van die inhoud van hierdie brief is nie betaalbaar vir 'n latere aansoek om skadevergoeding nie. Die maksimum vergoeding is beperk tot R100.00. Geen vergoeding is betaalbaar sonder skriftelike bewys. Opsionele versekering tot R200.00 is beskikbaar en slegs op binnelandse geregistreerde briewe van toepassing.</small>		Initial of accepting officer Date stamp S.A. POST OFFICE STELLENBOSCH 7599 10 NOV 2015 FOLIO 7	
<small>Affix Track and Trace REGISTERED LETTER with a domestic insurance option (Maximum R200 000 cover) RC 102 749 103 ZA CUSTOMER COPY 36182R</small>		Paraaf van aanneem-beampte Datumstempel	

SECTION H: APPENDICES

REGISTERED LETTER REGISTREERDE BRIEF (with an insurance option/met 'n verskeringsopsie) Post Office		Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Verskering R _____ C Total/Totaal R _____ C	
Full tracking and tracing/Volledige volg en spoor Addressed to/Gesproei aan Dept of Water and Ms M Musekene Private Bag x 313 Pretoria Postcode Postkode		Insured value of contents Waarde van inhoud R _____ C Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502	
REGISTERED LETTER REGISTREERDE BRIEF (with an insurance option/met 'n verskeringsopsie) Post Office		Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Verskering R _____ C Total/Totaal R _____ C	
Full tracking and tracing/Volledige volg en spoor Addressed to/Gesproei aan Mankwena District Municipal Municipal Manager Lady Smith 3340 Postcode Postkode		Insured value of contents Waarde van inhoud R _____ C Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502	
REGISTERED LETTER REGISTREERDE BRIEF (with an insurance option/met 'n verskeringsopsie) Post Office		Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Verskering R _____ C Total/Totaal R _____ C	
Full tracking and tracing/Volledige volg en spoor Addressed to/Gesproei aan Ezemvelo KZN Wildlife Ntshona Pillay Peter Brown Drive PO Box 13053 Cascades 3200 Postcode Postkode		Insured value of contents Waarde van inhoud R _____ C Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502	
REGISTERED LETTER REGISTREERDE BRIEF (with an insurance option/met 'n verskeringsopsie) Post Office		Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Verskering R _____ C Total/Totaal R _____ C	
Full tracking and tracing/Volledige volg en spoor Addressed to/Gesproei aan South African National Institute (SANBI) Michael Cheek PO Box 52098 Sandton 2146 Postcode Postkode		Insured value of contents Waarde van inhoud R _____ C Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502	

SECTION H: APPENDICES

REGISTERED LETTER GEREGISTREERDE BRIEF (with an insurance option/met 'n versekeringsopsie)	Postage paid R _____ c Service fee/Diensgeld R _____ c Insurance/Versekering R _____ c Total/Totaal R _____ c
Full tracking and tracing/Volledige volg en spoor Addressed to/Geadresseer aan Gran SA P.O. Box 38 Betharville 9600	Insured value of contents Versekerde waarde van inhoud R _____ c Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502
The value of the contents of this letter is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optimal insurance up to R2 000.00 is available and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word. Vergoeding is beperkt tot R100.00. Geen vergoeding is betaalbaar sonder dokumentêre bewys. Opsionele versekering tot R2 000.00 is beskikbaar en slegs op binnelandse geregistreerde briewe van toepassing.	Initial of accepting officer _____ Date stamp S.A. POST OFFICE STELLENBOSCH 7599 10 NOV 2015 Paraaf van aanvaar-beampte _____ Datumstempel FOLIO 7
REGISTERED LETTER GEREGISTREERDE BRIEF (with an insurance option/met 'n versekeringsopsie)	Postage paid R _____ c Service fee/Diensgeld R _____ c Insurance/Versekering R _____ c Total/Totaal R _____ c
Full tracking and tracing/Volledige volg en spoor Addressed to/Geadresseer aan Dept of Water Affairs New Leburu P.O. Box 1018 Durban 4000	Insured value of contents Versekerde waarde van inhoud R _____ c Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502
The value of the contents of this letter is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optimal insurance up to R2 000.00 is available and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word. Vergoeding is beperkt tot R100.00. Geen vergoeding is betaalbaar sonder dokumentêre bewys. Opsionele versekering tot R2 000.00 is beskikbaar en slegs op binnelandse geregistreerde briewe van toepassing.	Initial of accepting officer _____ Date stamp S.A. POST OFFICE STELLENBOSCH 7599 10 NOV 2015 Paraaf van aanvaar-beampte _____ Datumstempel FOLIO 7
REGISTERED LETTER GEREGISTREERDE BRIEF (with an insurance option/met 'n versekeringsopsie)	Postage paid R _____ c Service fee/Diensgeld R _____ c Insurance/Versekering R _____ c Total/Totaal R _____ c
Full tracking and tracing/Volledige volg en spoor Addressed to/Geadresseer aan DRDLB - KZN Private Bag x9000 Pietermaritzburg KZN 3201	Insured value of contents Versekerde waarde van inhoud R _____ c Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502
The value of the contents of this letter is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optimal insurance up to R2 000.00 is available and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word. Vergoeding is beperkt tot R100.00. Geen vergoeding is betaalbaar sonder dokumentêre bewys. Opsionele versekering tot R2 000.00 is beskikbaar en slegs op binnelandse geregistreerde briewe van toepassing.	Initial of accepting officer _____ Date stamp S.A. POST OFFICE STELLENBOSCH 7599 10 NOV 2015 Paraaf van aanvaar-beampte _____ Datumstempel FOLIO 7
REGISTERED LETTER GEREGISTREERDE BRIEF (with an insurance option/met 'n versekeringsopsie)	Postage paid R _____ c Service fee/Diensgeld R _____ c Insurance/Versekering R _____ c Total/Totaal R _____ c
Full tracking and tracing/Volledige volg en spoor Addressed to/Geadresseer aan Dept of Co-operative and Traditional Affairs Planning KZN Frikkie Brooks Private Bag x9000 Pietermaritzburg KZN 3201	Insured value of contents Versekerde waarde van inhoud R _____ c Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502
The value of the contents of this letter is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optimal insurance up to R2 000.00 is available and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word. Vergoeding is beperkt tot R100.00. Geen vergoeding is betaalbaar sonder dokumentêre bewys. Opsionele versekering tot R2 000.00 is beskikbaar en slegs op binnelandse geregistreerde briewe van toepassing.	Initial of accepting officer _____ Date stamp S.A. POST OFFICE STELLENBOSCH 7599 10 NOV 2015 Paraaf van aanvaar-beampte _____ Datumstempel FOLIO 7

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John R. [Signature]

Date Stamp of delivery Datumstempel van aflewering	REGISTERED LETTER GEREGISTREERDE BRIEF (with an insurance option met 'n versekeringsopsie)	000000 Post Office	Date Stamp of delivery Datumstempel van aflewering POST OFFICE STELLENBOSCH 7599 10 NOV 2015 FOLIO 7
Addressed to/Geadresseer aan	22 Twistedy CSTR	Signature of recipient Handtekening van ontvanger	
Initial of delivery office Paaal van afleweringkantoor	Postcode Postkode	Track and Trace reference No Volg-en-Spoor-verwysingsno	Initial of receiving office Paaal van ontvangingskantoor
Official proof of identification essential Amptelike bewys van identiteit noodsaaklik		Please collect at Haal asseblief af by within 30 days of date received at delivery office/ binn 30 dae vanaf datum ontvang by afleweringkantoor	Post Office, counter No Postkantoor, toonbanknno

ALBION PRESS (021) 511-2244 791280

SECTION H: APPENDICES

List of REGISTERED LETTERS Lys van GEREGISTREERDE BRIEWE (with an insurance option/met 'n versekeringsopsie) Full tracking and tracing/Volledige volg en spoor



Name and address of sender: ABULLELE ADAMS
 Naam en adres van afsender: CSIR STELLENBOSCH

Enquiries/Navrae
ShareCall
number/nommer
0800 141 502
www.postoffice.co.za

	Name and address of addressee Naam en adres van geadresseerde	Insured amount Versekerde bedrag	Insurance fee Versekeringsgeld	Postage Posgeld	Service fee Diensgeld	Affix Track and Trace customer copy Plak Volg-en-Spoor-Klientafskrif	
1	Costa, Mrs AN Onobuste, Private Bag X 9078, Pietermaritzburg, 3206					REGISTERED LETTER (with a domestic insurance option) Afskrif van 'n geregistreerde brief met 'n versekeringsopsie RC 102 748 598 ZA CUSTOMER COPY 301020R	
2	Amara KZN, PO Box 2685 Pietermaritzburg					REGISTERED LETTER (with a domestic insurance option) Afskrif van 'n geregistreerde brief met 'n versekeringsopsie RC 102 748 615 ZA CUSTOMER COPY 301020R	
3	KZN DEPT. OF Eco. Devel. Bureau Private Bag X 9152, Pietermaritzburg 3200					REGISTERED LETTER (with a domestic insurance option) Afskrif van 'n geregistreerde brief met 'n versekeringsopsie RC 069 405 257 ZA CUSTOMER COPY 301020R	
4	Dep. of Agric. Forest. and Fish. KZN Private Bag X 9029, Pietermaritzburg, 3200					REGISTERED LETTER (with a domestic insurance option) Afskrif van 'n geregistreerde brief met 'n versekeringsopsie RC 069 405 238 ZA CUSTOMER COPY 301020R	
5	DEPT. OF. AGRIC. FOREST & FISH. KZN Private Bag X 9029, Pietermaritzburg 3200					REGISTERED LETTER (with a domestic insurance option) Afskrif van 'n geregistreerde brief met 'n versekeringsopsie RC 069 405 226 ZA CUSTOMER COPY 301020R	
6	THE ENGINEERED WOODWORK TRUST, Dr H. Duns-Private Bag 111, PROUDERANTON, 1609, JOHANNESBURG					REGISTERED LETTER (with a domestic insurance option) Afskrif van 'n geregistreerde brief met 'n versekeringsopsie RC 069 405 243 ZA CUSTOMER COPY 301020R	
7	Dep. of Environ. Affairs, Sibusisiwe Helela Private Bag X 447, 315 Pietermaritzburg					REGISTERED LETTER (with a domestic insurance option) Afskrif van 'n geregistreerde brief met 'n versekeringsopsie RC 069 237 409 ZA CUSTOMER COPY 301020R	
8	Dep. of Envir. Affairs, Mphahlele Rabotlana P. Bag X 447, 315 Pietermaritzburg, 3200					REGISTERED LETTER (with a domestic insurance option) Afskrif van 'n geregistreerde brief met 'n versekeringsopsie RC 069 237 386 ZA CUSTOMER COPY 301020R	
9	Dep. of Agric. Forest, & Fish, KZN, Grahamstown Private Bag, X 9029, Pietermaritzburg, 3200					REGISTERED LETTER (with a domestic insurance option) Afskrif van 'n geregistreerde brief met 'n versekeringsopsie RC 069 237 369 ZA CUSTOMER COPY 301020R	
10	Dep. of Econ. Devel, KwaZulu Natal P. Bag X 07, Pietermaritzburg, 3202					REGISTERED LETTER (with a domestic insurance option) Afskrif van 'n geregistreerde brief met 'n versekeringsopsie RC 102 748 195 ZA CUSTOMER COPY 301020R	
	Number of letters posted Getal briewe gepos	10	Total Totaal	R	R	R	R

Signature of client
Handtekening van klient: [Signature]

Signature of accepting officer
Handtekening van aanneembeampte: [Signature]

Date stamp
**S.A. POST OFFICE
STELLENBOSCH 7599**
10 NOV 2015
FOLIO 7
Datumstempel

The value of the contents of these letters is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100,00. No compensation is payable without documentary proof. Optional insurance of up to R2 000,00 is available and applies to domestic registered letters only.

Die waarde van die inhoud van hierdie briewe is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100,00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering van tot R2 000,00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.

GOOD IMPRESSIONS

701246

SECTION H: APPENDICES

Appendix I.8: Proof of Notification of release of Draft Basic Assessment Report

Name & Signature of person responsible for post: F. Hartog 

48 Items – Registered Post (Khanyani Agricultural cooperative BA 25 April 2017) Karabo Mashabela
021 888 2482

26.04.2014

Project Number: EMS0136/021SE

Department of Environmental Affairs MMatlala Rabothata Fedsure Building Pretoria 0002	Department of Environmental Affairs Sibusisiwe Hlela Fedsure Building Pretoria 0002	Department of Agriculture, Forestry and Fisheries Mashudu Marubini 20 Steve Biko (Formerly Beatrix) Street Arcadia Pretoria 0002
Department of Economic Development, Tourism and Environmental Affairs- HOD Carol Coetzee 270 Jabu Ndlovu Street, Pietermaritzburg 3200	Department of Economic Development, Tourism and Environmental Affairs- HOD Reta Kallicharan 8 Warwick Road, Cascades Pietermaritzburg 3200	Department of Economic Development, Tourism and Environmental Affairs- HOD Kraigen Govindasamy 8 Warwick Road, Cascades Pietermaritzburg 3200
Department of Economic Development, Tourism and Environmental Affairs: South Region KZN Mavis Padayachee A Block, 4 Pin Oak Avenue Hilton 3245	South African Heritage Resources Agency (SAHRA) Nokukhanya Khumalo PO Box 4637 Cape Town 8000	Department of Agriculture, Forestry and Fisheries – KZN Karen Moodley 185 Longmarket Street Old Mutual Building Pietermaritzburg 3202
Department of Agriculture, Forestry and Fisheries – KZN Thembile Dlungwana 185 Longmarket Street Old Mutual Building Pietermaritzburg 3202	Dr. Howard Hendricks South African National Parks (SANParks) P O Box 787, Pretoria, 0001	Department of Agriculture, Forestry and Fisheries – KZN Jeffrey Maivha 185 Longmarket Street Old Mutual Building Pietermaritzburg 3202
Department of Agriculture, Forestry and Fisheries – Land Use and Soil management B.N. De Lange Delpen Building, Riveira Pretoria 0031	Department of Agriculture, Forestry and Fisheries – Forestry regulations and Support- KZN Nandipha Sontangane 185 Longmarket Street Old Mutual Building Pietermaritzburg 3202	Department of Agriculture, Forestry and Fisheries – Forestry regulations and Support- KZN Seokwang Modise 185 Longmarket Street Old Mutual Building Pietermaritzburg 3202
Department of Rural Development and Land Reform – KZN Thembisile Mabaso 200 Church Street, Pietermaritzburg, 3201	Department of Rural Development and Land Reform – KZN Babhekile Mpisane 200 Church Street, Pietermaritzburg, 3201	Department of Rural Development and Land Reform – KZN Khethakuthula Nzimande 188 berg Street Pietermaritzburg 3200

SECTION H: APPENDICES

<p>Department of Transport – KZN R Ryan 224 Prince Alfred Street, Pietermaritzburg, 3201</p>	<p>Department of Water Affairs– KZN Colleen Moonsamy 88 Field Street, Southern Life Building, 7th Floor, Durban 4000</p>	<p>Department of Water Affairs– KZN Neo Laburu 88 Field Street, Southern Life Building, 7th Floor, Durban 4000</p>
<p>Council for Geoscience Dr Stewart Foya Private Bag X 112 Pretoria 0001</p>	<p>Joyene Isaacs Department of Agriculture Private Bag 81 Eisenburg 7607</p>	<p>Jacqui Schoch Department of Transport and Public Works Private Bag 90195 Cape Town 8001</p>
<p>Ezemvelo KZN Wildlife Nerissa Pillay 1 Peter Brown Drive Pietermaritzburg 3200</p>	<p>Zululand Chamber of Commerce and Industry Thula Mkhwanazi PO Box 649, Richards Bay, 3900</p>	<p>Thoko Buthelezi Department of Agriculture Forestry and Fisheries Private Bag X120, Pretoria 0001</p>
<p>Mashudu Marubini Department of Agriculture, Forestry and Fisheries Private Bag X138 Pretoria 0001</p>	<p>Zululand Environmental Alliance Debbie Smith Kwambonambi 3915</p>	<p>South African National Biodiversity Institute (SANBI) – Invasive plants Michael Cheek Durban 4000</p>
<p>AMAFA KZN Bernadet Pawandiwa 195 Langalibalele Street, Pietermaritzburg, 3201</p>	<p>Xongo Sipiwo Dept of Water Affairs Private Bag X16 Bellville 7530</p>	<p>South African Heritage Resources Agency (SAHRA) Marie South Cape Town 8000</p>
<p>Department of Co-operative Governance and Traditional Affairs Private Bag X9078 Pietermaritzburg 3200</p>	<p>Grain SA P.O. Box Bothaville 9660</p>	<p>Uthukela district Municipality Municipal manager P O Box 116 Ladysmith 3379</p>

SECTION H: APPENDICES

<p>Birdlife Simon Gear P O Box 515 Randburg 2194</p>	<p>Department of Rural Development and Land Reform KZN Babhekile Mpisane Private Bag X9000, Pietermaritzburg 3200</p>	<p>Water and Sanitation - eThekweni Municipality P.O. Box 1038 Durban 4000 South Africa .</p>
<p>Dry Bean Producers' Organization Plot 20, Zeekoegat, Pretoria, South Africa</p>	<p>National Chamber of Milling Suite 211, private Bag X025, Lynnwood Ridge, 0040</p>	<p>Director: Plant Production Department of Agriculture, Forestry and Fisheries Private bag x250 PRETORIA</p>
<p>Director: Small Holder Development Department of Agriculture, Forestry & Fisheries Dr. Jemina Moeng Sefala Building, Room 332 503 Belvedere Street, ARCADIA, 0002</p>	<p>Department of Cooperative Governance and Traditional Affairs Frikkie Brooks Moses Mabhida Building, 4th Floor, 300 Langalibalele Street, Pietermaritzburg</p>	<p>Ward council : BE Nkala 113 Mankonjane Hlathikhulu Estcourt 3310</p>
<p>Induna: ET Sibisi 228 Mankonjane Estcourt 3310</p>	<p>Inkosi: S Mkhize P28-1 Hlathikhulu location Estcourt 3310</p>	<p>Khanyani CO OP Bongani Mnculwane P O Box 54801 Estcourt 3310</p>

SECTION H: APPENDICES

REGISTERED LETTERS
van GEREISTREERDE BRIEWE
 (with an insurance option/met 'n versekeringsopsie)
Full tracking and tracing/Volledige volg en spoor



Name and address of sender: KARABO MASHABELA
 Naam en adres van afsender: KARABO MASHABELA
C-SIR STELLINGSBOSCH, 11 JAN LEUNIGSTRAAT
STELLINGSBOSCH, 7600

Enquiries/Navrae
 ShareCall
 number/nommer
0800 111 502
 www.postoffice.co.za

	Name and address of addressee Naam en adres van geadresseerde	Insured amount Versekerde bedrag	Insurance fee Versekeringsgeld	Postage Posgeld	Service fee Diensgeld	Affix Track and Trace customer copy Plak Volg-en-Spoor- Kliefsaakskrif
1	UTHUKELA District Municipality/Munisipaliteit P.O. Box 116, Lady Smith, 3370					INSURED PARCEL Service Call 0800 111 502 www.postoffice.co.za CV 029 239 327 ZA CUSTOMER COPY
2	DAFF, NANNIPIHA SONTENJANE, 185 LANGMEREK STR. OLD MUTUAL BUILDING, PIETERMARITZBURG, 3202					INSURED PARCEL Service Call 0800 111 502 www.postoffice.co.za CV 029 239 335 ZA CUSTOMER COPY
3	DAFF, LINDA WISE AND SON, MAMA COP, B.N. DE LANGE SILVER BUILDING, RIVERIA, PIETERMARITZBURG, 0031					INSURED PARCEL Service Call 0800 111 502 www.postoffice.co.za CV 029 239 313 ZA CUSTOMER COPY
4	De Howard Henriks, (Snyders) P.O. Box 787, Pietermaritzburg, 0001					INSURED PARCEL Service Call 0800 111 502 www.postoffice.co.za CV 029 239 308 ZA CUSTOMER COPY
5	DAFF, KZN, JEFFREY MASHABELA, 185 LANGMEREK STR. OLD MUTUAL BUILDING, PIETERMARITZBURG, 3202					INSURED PARCEL Service Call 0800 111 502 www.postoffice.co.za CV 029 239 342 ZA CUSTOMER COPY
6	ORDLR-KZN, BABELIZE MASHABELA PRIVATE BAG 9000, PIETERMARITZBURG, 3200					INSURED PARCEL Service Call 0800 111 502 www.postoffice.co.za CV 029 239 395 ZA CUSTOMER COPY
7	ORDLR-KZN, KHATHUKHULU NZIMANE 188 BURG STR. PIETERMARITZBURG, 3200					INSURED PARCEL Service Call 0800 111 502 www.postoffice.co.za CV 029 239 287 ZA CUSTOMER COPY
8	BE NKALA, 113 MANKONTJANE KHATHUKHULU ESTCOURT, 3310					INSURED PARCEL Service Call 0800 111 502 www.postoffice.co.za CV 029 239 268 ZA CUSTOMER COPY
9	ORDLR-KZN, KHATHUKHULU NZIMANE 188-					
10	(DAFF) FORESTRY REGULATIONS AND SUPP. KZN SERKING MOBISE, 185 LANGMEREK STR. OLD MUTUAL BUILDING, PIETERMARITZBURG, 3202					INSURED PARCEL Service Call 0800 111 502 www.postoffice.co.za CV 029 239 273 ZA CUSTOMER COPY

Number of letters posted
 Getal briewe gepos
 a/wine/total R R R R

Signature of client
 Handtekening van klient
 Signature of accepting officer
 Handtekening van aanneembeampte

Date stamp
 STELLINGSBOSCH 7600
 2007-01-18
 TELLSBOU
 Datumstempel

The value of the contents of these letters is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100,00. No compensation is payable without documentary proof. Optional insurance of up to R2 000,00 is available and applies to domestic registered letters only.

Die waarde van die inhoud van hierdie briewe is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100,00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering van tot R2 000,00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.

SECTION H: APPENDICES

List of REGISTERED LETTERS
Lys van GEREGISTREERDE BRIEWE
(with an insurance option/met 'n versekeringsopsie)



Full tracking and tracing/Volledige volg en spoor

Name and address of sender: KARABO MASHABELA
Naam en adres van afsender: C SIR, STELLENBOSCH, 11 JAN CAWERS STREET,
STELLENBOSCH, 7600

Enquiries/Navrae
ShareCall
number/nommer
0800 111 502
www.postoffice.co.za

	Name and address of addressee Naam en adres van geadresseerde	Insured amount Versekerde bedrag	Insurance fee Versekeringsgeld	Postage Postgeld	Service fee Diensgeld	Affix Track and Trace customer copy Plak Volg-en-Spoor-Klientafskrif
1	<u>DR HOWARD HENDRICKS (SANPARKS)</u> <u>PO Box 787, PRETORIA, 0001</u>					PARCEL ShareCall 0800 111 502 www.postoffice.co.za CV 029 239 145 ZA CUSTOMER COPY 00000005
2	<u>(DRDLR) - KZN, BAMBHEKILE MPOISANE</u> <u>200 CHURCH STREET, PIETERMARITZBURG, 3201</u>					PARCEL ShareCall 0800 111 502 www.postoffice.co.za CV 029 239 154 ZA CUSTOMER COPY 00000011
3	<u>(DRDLR) - KZN, BAMBHEKILE MPOISANE</u> <u>P/BAG X 9 000, PIETERMARITZBURG, 3200</u>					PARCEL ShareCall 0800 111 502 www.postoffice.co.za CV 029 239 123 ZA CUSTOMER COPY 00000008
4	<u>(DEA), MMATLALA RABOTNATA</u> <u>FOCUSURE BUILDING, PRETORIA, 0002</u>					INTERNATIONAL INSURED PARCEL ShareCall 0800 111 502 www.postoffice.co.za CV 029 239 137 ZX CUSTOMER COPY 00000013
5	<u>(DETEA) - SOUTH REGION KZN, MAVIS PRAAYACHEE</u> <u>A Block, 4 Pin Oak Avenue, HILTON</u>					PARCEL ShareCall 0800 111 502 www.postoffice.co.za CV 029 239 106 ZA CUSTOMER COPY 00000015
6						
7						
8						
9						
10						

Number of letters posted 5 / Five Total
Getal briewe gepos 5 / Five Totaal

Signature of client
Handtekening van kliënt [Signature]



Signature of accepting officer
Handtekening van aanneembeampte [Signature]

Date stamp
STELLENBOSCH 7600
2017-04-26

The value of the contents of these letters is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100,00. No compensation is payable without documentary proof. Optional insurance of up to R2 000,00 is available and applies to domestic registered letters only.

Die waarde van die inhoud van hierdie briewe is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder onvoorwaardelike ontvang is. Vergoeding is beperk tot R100,00. Geen vergoeding is sonder opsionele versekering van tot R2 000,00 beskikbaar en slegs van toepassing op in-landse geregistreerde briewe.

SECTION H: APPENDICES

REGISTERED LETTER GEREGISTREERDE BRIEF <i>(with an insurance option/met 'n versekeringsopsie)</i>			
Full tracking and tracing / Volledige volg en spoor		Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Versekering R _____ C Total/Totaal R _____ C	
Addressed to/Geadresseer aan CSIR 23 Puro-Thra _____ _____ _____ Postcode Postkode		Insured value of contents Versekerde waarde van inhoud R _____ C Enquiries / Navrae Toll-free number Tolvry nommer 0800 111 502	
<small>The value of the contents of this letter is as indicated and compensation is not payable for a letter received unintentionally. Compensation is limited to R100.00. No compensation is payable if proof documents are not submitted. Original insurance cover is R2 000.000 available and applies to domestic registered letters only.</small> <small>Die waarde van die inhoud van hierdie brief is soos aangedui en vergoeding sal nie betaalbaar wees indien die brief onbedoeld ontvang word. Vergoeding is beperk tot R100.00. Geen vergoeding is sonder dokumentêre bewys bewaak. Oorspronklike versekering is R2 000 000 en is beskikbaar slegs op binnelandse geregistreerde briewe van toepassing.</small>		Affix Track and Trace customer copy Plaak Volg-en-Spoor-kliëntaatskif	
		Info for accepting office 	
		Date stamp 2017-05-26 Datumstempel	

②


Registered Mail sent : 25.05.2017
 KARABO

SECTION H: APPENDICES

REGISTERED LETTER GEREGISTREERDE BRIEF			
(with an insurance option/met 'n versekeringsopsie)		Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Versekering R _____ C Total/Totaal R _____ C	
Full tracking and tracing/Volledige volg en spoor			
Addressed to/Geadresseer aan Kmsuleni Local Municipality Aseef Ahmed P.O. Box 3, Vanderbijlpark		Insured value of contents Versekerde waarde van inhoud R _____ C	
Postcode 1900		Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502	
<small>The value of the contents of this letter is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optional insurance up to R2 000.00 is available and applies to domestic registered letters only.</small>		Initial of accepting officer Date stamp STELLENBOSCH 7599 26 DEC 2016	
<small>Die waarde van die inhoud van hierdie brief is soos aangegee en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100.00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering tot R2 000.00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.</small>		PARCEL Registered Mail CV 063 481 937 ZA CUSTOMER COPY Hêre Volg-en-Spoor-klientaatskrif	
		Paraf van afdelings-beampte Datumstempel FOLIO 7	

REGISTERED LETTER GEREGISTREERDE BRIEF			
(with an insurance option/met 'n versekeringsopsie)		Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Versekering R _____ C Total/Totaal R _____ C	
Full tracking and tracing/Volledige volg en spoor			
Addressed to/Geadresseer aan Khanyani ho-op P.O. Box 5481 Est Court 3310		Insured value of contents Versekerde waarde van inhoud R _____ C	
Postcode 3310		Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502	
<small>The value of the contents of this letter is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optional insurance up to R2 000.00 is available and applies to domestic registered letters only.</small>		Initial of accepting officer Date stamp STELLENBOSCH 7599 2017-04-26	
<small>Die waarde van die inhoud van hierdie brief is soos aangegee en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100.00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering tot R2 000.00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.</small>		PARCEL Registered Mail CV 829 239 083 ZA CUSTOMER COPY Hêre Volg-en-Spoor-klientaatskrif	
		Paraf van afdelings-beampte Datumstempel	

REGISTERED LETTER GEREGISTREERDE BRIEF			
(with an insurance option/met 'n versekeringsopsie)		Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Versekering R _____ C Total/Totaal R _____ C	
Full tracking and tracing/Volledige volg en spoor			
Addressed to/Geadresseer aan Department of Economic Environmental Affairs KZN Mavis Padayachee A Block 4 Pin oak Avenue Hillcrest		Insured value of contents Versekerde waarde van inhoud R _____ C	
Postcode 3610		Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502	
<small>The value of the contents of this letter is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optional insurance up to R2 000.00 is available and applies to domestic registered letters only.</small>		Initial of accepting officer Date stamp STELLENBOSCH 7599 2017-04-26	
<small>Die waarde van die inhoud van hierdie brief is soos aangegee en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100.00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering tot R2 000.00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.</small>		PARCEL Registered Mail CV 829 239 097 ZA CUSTOMER COPY Hêre Volg-en-Spoor-klientaatskrif	
		Paraf van afdelings-beampte Datumstempel	

REGISTERED LETTER GEREGISTREERDE BRIEF			
(with an insurance option/met 'n versekeringsopsie)		Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Versekering R _____ C Total/Totaal R _____ C	
Full tracking and tracing/Volledige volg en spoor			
Addressed to/Geadresseer aan D.K.A. Sibusiswe Hlela Feature Building Pretoria		Insured value of contents Versekerde waarde van inhoud R _____ C	
Postcode 0002		Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502	
<small>The value of the contents of this letter is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optional insurance up to R2 000.00 is available and applies to domestic registered letters only.</small>		Initial of accepting officer Date stamp STELLENBOSCH 7599 2017-04-26	
<small>Die waarde van die inhoud van hierdie brief is soos aangegee en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100.00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering tot R2 000.00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.</small>		Affix Track and Trace PARCEL Registered Mail CV 829 239 066 ZA CUSTOMER COPY Hêre Volg-en-Spoor-klientaatskrif	
		Paraf van afdelings-beampte Datumstempel	

SECTION H: APPENDICES

REGISTERED LETTER GEREGISTREERDE BRIEF		Post Office	
<i>(with an insurance option/met 'n versekeringsopsie)</i>			
Full tracking and tracing Volledige volg en spoor			
Addressed to/Geadresseer aan D.E.T.E.A - HOD Peta Kallieharan 8 Warwick Road, Cascadia Pietermaritzburg			
Postcode Postkode 0000		Insured value of contents Versekerde waarde van inhoud R _____ c	
The value of the contents of a letter received and compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optional insurance up to R200.00 is available and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is slegs aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoedings beperk tot R100.00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering tot R200.00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.		Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502	
Initial of accepting officer [Signature]		Date stamp 2017-04-28	
PARCEL CV 029 239 070 ZA CUSTOMER COPY Klantafskrif		Paraf van aanneembampste Datumstempel	

REGISTERED LETTER GEREGISTREERDE BRIEF		Post Office	
<i>(with an insurance option/met 'n versekeringsopsie)</i>			
Full tracking and tracing Volledige volg en spoor			
Addressed to/Geadresseer aan D.E.T.E.A - HOD Carol Coetzee 240 Jabu Ndlovu Street Pietermaritzburg			
Postcode Postkode 0000		Insured value of contents Versekerde waarde van inhoud R _____ c	
The value of the contents of a letter received and compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optional insurance up to R200.00 is available and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is slegs aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoedings beperk tot R100.00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering tot R200.00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.		Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502	
Initial of accepting officer [Signature]		Date stamp 2017-04-28	
PARCEL CV 029 239 049 ZA CUSTOMER COPY Klantafskrif		Paraf van aanneembampste Datumstempel	

REGISTERED LETTER GEREGISTREERDE BRIEF		Post Office	
<i>(with an insurance option/met 'n versekeringsopsie)</i>			
Full tracking and tracing Volledige volg en spoor			
Addressed to/Geadresseer aan Department of Agriculture and Forestry Mashudu Marubini 20 Steve Biko (Formerly) Street Pretoria			
Postcode Postkode 0002		Insured value of contents Versekerde waarde van inhoud R _____ c	
The value of the contents of a letter received and compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optional insurance up to R200.00 is available and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is slegs aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoedings beperk tot R100.00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering tot R200.00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.		Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502	
Initial of accepting officer [Signature]		Date stamp 2017-04-28	
PARCEL CV 029 239 052 ZA A book copy Mats volg-en-spoor-klantafskrif		Paraf van aanneembampste Datumstempel	

REGISTERED LETTER GEREGISTREERDE BRIEF		Post Office	
<i>(with an insurance option/met 'n versekeringsopsie)</i>			
Full tracking and tracing Volledige volg en spoor			
Addressed to/Geadresseer aan D.E.A M Matlala Rabothata Featsure Building Pretoria			
Postcode Postkode 0002		Insured value of contents Versekerde waarde van inhoud R _____ c	
The value of the contents of a letter received and compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optional insurance up to R200.00 is available and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is slegs aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoedings beperk tot R100.00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering tot R200.00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.		Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502	
Initial of accepting officer [Signature]		Date stamp 2017-04-28	
PARCEL CV 029 239 021 ZA CUSTOMER COPY Klantafskrif		Paraf van aanneembampste Datumstempel	

SECTION H: APPENDICES

REGISTERED LETTER GEREGISTREERDE BRIEF			
(with an insurance option/met 'n versekeringsopsie)		Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Versekering R _____ C Total/Totaal R _____ C	
Full tracking and tracing/Volledige volg en spoor			
Addressed to/Geadresseer aan Director: Small Holder Development DAFF Dr Temina Moeng S 503 Belvedere		Insured value of contents Versekerde waarde van inhoud R _____ C Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502	
[Postcode] [] [] [] Postcode		Initial of accepting officer Date stamp 2017-11-28	
The value of the contents of a letter is as indicated and compensation is not payable for a letter received uncorrected. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optional insurance up to R2 000.00 is available and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100.00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering tot R2 000.00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.		Paraaf van aanneembare beampte Datumstempel	

REGISTERED LETTER GEREGISTREERDE BRIEF			
(with an insurance option/met 'n versekeringsopsie)		Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Versekering R _____ C Total/Totaal R _____ C	
Full tracking and tracing/Volledige volg en spoor			
Addressed to/Geadresseer aan Ward Council BE Nkala 113 Mankojane Hlathikhulu		Insured value of contents Versekerde waarde van inhoud R _____ C Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502	
[Postcode] [] [] [] Postcode		Initial of accepting officer Date stamp 2017-11-28	
The value of the contents of a letter is as indicated and compensation is not payable for a letter received uncorrected. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optional insurance up to R2 000.00 is available and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100.00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering tot R2 000.00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.		Paraaf van aanneembare beampte Datumstempel	

REGISTERED LETTER GEREGISTREERDE BRIEF			
(with an insurance option/met 'n versekeringsopsie)		Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Versekering R _____ C Total/Totaal R _____ C	
Full tracking and tracing/Volledige volg en spoor			
Addressed to/Geadresseer aan Inkosi El Sibisi 228 Mankojane Est Court		Insured value of contents Versekerde waarde van inhoud R _____ C Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502	
[Postcode] [] [] [] Postcode		Initial of accepting officer Date stamp 2017-11-28	
The value of the contents of a letter is as indicated and compensation is not payable for a letter received uncorrected. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optional insurance up to R2 000.00 is available and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100.00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering tot R2 000.00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.		Paraaf van aanneembare beampte Datumstempel	

REGISTERED LETTER GEREGISTREERDE BRIEF			
(with an insurance option/met 'n versekeringsopsie)		Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Versekering R _____ C Total/Totaal R _____ C	
Full tracking and tracing/Volledige volg en spoor			
Addressed to/Geadresseer aan Inkosi S Mkhize P28-1 Hlathikhulu Est Court		Insured value of contents Versekerde waarde van inhoud R _____ C Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502	
[Postcode] [] [] [] Postcode		Initial of accepting officer Date stamp 2017-11-28	
The value of the contents of a letter is as indicated and compensation is not payable for a letter received uncorrected. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optional insurance up to R2 000.00 is available and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100.00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering tot R2 000.00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.		Paraaf van aanneembare beampte Datumstempel	

SECTION H: APPENDICES

REGISTERED LETTER GEREGISTREERDE BRIEF			
(with an insurance option/met 'n versekeringsopsie)		Postage paid R _____ C	Service fee/Diensgeld R _____ C
Full tracking and tracing/Volledige volg en spoor		Insurance/Verskering R _____ C	Total/Totaal R _____ C
Addressed to/Geadresseer aan D.E.T.E.A-HOD Kraigen Covindasamy 8 Warwick Road Cascade Pietermaritzburg		Insured value of contents Versekerde waarde van inhoud R _____ C	Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502
The value of the contents of this letter is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optional insurance up to R2000.00 is available and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100.00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering tot R2 000.00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.		Initial of accepting officer 	Date stamp 2012-11-28
PARCEL Registered Mail with Insurance CV 029 138 998 ZA		CUSTOMER COPY Paraf van aanneembesprente Klientskrif	

REGISTERED LETTER GEREGISTREERDE BRIEF			
(with an insurance option/met 'n versekeringsopsie)		Postage paid R _____ C	Service fee/Diensgeld R _____ C
Full tracking and tracing/Volledige volg en spoor		Insurance/Verskering R _____ C	Total/Totaal R _____ C
Addressed to/Geadresseer aan Birdlife Simon Gear P.O. Box 515 Pandburg		Insured value of contents Versekerde waarde van inhoud R _____ C	Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502
The value of the contents of this letter is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optional insurance up to R2000.00 is available and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100.00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering tot R2 000.00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.		Initial of accepting officer 	Date stamp 2012-11-28
PARCEL Registered Mail with Insurance CV 029 138 967 ZA		CUSTOMER COPY Paraf van aanneembesprente Klientskrif	

REGISTERED LETTER GEREGISTREERDE BRIEF			
(with an insurance option/met 'n versekeringsopsie)		Postage paid R _____ C	Service fee/Diensgeld R _____ C
Full tracking and tracing/Volledige volg en spoor		Insurance/Verskering R _____ C	Total/Totaal R _____ C
Addressed to/Geadresseer aan D.R.D.h.R-KZN Thembisile Mabaso 200 Church Street Pietermaritzburg		Insured value of contents Versekerde waarde van inhoud R _____ C	Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502
The value of the contents of this letter is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optional insurance up to R2000.00 is available and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100.00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering tot R2 000.00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.		Initial of accepting officer 	Date stamp 2012-11-28
PARCEL Registered Mail with Insurance CV 029 138 915 ZA		CUSTOMER COPY Paraf van aanneembesprente Klientskrif	

REGISTERED LETTER GEREGISTREERDE BRIEF			
(with an insurance option/met 'n versekeringsopsie)		Postage paid R _____ C	Service fee/Diensgeld R _____ C
Full tracking and tracing/Volledige volg en spoor		Insurance/Verskering R _____ C	Total/Totaal R _____ C
Addressed to/Geadresseer aan Department of Agriculture, Forestry and Fisheries Land Use and Soil B.N De Lange Delpen Building Riverina		Insured value of contents Versekerde waarde van inhoud R _____ C	Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502
The value of the contents of this letter is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optional insurance up to R2000.00 is available and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100.00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering tot R2 000.00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.		Initial of accepting officer 	Date stamp 2012-11-28
PARCEL Registered Mail with Insurance CV 029 238 940 ZA		CUSTOMER COPY Paraf van aanneembesprente Klientskrif	

SECTION H: APPENDICES





REGISTERED LETTER GEREGISTREERDE BRIEF			
(with an insurance option/met 'n versekeringsopsie)		Postage paid R _____ C	Service fee/Diensgeld R _____ C
Full tracking and tracing/Volledige volg en spoor		Insurance/Versekering R _____ C	Total/Totaal R _____ C
Addressed to/Gedresseer aan Department of Agriculture, Forestry and Fisheries KZN Thembe Dlungu 185 Longmarket Street Old Mutual Building Pietermaritzburg 3202		Insured value of contents Versekerde waarde van inhoud R _____ C	Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502
<small>The value of the contents of a letter is limited to R100.00. Compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Opsigtelike waarde van inhoud van brief is beperk tot R100.00. Komptensasie is nie betaalbaar sonder dokumentêre bewys betrefsaar nie. Opsigtelike versekering tot R100.00 is beskikbaar as 'n voing op binnekomende geregistreerde briewe van toepassing.</small>		Initial of accepting officer [Signature]	Date stamp 2017-04-28
Parcel van aanvaar-beampte		Datumstempel	

REGISTERED LETTER GEREGISTREERDE BRIEF			
(with an insurance option/met 'n versekeringsopsie)		Postage paid R _____ C	Service fee/Diensgeld R _____ C
Full tracking and tracing/Volledige volg en spoor		Insurance/Versekering R _____ C	Total/Totaal R _____ C
Addressed to/Gedresseer aan D.E.T.E.A. - HO/D Coral coastzee 270 Tabu Nalovu Street Pietermaritzburg 3200		Insured value of contents Versekerde waarde van inhoud R _____ C	Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502
<small>The value of the contents of a letter is limited to R100.00. Compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Opsigtelike waarde van inhoud van brief is beperk tot R100.00. Komptensasie is nie betaalbaar sonder dokumentêre bewys betrefsaar nie. Opsigtelike versekering tot R100.00 is beskikbaar as 'n voing op binnekomende geregistreerde briewe van toepassing.</small>		Initial of accepting officer [Signature]	Date stamp 2017-04-28
Parcel van aanvaar-beampte		Datumstempel	

REGISTERED LETTER GEREGISTREERDE BRIEF			
(with an insurance option/met 'n versekeringsopsie)		Postage paid R _____ C	Service fee/Diensgeld R _____ C
Full tracking and tracing/Volledige volg en spoor		Insurance/Versekering R _____ C	Total/Totaal R _____ C
Addressed to/Gedresseer aan South African Heritage Resources Agency (SAHRA) Nokukhanya Khumalo PO Box 4637 Cape Town 8000		Insured value of contents Versekerde waarde van inhoud R _____ C	Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502
<small>The value of the contents of a letter is limited to R100.00. Compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Opsigtelike waarde van inhoud van brief is beperk tot R100.00. Komptensasie is nie betaalbaar sonder dokumentêre bewys betrefsaar nie. Opsigtelike versekering tot R100.00 is beskikbaar as 'n voing op binnekomende geregistreerde briewe van toepassing.</small>		Initial of accepting officer [Signature]	Date stamp 2017-04-28
Parcel van aanvaar-beampte		Datumstempel	

REGISTERED LETTER GEREGISTREERDE BRIEF			
(with an insurance option/met 'n versekeringsopsie)		Postage paid R _____ C	Service fee/Diensgeld R _____ C
Full tracking and tracing/Volledige volg en spoor		Insurance/Versekering R _____ C	Total/Totaal R _____ C
Addressed to/Gedresseer aan Department of Agriculture, Forestry and Fisheries - KZN Thembe Dlungwana 185 Longmarket Street Old Mutual Building Pietermaritzburg		Insured value of contents Versekerde waarde van inhoud R _____ C	Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502
<small>The value of the contents of a letter is limited to R100.00. Compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Opsigtelike waarde van inhoud van brief is beperk tot R100.00. Komptensasie is nie betaalbaar sonder dokumentêre bewys betrefsaar nie. Opsigtelike versekering tot R100.00 is beskikbaar as 'n voing op binnekomende geregistreerde briewe van toepassing.</small>		Initial of accepting officer [Signature]	Date stamp 2017-04-28
Parcel van aanvaar-beampte		Datumstempel	

SECTION H: APPENDICES

<p>REGISTERED LETTER GEREGISTREERDE BRIEF  Post Office (with an insurance option/met 'n versekeringsopsie)</p> <p>Full tracking and tracing/Volledige volg en spoor</p> <p>Addressed to/Geadresseer aan Department of Agriculture, Forestry and Fisheries KZN Sookwang Modise 185 Longmarket Street Old Mutual Building Pietermaritzburg</p> <p><small>The value of this contract and compensation is not payable for a letter received unconditionally. Compensation is limited to R100 000. No compensation is payable without documentary proof. Our insurances are up to R2 000 000 available and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is slegs betaalbaar en vergoeding is beperk tot R100 000. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Oorsake van skade tot R2 000 000 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.</small></p>	<p>Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Versekering R _____ C Total/Totaal R _____ C</p> <p>Insured value of contents Versekerde waarde van inhoud R _____ C</p> <p>Enquiries/Navrae Toll-free number Tollvry nommer 0800 111 502</p> <p>Initial of accepting officer Date stamp</p> <p><i>KZN</i></p> <p>PARCEL Registered Mail CV 629 238 919 ZA CUSTOMER COPY <input type="checkbox"/> <input checked="" type="checkbox"/></p> <p>Paraaf van aanneembegrippte Datumstempel</p>
<p>REGISTERED LETTER GEREGISTREERDE BRIEF  Post Office (with an insurance option/met 'n versekeringsopsie)</p> <p>Full tracking and tracing/Volledige volg en spoor</p> <p>Addressed to/Geadresseer aan Department of Agriculture, Forestry and Fisheries KZN Karen Moodley 185 Longmarket Street Old Mutual Building Pietermaritzburg</p> <p><small>The value of this contract and compensation is not payable for a letter received unconditionally. Compensation is limited to R100 000. No compensation is payable without documentary proof. Our insurances are up to R2 000 000 available and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is slegs betaalbaar en vergoeding is beperk tot R100 000. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Oorsake van skade tot R2 000 000 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.</small></p>	<p>Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Versekering R _____ C Total/Totaal R _____ C</p> <p>Insured value of contents Versekerde waarde van inhoud R _____ C</p> <p>Enquiries/Navrae Toll-free number Tollvry nommer 0800 111 502</p> <p>Initial of accepting officer Date stamp</p> <p><i>KZN</i></p> <p>PARCEL Registered Mail CV 629 238 919 ZA CUSTOMER COPY <input type="checkbox"/> <input checked="" type="checkbox"/></p> <p>Paraaf van aanneembegrippte Datumstempel</p>
<p>REGISTERED LETTER GEREGISTREERDE BRIEF  Post Office (with an insurance option/met 'n versekeringsopsie)</p> <p>Full tracking and tracing/Volledige volg en spoor</p> <p>Addressed to/Geadresseer aan Department of Rural Development and Land Reform - KZN Thembisile Mabeaso 200 Church Street Pietermaritzburg</p> <p><small>The value of this contract and compensation is not payable for a letter received unconditionally. Compensation is limited to R100 000. No compensation is payable without documentary proof. Our insurances are up to R2 000 000 available and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is slegs betaalbaar en vergoeding is beperk tot R100 000. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Oorsake van skade tot R2 000 000 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.</small></p>	<p>Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Versekering R _____ C Total/Totaal R _____ C</p> <p>Insured value of contents Versekerde waarde van inhoud R _____ C</p> <p>Enquiries/Navrae Toll-free number Tollvry nommer 0800 111 502</p> <p>Initial of accepting officer Date stamp</p> <p><i>KZN</i></p> <p>PARCEL Registered Mail CV 629 238 865 ZA CUSTOMER COPY <input type="checkbox"/> <input checked="" type="checkbox"/></p> <p>Paraaf van aanneembegrippte Datumstempel</p>
<p>REGISTERED LETTER GEREGISTREERDE BRIEF  Post Office (with an insurance option/met 'n versekeringsopsie)</p> <p>Full tracking and tracing/Volledige volg en spoor</p> <p>Addressed to/Geadresseer aan Birlife Simon Gear P.O. Box 515 Randburg</p> <p><small>The value of this contract and compensation is not payable for a letter received unconditionally. Compensation is limited to R100 000. No compensation is payable without documentary proof. Our insurances are up to R2 000 000 available and applies to domestic registered letters only. Die waarde van die inhoud van hierdie brief is slegs betaalbaar en vergoeding is beperk tot R100 000. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Oorsake van skade tot R2 000 000 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.</small></p>	<p>Postage paid R _____ C Service fee/Diensgeld R _____ C Insurance/Versekering R _____ C Total/Totaal R _____ C</p> <p>Insured value of contents Versekerde waarde van inhoud R _____ C</p> <p>Enquiries/Navrae Toll-free number Tollvry nommer 0800 111 502</p> <p>Initial of accepting officer Date stamp</p> <p><i>KZN</i></p> <p>PARCEL Registered Mail CV 629 238 865 ZA CUSTOMER COPY <input type="checkbox"/> <input checked="" type="checkbox"/></p> <p>Paraaf van aanneembegrippte Datumstempel</p>

SECTION H: APPENDICES

<p>REGISTERED LETTER GEREGISTREERDE BRIEF</p> <p style="text-align: right;">Post Office</p> <p><i>(with an insurance option/met 'n versekeringsopsie)</i></p> <p>Full tracking and tracing/Volledige volg en spoor</p> <p>Addressed to/Geadresseer aan</p> <p style="font-size: 1.2em;">Department of Rural and Land Reform - Babhekile Mpisane</p> <p style="font-size: 1.2em;">200 Church Street</p> <p style="font-size: 1.2em;">Robemmariburg</p> <p style="font-size: 1.2em;">3201</p> <p style="text-align: right;">Postcode Postkode</p> <p><small>The value of the contents of this letter is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optional insurance up to R200.00 is available and applies to domestic registered letters only.</small></p> <p><small>Die waarde van die inhoud van hierdie brief is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbete wettigheid ontvang word nie. Die maksimum vergoeding is tot R100.00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering tot R200.00 is beskikbaar en slegs op binnelandse geregistreerde briewe van toepassing.</small></p>	<p>Postage paid R _____ C</p> <p>Service fee/Diensgeld R _____ C</p> <p>Insurance/Versekering R _____ C</p> <p>Total/Totaal R _____ C</p> <hr/> <p>Insured value of contents Versekerde waarde van inhoud R _____ C</p> <p>Enquiries/Navrae Toll-free number Tolvry nommer 0800 111 502</p> <p>Initial of accepting officer _____</p> <p>Date stamp _____</p> <p style="text-align: right;">PARCEL Documentary proof required CV 029 138 879 ZA CUSTOMER COPY Kliëntafskrif</p> <p>Paraaf van aanneembeppte _____</p> <p>Datumstempel _____</p>
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SECTION H: APPENDICES

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①

REGISTERED MAIL Serv: 26.04.2017
 KARABO

SECTION H: APPENDICES

Appendix E.7a: Comments received following the release of the Background Information Document



CSIR our future through science (Environmental)

P.O Box 320

Stellenbosch

7599

Attention: Abulele Adams

BACKGROUND INFORMATION DOCUMENT (BID): COMMENTS FOR THE PROPOSED MAIZE AND BEAN ENTERPRISE FOR THE KHANYANI AGRICULTURAL COOPERATIVE, IMBABAZANE, KWAZULU-NATAL

The Department of Agriculture, Forestry and Fisheries (DAFF) through the sub-directorate Forestry Regulations and Support is the authority mandated to implement the National Forests Act, (Act No. 84 of 1998) by regulating the use of natural forests and protected trees species in terms of the said Act.

With regards to the BID received on the 09th of November 2015 and the desktop analysis majority of the proposed site has no present trees. However, there is woody vegetation noted adjacent to the site even though it is not clear as to what type of species occur or whether they will be impacted on. The specialist scope of work included in the BID indicates that a terrestrial ecological study will be undertaken. This study will assist in determining the impact that the development and supporting infrastructure such as roads may have on the indigenous trees and/or protected trees in terms of the NEA.

Page 1 of 2

SECTION H: APPENDICES

Further comments will be provided upon receipt and review of the DBAR.

Should any further information be required, please do not hesitate to contact this office.

Yours faithfully

N. Sontangane



Forestry Regulations & Support - KZN

SECTION H: APPENDICES

Good day Abulele,

With reference to your letter dated 9 November 2015, I have to inform you that the Minister as the Controlling Authority as defined in the Kwazulu-Natal Roads Act No. 4 of 2001, has in terms of section 21 of the said Act, no objections to the proposed application as represented in the Background Information Document CSIR/CAS/EMS/IR/2015/00011/A.

However, please advise us on the position of the proposed access point and the number of vehicles that are envisaged to be utilised.



"May the Good LORD bless you!"



Michèle Schmid | Engineering Services: Road Control KZN Department of Transport

Street Address: 224 Prince Alfred St, Pietermaritzburg, 3201

Postal Address: Private Bag X9043, Pietermaritzburg, 3200 **Office:** 033 355 0581 **Fax:** 033 342 3962 **Cell:** 082 902 0120 **e-mail:** michele.schmid@kzntransport.gov.za

Web Pages: <http://www.kzntransport.gov.za>; <http://www.kzntransportgis.co.za/transport> Michele Schmid
<michele.schmid@Kzntransport.gov.za> 23/11/2015 12:23 >>>

SECTION H: APPENDICES



cogta

Department:
Cooperative Governance and Traditional Affairs
PROVINCE OF KWAZULU-NATAL

BUSINESS SUPPORT: SPATIAL PLANNING

Enquiries:	My Reference:	Date:
Imibuzi: Mr C Rushton	Inkomba Yami:	Usuku: 14-12-2015
Navmae:	My Verwysing:	Datum:

CSIR
P o Box 320
Stellenbosch
7599

Attention: Ms. Abulele Adams

Dear Madam

PROPOSED MAIZE AND BEAN CULTIVATION AND HARVESTING ENTERPRISE : KWAMKHIZE TRADITIONAL COUNCIL

Your letter of 9 November 2015 received on 11 December 2015 has reference.

The proposal seems to be for the cultivation of maize and beans and the harvesting thereof without the development of structures.

Food security endeavors would be encouraged and supported by the Department.

Interested and Affected parties to consult would include:

- (1) Ezemvelo KZN Wildlife: Mrs J Longmore : 033 845 1349
- (2) Department of Agriculture : Natural Resources and Macro Planning : Mrs B Wiseman: 071 600 9805
- (3) Imbabazane Municipal Planner : Mr B Msimango : 036 3530691

This Department and the Directorate: Spatial Planning would have no objection to the proposed initiative as described in the Basic Assessment Report dated 9 November 2015,

Yours faithfully,

FOR SENIOR MANAGER: SPATIAL PLANNING

SECTION H: APPENDICES

Khanyani Agricultural Cooperative , Imbabazane

Our Ref: SAH16/10119

Enquiries: Bernadette Fawcette
Tel: 031 264 8543
Email: bernadette@amafakombi.co.za
ConsID: 10118

Date: Tuesday November 29, 2016
Page No: 1



Interim Comment

In terms of Section 38(8) of the National Heritage Resources Act (Act 25 of 1999) and the KwaZulu-Natal Heritage Act (Act 4 of 2008)

Attention: Mr Bongani Mnculwane
KHANYANE AGRICULTURAL PROJECT

Khanyani Agricultural Cooperative is a crop producing community owned enterprise, located on a portion of land owned by KwaMkhize Traditional Council, in the Imbabazane local municipality, KwaZulu Natal (KZN). Khanyani Agricultural Cooperative proposes to farm 9.5 ha of maize and 9.5 ha of bean crops thus making it 19 ha of the farm which was given to them by KwaMkhize traditional Council for farming.

The documents and information relating to this application has been evaluated in terms of the requirements of the heritage legislation. The general region in which this development falls is associated with activities relating to the stone age , iron age and historical era. It is a corridor where a lot of cultures interacted and left footprints in form of cultural material and features . While sites of paleontological significance occur in the general area, it is not anticipated that the proposed activity will unearth fossil remains as the fossil sensitivity map indicates that the site is in an area of zero to insignificant fossil sensitivity.

The proposed development which involves clearance of more than 300 square metres of vegetation is likely to impact on sites of heritage significance of an archaeological and historical nature.

Amafa Heritage KZN would like the following to be addressed in the BAR:

1) Identification of any culturally sensitive areas and water resources such as wetlands, streams, rock shelters , open shelters rivers associated with historical activities and beliefs, etc. as well as possible impacts and proposed mitigation measures to protect such resources

Considering the heritage value of the area of proposed development, a Heritage Impact Assessment is required to fulfill the requirements of Section 38 the National Heritage Resources Act No.25 of 1999 (Section 38). This must include the archaeological component (Phase 1) and any other applicable heritage components. Amafa KZN Heritage therefore requires the appointment of an Amafa accredited Heritage Practitioner to assist in the provision of recommendations and mitigation procedures.

The Study should cover:

- Identification of all heritage resources in the development area and its surroundings -50m
- Assessment of the impact of the development on such heritage
- Evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development
- Results of consultation with communities affected by the proposed development and other interested



Amafa KwaZulu-Natal
Heritage KwaZulu-Natal
Etheno KwaZulu-Natal

10118/2016/AmafaKombi/10118
Tel: 031 264 8543 Fax: 031 264 8544
Email: bernadette@amafakombi.co.za
Website: www.amafakombi.co.za

SECTION H: APPENDICES

Khanyani Agricultural Cooperative , Imbabazane

Our Ref: SAH16/10119

Enquiries: Bernadet Pawandiwa
Tel: 033 394 6543
Email: bernadep@amafapmb.co.za
CaseID: 10119

Date: Tuesday November 29, 2016

Page No: 2



- and affected parties regarding the impact of the development on heritage resources.
- Consideration of alternatives if heritage resources are affected by the development
 - Mitigation plans for any adverse effects during and after completion of the project
 - Table of all heritage resources identified. This should show Heritage resource type, description, location, significance and reasons for this rating.

Please download our list of Heritage Practitioners from our website www.heritagekzn.co.za.

Should you have any further queries, please contact the designated official using the case number quoted above in the case header.

Yours faithfully

Bernadet Pawandiwa
Senior Heritage Officer
Amafa/Heritage KwaZulu Natal

Annie van de Venter Radford
Deputy Director: Research, Professional Services and Compliance
Amafa/Heritage KwaZulu Natal

ADMIN:

Direct URL to case: <http://www.sahra.org.za/node/369621>

Terms & Conditions:

1. This approval does not exonerate the applicant from obtaining local authority approval or any other necessary approval for proposed work.
2. If any heritage resources, including graves or human remains, are encountered they must be reported to Amafa immediately.
3. Amafa reserves the right to request additional information as required.



Amafa AkwaZulu-Natal
Heritage KwaZulu-Natal
Erfenis KwaZulu-Natal

P.O. Box 2626, Watermantsburg, 3209
Tel: 033 394 6543, fax: 033 352 6067
Email: amafadep@amafapmb.co.za
Website: www.heritagekzn.co.za

SECTION H: APPENDICES



ETHEMBENI
CULTURAL
HERITAGE

Amafa aKwazulu-Natali
195 Jabu Ndlovu Street Pietermaritzburg 3200 August
Telephone 033 3946 543
bernadetu@amafanmb.co.za

16 January 2016

Attention Bernadet Pawandiwa

Dear Ms Pawandiwa

Application for Exemption from a Phase 1 Heritage Impact Assessment

Proposed cultivation of 19,5 ha of fallow land for maize and bean production
Khanyani Agricultural Co-operative
KwaMkhize Traditional Council, Imbabazane LM, KwaZulu-Natal.

Project Area and Project description¹

Khanyani Agricultural Cooperative is a crop producing community owned enterprise, located on a portion of land owned by KwaMkhize Traditional Council, in the Imbabazane local municipality, KwaZulu Natal. The Agricultural Cooperative consists of twelve community members and is led by Bongani Mnculwane. Khanyani Agricultural Cooperative proposes to farm 10 ha of maize and 9.5 ha of bean crops thus making it 19.5 ha of the farm which was given to them by KwaMkhize traditional Council for the purpose of farming.

There is a guaranteed market for maize and bean crops in the area in which the Agricultural Cooperative operates. The crops grown are not only for consumption but the surplus will be sold to make a profit. The Agricultural Cooperative currently has a written off-take agreement with a local buyer, Macksons, to buy their produce as well as there is demand from surrounding villages.

Khanyani Agricultural Cooperative will employ a total of twelve employees, nine of which will be responsible for the crops and three of which will be responsible for the administration of the Agricultural Cooperative. In terms of capacity building, the employees will undergo training for crop production and gain skills in monitoring and harvesting crops. Khanyani Agricultural Cooperative could contribute to the viability of the crop to the local community.

Observations

The Basic Assessment for this project is triggered by NEMA EIA Regulations in terms of GN. R 983, 8 (27); the clearance of more than 1 ha of indigenous vegetation, in this case within the grassland biome.

The proposed maize and bean production is in keeping with the current agrarian landscape and associated activities.

¹

CSIR Reference Number:CSIR/CAS/EMS/IR/2015/00011/A

Box 30057 Ashburton 3213 PIETERMARITZBURG South Africa ~ Telephone Len 082 655 9077 ~ Fax 086 672 8557
ethembeni@africa.com ~ CK 94/022770/23 ~ VAT No 4696238268

SECTION H: APPENDICES

Khanyani Agricultural Cooperative , Imbabazane

Our Ref: SAH16/10119

Enquiries: Bernadet Pawandwa
Tel: 033 304 6543
Email: bernadetp@amafapmb.co.za
CaseID: 10119

Date: Friday February 17, 2017

Page No: 1



Final Comment

In terms of Section 38(8) of the National Heritage Resources Act (Act 25 of 1999) and the KwaZulu-Natal Heritage Act (Act 4 of 2008)

Attention: Mr Bongani Mnculwane

KHANYANI AGRICULTURAL CO-OPERATIVE crop producing community owned enterprise, located on a portion of land owned by KwaMkhize Traditional Council, in the Imbabazane local municipality, KwaZulu Natal (KZN). Khanyani Agricultural Cooperative proposes to farm 9.5 ha of maize and 9.5 ha of bean crops thus making it 19 ha of the farm which was given to them by KwaMkhize traditional Council for farming.

Thank you for submitting the Letter of Exemption from undertaking a full Heritage Impact Assessment on this application. The exemption motivation by Len Schalkwyk of eThembeni Cultural Heritage has been reviewed and the arguments in favour of the development proposal have been accepted by the Amafa APMBG Unit.

Amafa therefore has no objection to the development.

You are also required to adhere to the below-mentioned standard conditions:

Conditions:

1. Amafa should be contacted if any heritage objects are identified during earthmoving activities and all development should cease until further notice.
2. No structures older than sixty years or parts thereof are allowed to be demolished altered or extended without a permit from Amafa.
3. No activities are allowed within 50m of a site, which contains rock art.
4. Sources of all natural materials (including topsoil, sands, natural gravels, crushed stone, asphalt, etc.) must be obtained in a sustainable manner and in compliance with the heritage legislation.

Failure to comply with the requirements of the National Heritage Resources Act and the KwaZulu Natal Heritage Resources Act could lead to legal action being instituted against the applicant.

Should you have any further queries, please contact the designated official using the case number quoted above in the case header.

Yours faithfully

Bernadet Pawandwa
Senior Heritage Officer
Amafa/Heritage KwaZulu Natal



Amafa AkwaZulu-Natali
Heritage KwaZulu-Natal
Erfenis KwaZulu-Natal

P.O. Box 2685, Pietermaritzburg 3209
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Email: amafapmb@amafapmb.co.za
Website: www.heritagekzn.co.za

SECTION H: APPENDICES

Khanyani Agricultural Cooperative , Imbabazane

Our Ref: SAH16/10119

Enquiries: Bernadet Pawandiwa
Tel: 033 364 6543
Email: bernadep@amafapmb.co.za
CaseID: 10119

Date: Friday February 17, 2017

Page No: 2



Annie van de Venter Radford
Deputy Director: Research, Professional Services and Compliance
Amafa/Heritage KwaZulu Natal

ADMIN:

Direct URL to case: <http://www.sahra.org.za/node/369621>

Terms & Conditions:

1. This approval does not exonerate the applicant from obtaining local authority approval or any other necessary approval for proposed work.
2. If any heritage resources, including graves or human remains, are encountered they must be reported to Amafa immediately.
3. Amafa reserves the right to request additional information as required.



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Website: www.heritage.gov.za

SECTION H: APPENDICES



Figure 1 Location of the Khanyani Agricultural Cooperative Project Site



Figures 2 and 3 Virgin grassland proposed for maize and bean cultivation

SECTION H: APPENDICES



FIGURE 4 Khanyani land allocation within the local environment

The archaeological footprint of the Drakensberg Foothill Moist Grasslands themselves (*sensu* Mucina and Rutherford 2006)² is understood to be low (KZN Museum Archaeology Data Base). Whilst Stone Age hunter gatherer sites abound in the adjacent Stormberg Group lithology of the lower Drakensberg, Iron Age settlement of the central Drakensberg grasslands only occurred to any extent in the mid to late 19th Century. This was largely due to the settlement actions of Theophilus Shepstone³ and his establishment of Native Reserves for tribal groups displaced by expansion of the Zulu Kingdom and the effects of the *mfecane*⁴. The immediate area around the land allocated to the Khanyani Co-operative is extensively underlain with dolerite sills which present at the surface as contiguous boulder beds. Such exposed dolerite is eschewed for settlement in traditional society due to the incidence of lightning strikes. Consequently, no significant archaeological remains were anticipated..

No historical graves are reported by the project proponents, who are residents of the adjacent local communities.

The SAHRIS Palaeontology sensitivity map indicates the area to be of insignificant sensitivity (grey). The Khanyani land allocation lies on Beaufort Group basement (comprising mud and sandstones that are

² 2008. Mucina, L., Rutherford, M.C. (Eds.), The vegetation of South Africa. Lesotho and Swaziland. SANBI, Pretoria

³ 2013. Jeff Guy. Theophilus Shepstone and the Forging of Natal. UKZN Natal Press, Pietermaritzburg

⁴ 1979. Jeff Guy. The Destruction of the Zulu Kingdom. UKZN Press, Pietermaritzburg

SECTION H: APPENDICES

potentially fossil rich). However, the extensive underlay of intrusive dolerite sills⁸ has negated the possibility of significant fossil remains. Weathering of the dolerite basement has produced the relatively deep red soils sought after for the proposed agricultural activities. Consequently no further palaeontology assessment or monitoring is recommended.

Recommendations

Accordingly, we request that Amafa grant an exemption from an HIA for the proposed agricultural activities and local community upliftment project, allowing the enterprise to proceed with no further heritage resource mitigation.

In this regard, please can you notify us timeously via the loaded SAHRIS case file as to the decision of Amafa.

Yours sincerely



Len van Schalkwyk
Principle Investigator

⁸ Groenewald, O., 2012. Palaeontological Technical Report for KwaZulu-Natal. Unpublished. Amafa, aKwaZulu-Natal.

SECTION H: APPENDICES

"Buyiswe Hadebe" <jennica@telkomsa.net>

19/03/2021 11:16 AM

Crops recommendation ✓

● Karabo Mashabela

Good day

Khanyani Coop is situated at KwaMkhize area under Inkosi Langalibalele municipality ward 11 now in Estcourt. The area has potential soils like Hutton and Clovelly these are good soils in terms of rooting depth and drainage. The crops that were recommended maize and dry beans are suitable for the area and potatoes too are suitable. Maize with expected minimum yield of 4 t/ha, dry beans 1.5 t/ha and potatoes 20t/ha, but as long the soil nutrient and lime recommendations will be followed.

Attached the nutrient and lime recommendation results.

Regards

J.B. Hadebe- Agricultural advisor(0722418409)

SECTION H: APPENDICES



FERTILIZER ADVISORY SERVICE

Page 1

KZN Department of Agriculture and Environmental Affairs; Soil Fertility and Analytical Services; Private Bag X9058, Pietermaritzburg 3200. Tel: 033-3559455. Fax: 033-3559454. Enquiries: Les Thurlet

CLIENT DETAILS

Khanyani Co-op
P.O. Box 1490
Estcourt

3310
Phone : 072 522 7756

ADVISOR DETAILS

Hadebe JB
P.O. Box 1490
Estcourt

3310
Phone : 036 352 3033 (W)

SUMMARY OF ANALYTICAL RESULTS

(These results may not be used in litigation)

Batch : 797 Year : 2014 Printed : 30/09/2014

Your sample ID	Lab number	Sample density g/ml	P mg/L	N mg/L	Ca mg/L	Mg mg/L	Exch. acidity cmol/L	Total cations cmol/L	Acid sat. %	pH (KCl)	Zn mg/L	Mn mg/L	Cu mg/L
KHANYA 1	F15721	0.96	5	188	315	342	2.14	6.81	31	4.92	0.7	26	1.6

Your sample ID	Lab number	Mid-infrared Estimates		
		Org. C %	N %	Clay %
KHANYA 1	F15721	1.7	0.27	39

Comments:

- (1) Recommended rates of fertilizer and lime for the relevant crops are reported on the following pages. No recommendation will be given for crops not entered on the submission form.
- (2) Recommendations are not provided for subsoil samples.
- (3) It is assumed that samples submitted for crops and for the establishment of pastures were taken from the top 15 cm of soil. For the maintenance of established pastures, a sampling depth not exceeding 10 cm is assumed.
- (4) It is assumed that the lime to be used has a neutralising value equal to 10% of that of pure calcium carbonate. Dolomite lime is recommended if soil Mg levels are low, and calcitic lime, if soil Mg exceeds 0.6 x soil Ca. Where Mg is sufficient, but not excessive, either type of lime may be used. If lime is not necessary, but the soil Mg level is suboptimal for the intended crop, this is indicated under the "Lime type" heading with the comment "low Mg". Consult your advisor for the most cost-effective method of improving Mg status.
- (5) Phosphorus recommendations are based on a water-soluble P source.
- (6) The recommendations are based on the assumption that the soil sample is truly representative of the land and that other growth factors are not limiting.
- (7) Organic carbon, total nitrogen and clay percentage, estimated by mid-infrared (MIR) spectroscopy, is given for most samples. MIR measurements should be viewed as reasonably reliable estimates. Actual C, N and clay percentages (as well as D concentrations) can be determined (at extra cost) on request.

SECTION H: APPENDICES

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Fertrec 6 Khanyani Co-op / Haxobe JB

NUTRIENT AND LIME RECOMMENDATIONS

Dry bean; dryland

Sample ID	Lab Num	NITROGEN		PHOSPHORUS			POTASSIUM			LIME			ZINC	
		Yield target t/ha	Req. N kg/ha	Sample soil test mg/L	Target soil test mg/L	Req. P kg/ha	Sample soil test mg/L	Target soil test mg/L	Req. K kg/ha	Sample acid sat. %	PAS %	Req. Lime t/ha	Lime type	Zinc fert. reqd.?
KHANYA 1	F15721	1.0	40	5	10	55	109	100	0	31	5	8.5	Calc	Yes
		2.0	80	5	10	55	109	100	0	31	5	8.5	Calc	Yes
		3.0	120	5	10	55	109	100	0	31	5	8.5	Calc	Yes

Sample soil test and sample acid saturation reflect the soil test values of the sample submitted. Required P and required K (coloured red) are the amounts of P and K required to raise the soil test to the target value. Lime required (coloured red) is the amount of lime needed to decrease the soil acid saturation to the permissible acid saturation (PAS).

MANAGEMENT GUIDELINES

- (1) LIME, IF REQUIRED, SHOULD BE APPLIED AT LEAST ONE TO TWO MONTHS BEFORE PLANTING. It is assumed that the lime will be incorporated to a depth of 20 cm. Thorough incorporation is essential: discing followed by ploughing is recommended.
- (2) Where soil test P levels are considered adequate, but are less than 120 mg/L, a starter application of 20 kg P/ha has been recommended to promote initial plant growth.
- (3) Where the soil P test of a sample is abnormally high (>120 mg/L), and the sample is truly representative of the whole field, no fertilizer P should be applied until test levels indicate a P requirement.
- (4) This crop requires 20 - 30 kg S/ha. This can usually be supplied from the atmosphere and by the mineralization of organic S in soils, but supplementary S fertilizers may be necessary on sandy soils, where sulphate is lost by leaching.

FERTILIZER OPTIONS

The following are fertilizer options (given in bags/ha) using DAP, MAP, Double Supers, 2:3:4(38), KCl, LAN and urea. Your local fertilizer adviser can provide additional fertilizer options. The quantities recommended are those for a complete growing season and the management guidelines on the previous page/s should be considered when scheduling applications.

Sample F15721 Yield target (t/ha) 1.0

- (1) If DAP was used, too much nitrogen would be supplied.
- (2) If MAP was used, too much nitrogen would be supplied.
- (3) 10.5 bags/ha Single Supers (10.5%P); 2.9 bags/ha LAN or 1.7 bags/ha urea.
- (4) If 234 was used, too much nitrogen would be supplied.

Sample F15721 Yield target (t/ha) 2.0

- (1) If DAP was used, too much nitrogen would be supplied.
- (2) If MAP was used, too much nitrogen would be supplied.
- (3) 10.5 bags/ha Single Supers (10.5%P); 5.7 bags/ha LAN or 3.5 bags/ha urea.
- (4) If 234 was used, too much nitrogen would be supplied.

Sample F15721 Yield target (t/ha) 3.0

- (1) If DAP was used, too much nitrogen would be supplied.
- (2) If MAP was used, too much nitrogen would be supplied.
- (3) 10.5 bags/ha Single Supers (10.5%P); 8.6 bags/ha LAN or 5.2 bags/ha urea.
- (4) If 234 was used, too much nitrogen would be supplied.

SECTION H: APPENDICES

Fortrac 6 - Khanyani Co-op / Madiba JB

NUTRIENT AND LIME RECOMMENDATIONS

Maize (grain; dryland)

Sample ID	Lab Num	NITROGEN		PHOSPHORUS			POTASSIUM			LIME			Zinc reqd.?	
		Yield target t/ha	Req. N kg/ha	Sample soil test mg/L	Target soil test mg/L	Req. P kg/ha	Sample soil test mg/L	Target soil test mg/L	Req. K kg/ha	Sample acid sat. %	Req. % Lime t/ha	Lime type		
KHANYA 1	F15721	4.0	40	5	12	60	109	120	38	31	20	2.0	Calc	Yes
		7.0	120	5	12	60	109	120	38	31	20	2.0	Calc	Yes
		10.0	160	5	12	60	109	120	38	31	20	2.0	Calc	Yes

Sample soil test and sample acid saturation reflect the soil test values of the sample submitted. Required P and required K (coloured red) are the amounts of P and K required to raise the soil test to the target value. Lime required (coloured red) is the amount of lime needed to decrease the soil acid saturation to the permissible soil saturation (PAS).

MANAGEMENT GUIDELINES

- (1) LIME, IF REQUIRED, SHOULD BE APPLIED AT LEAST ONE TO TWO MONTHS BEFORE PLANTING. It is assumed that the lime will be incorporated to a depth of 20 cm. Thorough incorporation is essential, disking followed by ploughing is recommended.
- (2) In order to increase the time between tilling operations, it is often advisable to apply more lime than recommended above. Liming to 10% acid saturation rather than 20% is a sound policy for maize lands.
- (3) Where soil test P levels are considered adequate, but are less than 120 mg/L, a further application of 20 kg P/ha has been recommended to promote initial plant growth.
- (4) At least 20 kg of the recommended P should be applied in the band at planting.
- (5) Where the soil P test of a sample is abnormally high (>120 mg/L), and the sample is truly representative of the whole field, no fertilizer P should be applied until test levels indicate a P requirement.
- (6) Nitrogen recommendations given above should be used as a guideline only as there are many situations where lower N rates are more cost-effective. Details are given in the leaflet 'Nitrogen fertilization: Allowance for N mineralization and residual N' which is available from Alan Manson (033-3554100).
- (7) On all soils, applications of N should be split in order to improve efficiency of N use and minimize soil acidification. This is especially important on soils that tend to waterlog as well as on sandy soils. Topdressed N should be applied when the plants are knee high.
- (8) Ensure that the total combined N and K applied in the band at planting does not exceed 80 kg/ha.
- (9) N applications may be reduced by 40 kg/ha if the previous crop was soyabean that yielded 2-3 t/ha.
- (10) This crop requires 20 - 30 kg S/ha. This can usually be supplied from the atmosphere and by the mineralization of organic S in soils, but supplementary S fertilizers may be necessary on sandy soils, where sulphate is lost by leaching.
- (11) If subsoil K (anywhere between 15 and 50 cm deep) is greater than 100 mg/L, and the sample density is greater than 1.35 g/ml, the K recommendation can be decreased by 50 kg/ha.

FERTILIZER OPTIONS

The following are fertilizer options (given in bags/ha) using DAP, MAP, Double Super, 2:3:4(33), KCl, LAN and urea. Your local fertilizer adviser can provide additional fertilizer options. The quantities recommended are those for a complete growing season and the management guidelines on the previous page should be considered when scheduling applications.

Sample F15721 Yield target (t/ha) 4.0

- (1) 8.8 bags/ha DAP; 1.2 bags/ha KCl if DAP was used to supply the recommended P, it would supply more N than required.
- (2) 5.5 bags/ha MAP; 1.2 bags/ha KCl; 0.7 bags/ha LAN or 0.4 bags/ha urea.
- (3) 11.4 bags/ha Single Super (10.25P); 1.2 bags/ha KCl; 2.8 bags/ha LAN or 1.7 bags/ha urea.
- (4) 9.4 bags/ha 2:3:4(33). The 2:3:4 would supply more than sufficient K.

Sample F15721 Yield target (t/ha) 7.0

- (1) 8.8 bags/ha DAP; 1.2 bags/ha KCl; 4.7 bags/ha LAN or 2.9 bags/ha urea.
- (2) 5.5 bags/ha MAP; 1.2 bags/ha KCl; 6.4 bags/ha LAN or 3.9 bags/ha urea.
- (3) 11.4 bags/ha Single Super (10.25P); 1.2 bags/ha KCl; 8.8 bags/ha LAN or 5.2 bags/ha urea.
- (4) 9.4 bags/ha 2:3:4(33); 5.7 bags/ha LAN or 3.5 bags/ha urea. The 2:3:4 would supply more than sufficient K.

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Sample F15721 Yield target (t/ha) 10.0

(1) 0 bags/ha DAP, 1.2 bags/ha KCl, 7.8 bags/ha LAN or 4.6 bags/ha urea

(2) 5.5 bags/ha MAP, 1.2 bags/ha KCl, 4.3 bags/ha LAN or 3.7 bags/ha urea

(3) 11.4 bags/ha Single Supers (10.5%N), 1.2 bags/ha KCl, 11.4 bags/ha LAN or 7.0 bags/ha urea

(4) 0.4 bags/ha 2:2:4:0:8, 3.8 bags/ha LAN or 3.2 bags/ha urea. The 2:2:4 would supply more than sufficient N.

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**MAIZE FERTILIZATION AND LIMING:
CONSEQUENCES OF DIFFERENT LIME, P AND K OPTIONS FOR A PARTICULAR SOIL TEST.**

Lab number F15721

Your sample ID	Lab number	Sample density g/nd.	P mg/L	K mg/L	Ca mg/L	Mg mg/L	Exch. acidity cmol/l	Total cations cmol/l	Acid sat. %	pH (RCT)	Zn mg/L	Mn mg/L	Cu mg/L	NIRS C %	NIRS clay %
KHANYA 1	F15721	0.96	5	109	315	342	2.54	4.81	31	4.62	0.7	26	3.6	-	6

LIMITATIONS IMPOSED BY SOIL ACIDITY, P AND K IN THIS SOIL.

	Relative Yield(%)	Graphical representation of relative yields
Potential (if soil and lime recommendations are followed)	81	
Acidity limitation (if no lime applied but P and K recommendations followed)	77	
Soil P limitation (if no P applied but lime and K recommendations followed)	63	
Soil K limitation (if no K applied but lime and P recommendations followed)	51	

LIME, P AND K OPTIONS:

	Lime (t/ha)	P	K	Rel yield (%)	Example yield (t/ha)	Graphical representation	
Recommended option:	L2P2K3	3.0	75	8	81	3.64	
	L2P2K2	3.0	33	0	83	3.26	
	L2P1K1	3.0	16	0	75	2.93	
	L2P0K0	3.0	0	0	65	2.61	
Limited input options:	L1P2K3	0.5	75	0	78	3.14	
	L1P2K2	0.5	33	0	76	2.81	
	L1P1K1	0.5	16	0	63	2.53	
	L1P0K0	0.5	0	0	56	2.23	
	L0P2K3	0	75	0	77	3.09	
	L0P2K2	0	33	0	80	2.77	
	L0P1K1	0.5	16	0	62	2.49	
Zero lime, P and K	L0P0K0	0	0	0	56	2.23	

Climatic and agronomic practices may limit the potential yield of maize to a particular yield (eg. 4 t/ha). The relative yields given indicate how soil acidity, P deficiency and K deficiency are likely to limit yields below this level. The column headed "example yield" shows the yield possible using different lime, P and K options assuming the maximum potential yield is 4 t/ha.

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Fertrec 6 - Khanyani Co-op / Hadebe JB

NUTRIENT AND LIME RECOMMENDATIONS

Potato: dryland

Sample ID	Lab Num	NITROGEN		PHOSPHORUS			POTASSIUM			LIME			ZINC	
		Yield target t/ha	Req N kg/ha	Sample soil test mg/L	Target soil test mg/L	Req P kg/ha	Sample soil test mg/L	Target soil test mg/L	Req K kg/ha	Sample acid sat. %	PAS %	Req Lime t/ha	Lime type	Zinc fert. reqd. t
KHANYA 1	F15721	20.0	90	5	16	120	126	180	136	31	30	1.3	Calc.	Yes
		40.0	180	5	16	120	126	200	230	31	30	1.6	Calc.	Yes
		50.0	220	5	16	120	126	240	330	31	30	1.7	Calc.	Yes

Sample soil test and sample acid saturation reflect the soil test values of the sample submitted. Required P and required N (shown in red) are the amounts of P and N required to raise the soil test to the target value. Lime required (shown in red) is the amount of lime needed to decrease the soil acid saturation to the permissible acid saturation (PAS).

MANAGEMENT GUIDELINES

- (1) LIME, IF REQUIRED, SHOULD BE APPLIED AT LEAST ONE TO TWO MONTHS BEFORE PLANTING. It is assumed that the lime will be incorporated to a depth of 20 cm. Thorough incorporation is essential; discing followed by ploughing is recommended.
- (2) If the crop is to be limed just prior to planting then a maximum of one ton of lime should be applied as the occurrence of scale appears to be associated with high lime applications.
- (3) If Ca levels are less than 300 mg/L in sandy soils or less than 500 mg/L in heavy or clayey soils, an application of 1000 to 3000 kg gypsum/ha is recommended.
- (4) Where P levels are considered adequate, but are less than 120 mg/L, an application of 80 kg P/ha has been recommended to ensure adequate growth.
- (5) Where the soil P test of a sample is abnormally high (>120 mg/L), a response to P fertilizer is unlikely. However, P fertilizer may be applied to ensure that adequate P is available over the entire area to be cropped.
- (6) A high potassium/magnesium ratio (>4:1 on a mass basis) could induce a magnesium deficiency in the crop. Should foliar analysis confirm Mg deficiency, supplementary Mg may be effectively applied by application of a foliar spray of 5 kg/ha of magnesium sulphate.
- (7) Apply N in two dressings, half banded at planting and half side dressed and ridged in at flower-bud emergence. The N recommendation is limited to 120 kg/ha for seed potatoes.
- (8) To ensure high yields, it is recommended that 30 - 40 kg/ha of sulphur be applied at establishment or soon thereafter.
- (9) Consult your adviser on the use of micronutrients such as zinc, boron and molybdenum.

FERTILIZER OPTIONS

The following are fertilizer options (given in bags/ha) using DAP, MAP, Double Supers, 2:2:4:38, KCl, LAN and urea. Your local fertilizer adviser can provide additional fertilizer options. The quantities recommended are those for a complete growing season and the management guidelines on the previous page/s should be considered when scheduling applications.

Sample F15721 Yield target (t/ha) 20.0

- (1) 12.0 bags/ha DAP, 5.2 bags/ha KCl if DAP was used to supply the recommended P, it would supply more N than required.
- (2) 10.9 bags/ha MAP, 5.2 bags/ha KCl, 2.1 bags/ha LAN or 1.3 bags/ha urea.
- (3) 20.9 bags/ha Single Supers (10.5%P), 5.2 bags/ha KCl, 6.4 bags/ha LAN or 3.0 bags/ha urea.
- (4) 18.9 bags/ha 2:2:4:38, 0.8 bags/ha LAN or 0.5 bags/ha urea. The 2:2:4 would supply more than sufficient K.

Sample F15721 Yield target (t/ha) 40.0

- (1) 12.0 bags/ha DAP, 5.2 bags/ha KCl, 3.7 bags/ha LAN or 2.3 bags/ha urea.
- (2) 10.9 bags/ha MAP, 5.2 bags/ha KCl, 7.1 bags/ha LAN or 4.3 bags/ha urea.
- (3) 22.9 bags/ha Single Supers (10.5%P), 5.2 bags/ha KCl, 11.4 bags/ha LAN or 7.0 bags/ha urea.
- (4) 18.9 bags/ha 2:2:4:38, 2.8 bags/ha KCl, 6.6 bags/ha LAN or 3.5 bags/ha urea.

Sample F15721 Yield target (t/ha) 60.0

- (1) 12.0 bags/ha DAP, 13.2 bags/ha KCl, 6.5 bags/ha LAN or 4.0 bags/ha urea.

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- (I) 10.8 bags/ha MAP; 13.2 bags/ha KCl; 10.0 bags/ha LAN or 8.1 bags/ha urea.
- (J) 22.8 bags/ha Single Super (10.5% P); 13.2 bags/ha KCl; 14.3 bags/ha LAN or 8.7 bags/ha urea.
- (K) 18.8 bags/ha 2-3-4-30; 6.8 bags/ha KCl; 8.0 bags/ha LAN or 5.2 bags/ha urea.

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Appendix E.7b: Comments received following the release of the Draft Basic Assessment Report



agriculture, forestry & fisheries

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

Fax: 033 342 8783	DAFF	Ms. N. Mgwaba
Tel: 033 392 7721	Forestry Regulations & Support	26 April 2017
NokwandaM@daff.gov.za	P/Bag X9029	
	Pietermaritzburg	
	3200	

Council for Scientific and Industrial Research
P. O. Box 320
Stellenbosch
7599

Attention: Karabo Mashabela

Draft Basic Assessment Report for the proposed maize and bean cultivation and harvesting enterprise for the Khanyani Agricultural Cooperative, Emthebeni, Imbabazane Local Municipality, KwaZulu-Natal.

This letter serves as a notice of receipt for the above document received on the 26th of April 2017.

Should any further information be required, please do not hesitate to contact this office.

Yours faithfully
Ms. N. Mgwaba

Forestry Regulations & Support
KZN

SECTION H: APPENDICES

Comments from the Department of Agriculture Forestry and Fisheries



agriculture,
forestry & fisheries

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

F 033 342 8783

DAFF

Ms. N. Sontangane

T 033 392 7733

Forestry Regulations & Support

26 May 2017

E NandiphaS@nda.agric.za

P/Bag X9029

Pietermaritzburg, 3200

Council for Science and Industrial Research

P.O Box 320, Stellenbosch, 7599

Attention: Karabo Mashabela

DRAFT BASIC ASSESSMENT REPORT (DBAR): COMMENTS FOR THE PROPOSED MAIZE AND BEAN CULTIVATION AND HARVESTING ENTERPRISE FOR THE KHANYANI AGRICULTURAL COOPERATIVE, EMTHEBENI, IMBABAZANE LOCAL MUNICIPALITY, KWAZULU-NATAL.

The Department of Agriculture, Forestry and Fisheries (DAFF) through the sub-directorate Forestry Regulations and Support is the authority mandated to implement the National Forest Act, (Act No. 84 of 1998) by regulating the use of natural forests and protected tree species in terms of the said Act.

With regards to the DBAR received on the 26th of April 2017, the proposed developmental site is mostly covered by the grassland vegetation which is considered to be least threatened in terms of its conservation significance. Furthermore, it is indicated that "no forest or woody vegetation was noted on site during the ecological evaluation". Therefore, DAFF has no objections towards the proposed project given that there are no indigenous and/or protected tree species in terms of NFA that will be impacted upon.

This letter does not exempt you from considering other environmental legislations.

Should any further information be required, please do not hesitate to contact this office.

Yours faithfully

N. Sontangane

Forestry Regulations & Support - KZN

SECTION H: APPENDICES

Comments from the King of KwaMkhize Rural Area



Good day Ms Mashabela

Thank you for the report.

There are no comments on our side as the Traditional Council.

Please may you continue with finalizing the report.

Thank you.

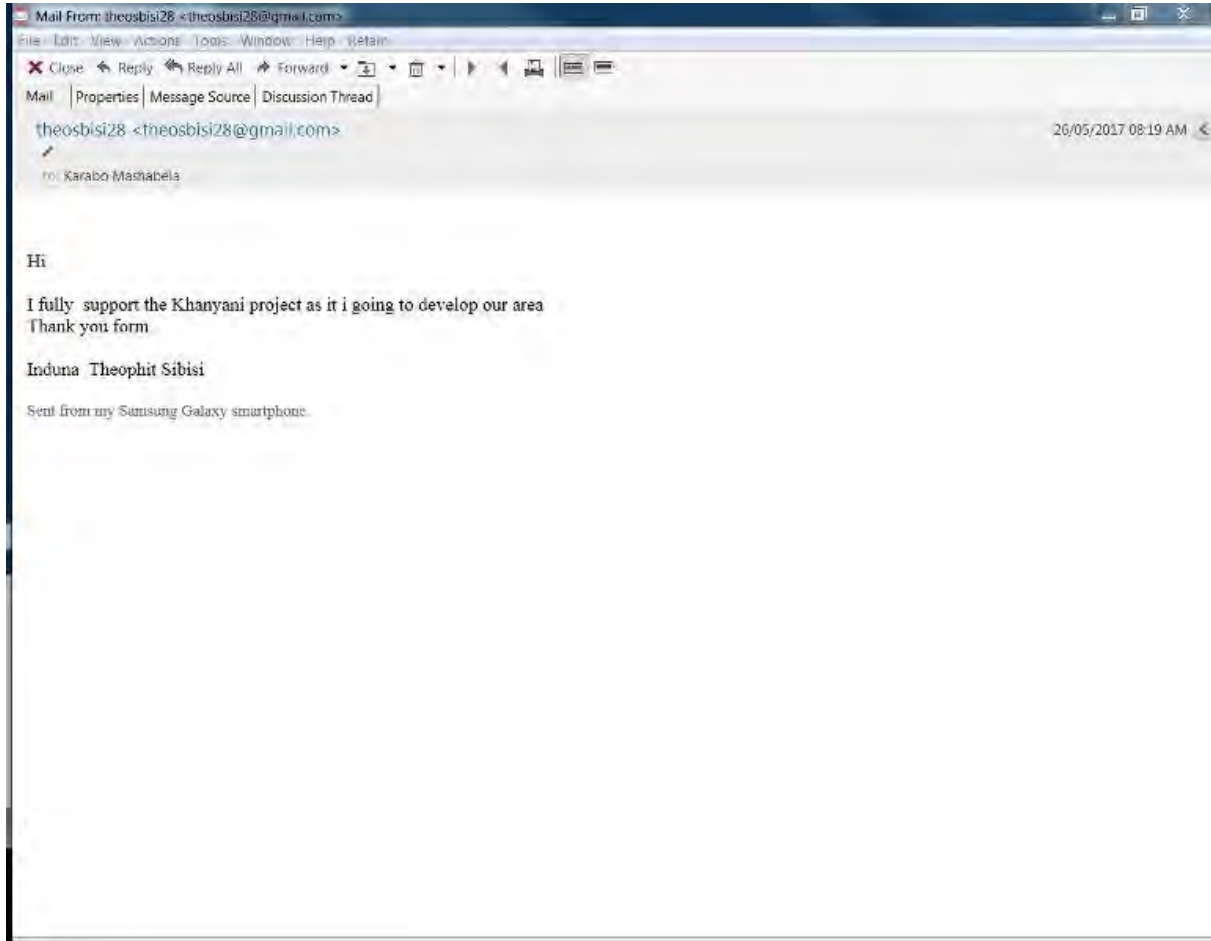
Regards,

INKOSI SN Mkhize
AbaMbo Traditional Council
Chairperson: UThukela Local House of Traditional Leaders
W: [+27 36 631 4838](tel:+27366314838)
M: [+27 74 212 4909](tel:+27742124909)
E: inkosi@abamboroyal.org

Sent from my iPad

SECTION H: APPENDICES

Comments from the Induna of KwaMkhize Rural Area



SECTION H: APPENDICES

Comments from Ward Council of KwaMkhize Rural Area

----- Original message -----

From: Cllr Bhekeni E Nkala <nkalabe@ilm.gov.za>

Date: 28/05/2017 15:56 (GMT+02:00)

To: K.Mmashabela1@csr.co.za

Subject: Khanyani project comment

Good day Karabo

The Khanyani Project will play an important role on our socio-economic, on creating permanent jobs, fighting poverty and also reducing criminal activities as more people employed the less crime in our area, the project should progress.

For any assistance please do not hesitate to contact me on this cell number. 0828685920. Thank you.

Kind regards

Ward councillor

Bhekeni E. Nkala

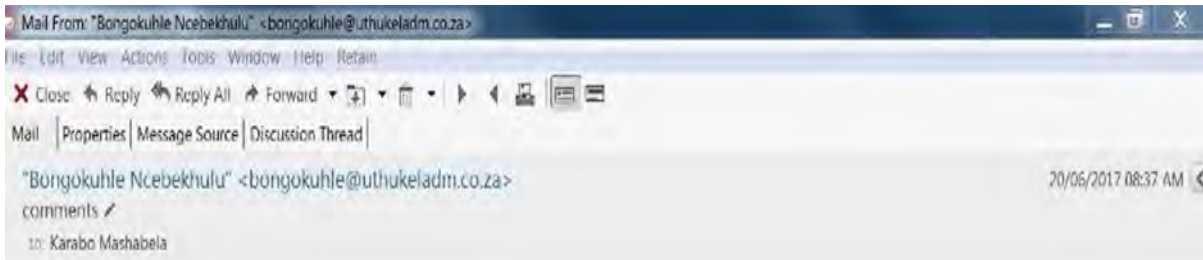
SECTION H: APPENDICES

Comments from: Department of Economic Development, Tourism and Environmental Affairs



SECTION H: APPENDICES

Comments from: UThukela – District Municipality



Morning

Hope this email finds you well

Kindly find the attached comments for the Basic Assessment for proposed maize and bean cultivation and harvesting enterprise for the Khanyani Agricultural Cooperative

Change Department of Agriculture and Environmental Affairs to Department of Agriculture and Rural Development
Imbabazane-is now Inkosi Langaibalele Municipality

Change the Agric potential map and replace with new demarcation one (maps needs to be updated).

Hope the above is in order

Regards

Portia Cebekhulu

Rural Development Officer

SECTION H: APPENDICES

Comments from: Department of Water and Sanitation



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Enq: Ms CL Dladla
Date: 17 July 2017
File: 16/27/V105/D2
Tel: 031 336 2947
Email: dladlal@dws.gov.za

P.O. Box 1018, Durban, 4000, 88 Joe Slovo Street, Southern Life Building, Durban, 4001. Tel: (031) 336 2700. Fax (031) 304 9546. www.dws.gov.za

CSIR
PO Box 320
Stellenbosch
7599

Dear Madam

RE: BASIC ASSESSMENT FOR THE PROPOSED MAIZE AND BEAN CULTIVATION AND HARVESTING ENTERPRISE OF THE KHANYANI AGRICULTURAL COOPERATIVE, EMTHEMBENI, IMBABAZANE LOCAL MUNICIPALITY, KWAZULU-NATAL

Reference is made to the above-mentioned document received by this Office.

This Department has the following comments with regards to the proposed development:

(1) Water Uses and Water Use Authorisations

- (1.1) It is indicated on page 19 of the Specialist Report: Ecological Review of Portion of Land at Imbabazane near Kamberg, KwaZulu Natal that **“Wetland and riparian system are associated with the Mtshehana and Boesman River systems and lie close proximity to the site. No wetland systems are identified on sites, however some sites do fall within 500m of the subject property”**. Therefore, the Applicant must note that any activity within a 500m radius from the boundary of a wetland requires a water use licence in terms of Section 21(c) and (i) of the NWA. Your attention is drawn to Government Notice No. 1199 dated 18 December 2009 in Government Gazette No. 32805 which states that a General Authorisation (GA) is not applicable to **“developments within a 500m radius from the boundary of a wetland or sewerage pipeline, pipelines carrying hazardous material and to water and wastewater treatment works”**. This Department recommends that the delineations of the watercourse, riparian habitat and wetlands must be done according to this Department’s guideline titled, *“A Practical Field Procedure for Identification and Delineation of Wetlands and Riparian Areas”*, (DWAF, 2005).

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- (1.2) It is noted from Page 31 of the BA that the crop will be rain fed. However the Department is requesting the Applicant to provide with the source, quality and estimated quantity of water that will be used as an alternative during the proposed activity in case of dry season. Furthermore the applicant must take note that activity trigger Section 21(a) of the NWA, i.e. **"taking water from a water resource"** therefore there must be no abstraction of water from a water resource unless authorised under the provision of the National Water Act, 1998 (Act 36 of 1998).
- (1.3) The Applicant must also note that irrigation with waste water triggers Section 21(e) "engaging in a controlled activity – activities which impact detrimentally on a water resource (activities identified in §37 (1) or declared as such under S38 (1)" of the National Water Act (Act 36 of 1998).
- (1.4) It is the responsibility of the Applicant to identify all water uses applicable to the activity in terms of Section 21 of the NWA and to ensure that all applicable water uses are authorised as such. The Applicant must consult with this Department if clarity is required with regards to water uses and water use authorisations.
- (1.5) Please note that no person may use water unless permitted under the NWA. Should you engage in any water use activity without the necessary water use authorisation, it will be regarded as an unlawful water use. The Applicant will thus be guilty of an offence and liable for a fine or imprisonment as stipulated in Section 151 of the NWA.

(2) Solid Waste Management

- (2.1) The requirements of this Department with respect to solid waste must be strictly enforced and complied with.
- (2.2) All waste material generated must be disposed of at a permitted landfill site that is authorised to accept such waste. Safe disposal certificates must be kept on record.
- (2.3) Contaminated soil or other hazardous material must be disposed of at a permitted hazardous landfill site that is authorized to accept the said material and proof of this must be made available to this Department when required.
- (2.4) Should private contractors be used, all solid waste must be disposed of at a permitted landfill site and proof of this must be made available to this Department when required.

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- (2.5) Such waste must be placed in skips stored in a designated storage / collection area prior to being safely disposed of and must not cause any surface and groundwater pollution, or pose any health hazards.
- (2.6) The recycling of suitable material is encouraged by this Department, provided it is properly managed.

(3) Sewage and Wastewater Management

- (3.1) Washing, refuelling, maintaining of vehicles or the transfer of hazardous substances must be conducted within a bunded area. All drainage arising from the bunded area must be treated as a water containing waste and disposed of safely.
- (3.2) The use of any temporary, chemical toilet facilities must not cause any pollution to water sources or pose a health hazard. In addition, these toilets must not be situated within 100m from a watercourse or within the 1:100 year floodline (whichever is the greatest). Furthermore, no form of secondary pollution should arise from the disposal of refuse or sewage from the temporary, chemical toilets. Any pollution problems arising from the above are to be addressed immediately by the Applicant.
- (3.3) The following is applicable should small volumes of wastewater be generated during the construction phase:
 - Water containing waste must not be discharged into the natural environment;
 - Measures to contain the water containing waste and safely dispose thereof must be implemented.

(4) Stormwater Management

- (4.1) It is imperative that there is proper management of storm water at the project site. A stormwater management plan must therefore be drawn up and adhered to.
- (4.2) The Engineer or Contractor must ensure that only clean stormwater runoff enters the environment.
- (4.3) Drainage must be controlled to ensure that runoff from the project area does not culminate in off-site pollution, flooding or result in any damage to properties downstream of any stormwater discharge point(s).

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(5) Erosion Control

- (5.1) Erosion control measures must be put in place to minimise erosion along the proposed construction areas. Extra precautions must be taken in areas where the soils are deemed highly erodible.
- (5.2) Soil erosion onsite must be prevented at all times, i.e. pre-, during- and post-construction activities. Erosion control measures must be implemented in areas prone to erosion such as near water supply points, edges of slopes, etc. These measures could include the use of sand bags, hessian sheets, bidim, retention or replacement of vegetation.
- (5.3) Where the land has been disturbed during construction it must be re-habilitated and re-vegetated back to an acceptable state after construction.
- (5.4) Stockpiling of soil or any other materials used during the construction phase must not be allowed on or near steep slopes, near a watercourse or water body. This is to prevent pollution or the impediment of surface run-off. The applicant must control and establish suitable mitigation measures to prevent the erosion of stockpiles.

(6) Spillages Management

- (6.1) There must be no unacceptable impact on the quality of both surface and groundwater in the area. If pollution of any surface or groundwater occurs, it must be immediately reported to this Department and the appropriate mitigation measures must be employed. In addition, should the proposed development impact on any groundwater and/or surface water users, then water of equal quality and quantity must be provided to the affected users.
- (6.2) Storage of material, chemicals, fuels etc. must not pose a risk to the surrounding environment, and this includes surface and groundwater. Temporary bunds must also be constructed around chemical or fuel storage areas to contain possible spillages. Such storage areas must be located outside the 1:100 year flood-line of the water source and must be fenced to prevent unauthorized access into the area.

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- (6.3) It is important that any significant spillage of chemicals, fuels, etc. during the construction phase and/or operational phase is reported to this Office and other relevant authorities. In the event of a spill, the following steps can be taken:
- Stop the source of the spill;
 - Contain the spill;
 - All significant spills must be reported to this Department and other relevant authorities;
 - Remove the spilled product for treatment and authorised disposal;
 - Determine if there is any soil, groundwater or other environmental impact;
 - If necessary, remedial action must be taken in consultation with this Department; and
 - Incident must be documented.

(7) General

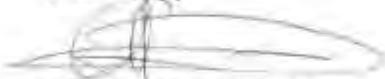
- (7.1) No form of secondary pollution should arise from the disposal of sewage and refuse. The contractor must be clearly briefed on the method of disposal of such waste and compliance must be ensured / monitored. Any pollution problems arising from the above project is to be addressed immediately by the Applicant.
- (7.2) This Department acknowledges and emphasises the commitment on Appendix F of an ***"Environmental Management Programme (EMPr) compiled and contain guidelines to ensure that all activities associated with the construction and operation of the proposed project are carried out in an environmentally responsible and acceptable manner"***.
- (7.3) This Office reserves the right to inspect the site without prior notice in order to ensure that its requirements, as mentioned above, are adhered to. Should any problems be noted, measures must be undertaken immediately to rectify the situation.
- (7.4) This Department reserves the right to revise / withdraw these comments and request further information from the applicant should any other information that contradicts the above comes to light.

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(7.5) Notwithstanding the above, the responsibility rests with the Applicant to identify all sources or potential sources of pollution from his undertaking and to take appropriate measures to prevent any pollution of the environment. Failure to comply with the requirements of the National Water Act, 1998 (Act No 36 of 1998) could lead to legal action being instituted against the Applicant.

Please do not hesitate to call this Office should you have any concerns, comments or queries.

Yours faithfully



For Acting CEO: PONGOLA TO UMZIMKHULU PROTO CMA
CLD/cfd/

SECTION H: APPENDICES

Comments from: Ezemvelo KZN Wildlife



Planning Division: IEM Section

Enquiries: J. Longmore

Ref: No EIA ref no. provided
CSIR/CAS/EMS/IR/2015/00011/A

22 July 2017

ATTENTION: MS KARABO MASHABELA

Dear Ms Mashabela

COMMENTS ON DRAFT BASIC ASSESSMENT REPORT FOR THE PROPOSED MAIZE AND BEAN CULTIVATION AND HARVESTING ENTERPRISE FOR THE KHANYANI AGRICULTURAL COOPERATIVE, EMTHEBENI, IMBABAZANE LOCAL MUNICIPALITY

The Draft Basic Assessment Report (DBAR) for the proposed maize and bean cultivation and harvesting for the Khanyani Agricultural Cooperative has been reviewed by Ezemvelo KZN Wildlife (Ezemvelo).

Ezemvelo, as an Organ of State, is fully supportive of initiatives such as this which aim to create jobs, improve food security and thereby assist in uplifting livelihoods of previously disadvantaged communities. While this is a key focus area for Government, the imperative to create jobs and promote food security is not advocated at all costs. The Environmental Right (s24), contained in the Bill of Rights provides that:

'Everyone has the right-

- (a) to an environment that is not harmful to their health or well-being; and
- (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that-
 - (i) prevent pollution and ecological degradation;
 - (ii) promote conservation; and
 - (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.'

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EZEMVELO COMMENT: KHANYANI AGRICULTURAL COOPERATIVE, EMTHEBENI, IMBABAZANE

PAGE 1 OF 5

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Here the Constitution recognizes the direct relationship between the health and well-being of humankind and the persistence of the natural environment and the biodiversity therein. It is on these grounds that a constitutional duty is placed on the State (and all spheres of government therein) to take reasonable steps, in their current functions as well as future plans, to prevent environmental degradation, promote conservation and ensure sustainable development.

As an organ of State Ezemvelo is bound by the Bill of Rights¹ and has a positive duty to 'respect, protect, promote and fulfil the rights in the Bill of Rights.'² In terms of the KZN Nature Conservation Management Act 9 of 1997, Ezemvelo is charged to direct the management of the natural environment (including biodiversity) inside and outside protected areas, in partnership with other organs of state, private and communal landowners and civil society. It is thus incumbent on Ezemvelo, in collaboration with these partners, to oversee/guide the States trusteeship of biodiversity.

Ezemvelo is also the Organ of State in the Province charged with the duty to fulfil the legal provisions and requirements provided for in the National Environmental Management: Biodiversity Act (Act 10 of 2004), the Natal Nature Conservation Ordinance 15 of 1974 and the KwaZulu Nature Conservation Act, 1992, which includes *inter alia* decisions regarding the issuing or not of permits for the destruction or removal (translocation) of protected and specially protected indigenous animals and plants, and threatened and/or protected species.

Notwithstanding the in principled support for the Khanyani Agricultural Cooperative, the DBAR has failed to demonstrate with any surety that the development as proposed is environmentally sustainable and is in the best interests of the people. The Environmental Management Programme (EMPr) is vague and does not provide any assurance that environmental sustainability can or will be achieved. There is a strong likelihood that the Department of Environmental Affairs will not be in a position to grant environmental approval for this project.

Please find outlined below specific comments and concerns on the EIA process conducted to date, the DBAR and the EMPr, as well as Ezemvelo's recommendation in terms of the way forward.

COMMENTS ON THE EIA PROCESS, DBAR and EMPr

❖ Failure to investigate alternative sites

While it is understood that the proposed development site was given to the project applicant by the KwaMkhize Traditional Council, no evidence is provided to suggest that the CSIR and project applicant made any attempt to: (i) bring to the attention of the Traditional Council the environmental sensitivity (constraints) of the area for cultivation and (ii) negotiate an alternative development site of lower conservation value.

The recommendation of the EAP (Section G) that the Traditional Council should be assisted by KZN Wildlife and SANBI in defining areas for future cultivation and areas that should be set

¹Section 24 of the Constitution of the Republic of South Africa, 1996, Section 8(1).

²Constitution Section 7(2).

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aside for conservation, implies that alternative cultivation areas within the KwaMkhize Traditional do potentially exist. The failure to investigate / consider alternative sites is prejudicial to all parties.

❖ **Importance and representivity of the site at the local / regional level not contextualized**

No information is provided in the DBAR with respect to the representivity of the site in question to adjacent areas or other areas within the KwaMkhize Traditional area. This information is important not only in terms of assessing / determining the significance of developing (modifying) the site in question, but also in ensuring that representative areas exist that could potentially be used as receiving areas for flora and fauna.

That the relocation of flora and fauna of conservation importance to adjacent areas is put forward as mitigation for habitat loss, in the absence of information as to whether suitable, representative sites exist, is highly problematic and prejudicial to the application.

❖ **The conclusion and recommendation that project should proceed is not based on defensible reasoning**

The setting aside of the Independent Biodiversity Specialists recommendation(s), in the absence of empirical data and / or additional information to suggest that the specialist assessment may be inaccurate / no longer valid, is highly problematic.

That the recommendation is made that the project proceeds when the loss of vegetation and faunal habitat is evaluated as being of "*High (negative) significance after mitigation*", makes this application flawed. If the environmental harm that would occur through development of the site cannot be avoided, minimized (mitigated) or remedied, it cannot be allowed in terms of the law.

Mitigation measures are put forward without evaluating whether they can be achieved in full or in part.

❖ **The EMP is vague, contradictory in places and provides little / no confidence that it will allow for environmental sustainability and good environmental practice**

Section 3.2 first speaks to an independent Environmental Control Officer (ECO) being appointed to monitor compliance with the project. It then suggests that the farm manager may assume the ECO function - bullet 5 - ECO / farm manger. Section 3.3 implies that the farm manager may also be farm workers - Farm Manager (Farm workers).

The suggestion that: "*No-go areas containing important plant habitat in the immediate vicinity of the construction activities must be declared, mapped and clearly demarcated*", be the responsibility of Farm Manager(s) is problematic. It is submitted that sensitive areas (on and adjacent to the site) needed to be mapped during the EIA process - there is no evidence

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provided to suggest that sensitive areas have been mapped. This function cannot be the responsibility of the Farm Managers.

It is further noted that the collection and replanting of the flora of conservation importance is the joint responsibility of the Farm manager(s) and a Botanist/Horticulturalist. It is not clear whether funds have been set aside in this Special Needs and Skills Development Program to appoint a Botanist/Horticulturalist. If funds or alternatively the *pro bona* services of a botanist/horticulturalist has not been secured for this project post approval, it cannot be reflected in the EMPr.

Similarly, making the responsibility for relocating red data fauna the responsibility of an Ezemvelo KZN Wildlife specialist, in the absence of any engagement / agreement from Ezemvelo is highly problematic. This needs to be negotiated with the Head of Ezemvelo's Biodiversity Unit to determine if Ezemvelo indeed has the capacity and in-house expertise to perform this function. Further, the IUCN/SSC Guidelines for relocation and re-introduction will need to be followed in the case of the Rough Haired Golden Mole, as it is a red data species. With the information at hand, it is not possible to assess whether the level of risk, balanced against the scale of expected benefits, allows for a translocation exercise to be conducted. Naturally, if relocation is shown to be achievable, Ezemvelo will endeavor to support and assist the CSIR and the Khanyani Agricultural Cooperative.

RECOMMENDATIONS

1. It is strongly advised that the CSIR applies to the Department for an extension in which to submit the Final BAR (FBAR).
2. The FBAR needs to include empirical data / input from a qualified and experienced ecologist if the site is no longer of conservation importance, as reported by independent Biodiversity Specialist Mr Simon Bundy.
3. The importance of the site in question for the Rough Haired Golden Mole needs to be evaluated by an appropriately qualified and experienced mammalian specialist and the findings and conclusions must be reported on in the FBAR.
4. The representivity of the site under consideration to adjacent areas and other sites within the KwaMkhize Traditional area needs to be assessed. Suitable potential receiving areas for flora and fauna needs to be identified and reported on in the EMPr.

The recommendation of the EAP (Section G) that the Traditional Council should be assisted by KZN Wildlife and SANBI in defining areas for future cultivation and areas that should be set aside for conservation is a good recommendation. It is submitted that the CSIR should have called for the support and assistance of Ezemvelo and SANBI before embarking on the EIA process for the cultivation of site in question, or at least when the independent specialist

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identified the site in question as being of conservation importance, and recommended that alternative sites for cultivation be considered - namely the area in close proximity to the KwaMankanjane or proximal to the existing plantations.

Ezemvelo will endeavor to support and assist the CSIR as far as possible in finding an environmentally sustainable way forward that will allow the Khanyani Agricultural Cooperative to proceed with their farming endeavors as soon as possible.

Yours sincerely



Jenny Longmore
Principal Conservation Planner
For CEO : EZEMVELO KZN WILDLIFE
DATE : 22/07/17
c:\EM Letters\Agriculture\BVL\UL\Letter of Alert_Ptn 2 of Erf 1016 Port Edward]



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Company no. 9908656/23

Ms Karabo Mashabela
Environmental Consultant
CSIR
Box 320
Stellenbosch, 7599

24th July 2017

Dear Karabo,

KHANYANE AGRICULTURAL PROJECT : COMMENTS FROM EKZNW

Thank you for forwarding the comments from EKZN Wildlife in respect of the above project. I have noted their comments and respond below. Please note that I have not seen the draft or the final Basic Assessment Report, therefore I am uncertain of the context in which the ecological aspects were considered. I therefore make some assumptions on these matters:

1. EKZNW have correctly identified that the site holds some ecological significance, although in discussion with Ms Longmore of EKZNW, they are cognisant of the fact that the requested area of 20ha is relatively small and the application is a poverty relief initiative.
2. It is apparent that the socio-economic factors that have led to the selection of this site for cultivation are significant and as such there is no alternative land option for consideration. It would in my non-agricultural opinion, be a more applicable option to utilise an area of land that lies proximal to a water resource or indeed proximal to settlement, particularly so, as this is a community initiative and is also being facilitated by an educational institution. However this being said, there is obviously overwhelming socio-economic pressures to utilise the land and these should be seen as extenuating issues.



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3. While the above does not detract from the ecological value of the site, it is clear that cultivation of the site will :

- a. Mark a small but incremental loss of Drakensberg Foothills Grassland. The site demonstrates not only Drakensberg Foothill Grassland habitat, but is eco-morphologically distinct in the regional context.
- b. From a mitigatory perspective, the site may be considered to be an extension of proximal transformed areas, in particular the wattle plantation located to the south east of the site.
- c. The presence of Rough haired Golden Mole is primarily indicative of the nature of the habitat, rather than its presence being significant from a species-conservation perspective (as is the fact that avi fauna of significance – the Secretary Bird, *Sagittarius serpentarius* is also present on site). It follows that relocation of the Rough haired Golden Mole is not an option (and probably not feasible nor practical).

In addition Ms Longmore's recommendation on Page 4 of her letter, where it is recommended that alternative sites be considered, is sound. However, under the circumstances it may be possible to approach EKZNW and other authorities with an option for the establishment of a guarantee from the Traditional Council that alternative lands under the auspices of the Council will not be subject to transformation – a form of so-called "offset". Such lands will not necessarily be excluded from existing land uses, such as grazing, however the "offset" may take the form of a stewardship agreement between the TA and EKZN Wildlife.

If indeed EKZN Wildlife are accepting of such a proposal, it follows that the following actions should be made conditional to the use of the site:

1. A review of the region as a whole should be undertaken to identify an area that is eco-morphologically similar to the site in question.
2. That subject to such similar site(s) being identified and of suitable extent, that a stewardship agreement be established between the conservation authorities and the TA.

I trust that the above is in order.

Yours sincerely,



S C BUNDY(Pr. Sci. Nat)

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Inkosi Langalibalele

**LOCAL MUNICIPALITY – UMKHANDLU WENDAWO
ECONOMIC DEVELOPMENT AND PLANNING
PO BOX 15, Estcourt, 3310, Physical Address: Civic Building, Victoria Street,
Estcourt, 3310**

Tel. No.: 036 352 2353, Email: zamokuhle@ilm.gov.za

15 August 2017

Karabo Mashabela
Council for Scientific and Industrial Research (CSIR)
Postal Address: P.O.BOX 320
Stellenbosch
7599

Dear Sir/ Madam

**COMMENTS BY TOWN PLANNING OFFICE- INKOSI LANGALIBALELE
MUNICIPALITY ON THE BASIC ASSESSMENT FOR THE PROPOSED MAIZE
AND BEAN CULTIVATION AND HARVESTING ENTERPRISE FOR THE
KHANYANI AGRICULTURAL COOPERATIVE, EMTHEBENI.**

1. The Municipality does not have any objection to the proposed development situated outside the Estcourt Town Planning Scheme as:
 - There is no significant impact on the environment, no negative socio-economic conditions, and cultural heritage;
 - No significant Impact of the proposal on existing or proposed developments or land uses in the Municipality's area;
 - No significant impact of the national, provincial and municipal road networks;
 - No significant impact on the protection or preservation of cultural and natural resources, including agricultural resources, unique areas or features and biodiversity will not be affected and
 - No significant impact on the natural and physical qualities of that area.
2. The proposed development is not in conflict with the provincial planning and development norms and standard.

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Ref: 2017/07/4-ATC

31 July 2017

Ms. Karabo Mashabela
CSIR
P.O. Box 320
Stellenbosch, 7599

COMMENTS ON BASIC ASSESSMENT FOR THE PROPOSED MAIZE AND BEAN CULTIVATION AND HARVESTING ENTERPRISE FOR THE KHANYANI AGRICULTURAL COOPERATIVE

Dear Ms. Mashabela

The draft basic assessment report as prepared by CSIR, with you as the lead author is noted. As the Abambo Traditional Council we have reviewed it, and although quite technical, we shall attempt to make comments that will hopefully assist the plight of the Khanyani Agricultural Cooperative.

The Abambo Traditional Community is one of 7 Traditional Communities that fall within the jurisdiction of the Inkosi Langalibalele Local Municipality (a new entity formed after the merger of Imbabazane and uMtshezi Local Municipalities in August 2016). It is situated 45 km from Estcourt town, and 39 km from another town, Mooi River. Around the periphery of the community lies privately owned commercial farms, and also two game reserves, Giants' Castle and Highmoor Game Reserves, both of which are under the jurisdiction of the state's Ezemvelo KZN Wildlife.

The municipality, to use available statistics from Stats SA, has a 48.6% unemployment rate, with 56,6% of the youth being unemployed. Of the 22,365 households that were recorded on Census 2011 in the former Imbabazane Local Municipality, 12,653 are considered agricultural households; households that make their livelihood through agricultural activities of different types. That equates to under 57% of the entire population of Imbabazane that depends on agriculture to live.

The Abambo Traditional Council has intervened quite extensively in the last 8 years since I have taken over the reigns as *iNkosi* of the area to boost the micro-economy of Hlathikhulu. The geographical location of the area, in itself, is a hindrance for people to be actively participating in the labour force of Estcourt, seeing that a return fee by taxi is R50.

'Tis the reason why most people have dedicated their lives to agriculture in Hlathikhulu.

As a Traditional Council we have concentrated much of our efforts into ensuring that agriculture forms the foundation of our economy. These have been some of our aggressive interventions:

P28-1 Road, KwaMkhize Area, Hlathikhulu P.O. Box 2075 Estcourt 3310

- In 2014 we embarked on an expansive agricultural programme where, together with other Traditional Communities in the uThukela District, we were able to raise over R17 million for some of our primary agricultural activities. We were funded by the KZN Department of Cooperative Governance and Traditional Affairs (KZN CoGTA). Some of our yellow maize harvest was sold to De Heus (PTY) Ltd, and surrounding farmers, our potatoes to the Durban Market, and our kidney beans to a retailer in Verulam, north of Durban,
- In 2016 the KZN Department of Agriculture and Rural Development invested over R18 million into the same programme to continue with the agrarian programme we had started. We have recently harvested 300 tons of yellow maize which we have sold to Meadow Feeds in Pietermaritzburg.
- KZN CoGTA together with the Department of Land Reform and Rural Development have collaborated to fund a pack house in our area. Construction started 2 months ago, and the project is worth R5.2 million. We aim to provide a service to the local emerging farmers,
- After meeting the Managing Director of AFGRI Africa Business, Mr. Hercu Bloem on 28 June 2017, AFGRI introduced us to a subsidiary unit of theirs called Harvest Time Investments which incubates emerging black farmers over a 3 year period, with the ultimate objective of creating viable commercial farmers. As a community we are to participate in this programme, as we realised that knowledge of the industry, together with financial acumen is the key to being successful farmers.

There are many other cases where I can elaborate on the vision of the community, and what our plans are, but that is not the focus of this letter. This letter is to highlight the economic necessity for a community like mine to be able to use the land that we have in order for us to make a living.

As a marginalised community in terms of geography, demographics, economics, knowledge, and now seemingly, environmental, what chances do the people in this area have in terms of being able to make a meagre living for themselves, when legislation is likely to prevent them from being able to continue with their lives?

We are no experts in environmental legislation, and for that matter the community seeks to carry out their activities in a manner that is ethical and legal. But with comments that seemingly are against Khanyani using the land in question due to environmental degradation that might occur, what is the alternative? There is no more land that the Traditional Council can allocate to Khanyani, so what is to happen?

A Nepad Rural Futures Conference I attended in Contonou in May 2013 had a speaker present a paper highlighting the supposed conflict between developmentalists and environmentalists. I hope that this current study and experience at hand cannot be considered the "Crossing of the Rubicon" where, as developmentalists and/or environmentalists, we end up sitting on opposite sides and make conclusions that we shall develop at the expense of the environment, or we shall protect the environment at the expense of the people.

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3

At the heart of this application are the people who have no other alternative, and who are not looking for handouts, but would like to make a living off the land. I implore on the final Department of Environmental Affairs to make a decision that will place the people's needs first, but at the same time be able to provide expertise to prevent any aggressive disruption of the land from occurring.

Thank you.

Kind regards,



Inkosi Sbonelo N. Mkhize

AbaMbo Traditional Council: UThukela District
Chairman: UThukela Local House of Traditional Leaders
Convener: Land and Rural Development Portfolio Committee; KwaZulu-Natal
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Appendix E.8a: Comments and Response Report for BID

The Table below lists all the comments received from Interested and Affected Parties (I&APs) following the release of the Background Information Document for comment regarding the proposed cultivation of 19 ha of fallow grassland to maize and beans on land on the KwaMkhize Traditional Council, KwaZulu-Natal. Copies of the correspondence are included in Appendix E7 of the Basic Assessment Report.

ISSUES RAISED	COMMENTATOR	DATE	RESPONSE
<p>Department of Agriculture Forestry and Fisheries (DAFF) through the sub-directorate Forestry Regulation and support is the authority mandated to implement the National Forests Act, (Act No, 84 of 1998) by regulating the use of natural forest and protected trees species in terms of the said Act. With regard to the BID received on the 09th of November 2015 and the desktop analysis majority of the proposed site has no present trees. However, there is woody vegetation noted adjacent to the site even though it is not clear as to what type of species occur or whether they will be impacted on. The specialist scope of work included in the BID indicated that a terrestrial ecological study will be undertaken. This study will assist in determining the impact that the development and supporting infrastructure such as roads may have on the indigenous tree and/or protected trees in terms of the NFA.</p>	<p style="text-align: center;">N.Sontangane <i>Forestry Regulation & Support KZN</i></p>	19 November 2015	<p>Thank you for your comment.</p> <p>The vegetation including forest will be mapped. Please see figure 7 for the forest and vegetation type in the area. Please see page 13 on the specialist report on the type of species which occur and that no woody species invasion was noted on site and no exotic species were recognized.</p>
<p>With reference to your letter dated 9 November 2015, I have to inform you that the Minister as the Controlling Authority as defined in the Kwazulu-Natal Roads Act No. 4 of 2001, has in terms of section 21 of the said Act, no objections to the proposed application as represented in the Background Information Document CSIR/CAS/EMS/IR/2015/00011/A.</p> <p>However, please advise us on the position of the proposed access point and the number of vehicles that are</p>	<p style="text-align: center;">Michéle Schmid <i>KwaZulu Natal Department of Transport</i></p>	23 November 2015	<p>Thank you for your comment.</p> <p>The position of the proposed access point is shown in the map in Appendix.</p> <p>One tractor will be used on site during cultivation and one truck will be used to transport the crops to the market. The harvested maize and beans will be transported four times to the market but this may change due to the yield of the crops per harvesting.</p>

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ISSUES RAISED	COMMENTATOR	DATE	RESPONSE
<p>envisaged to be utilised.</p> <p>The proposal seems to be for the cultivation of maize and beans and the harvesting thereof without the development of structures.</p> <p>Food security endeavors would be encouraged and supported by the Department. Interested and Affected parties to consult would include:</p> <ol style="list-style-type: none"> 1. Ezemvelo KZN Wildlife: Mrs Longmore: 033 845 1349 2. Department of Agriculture: Natural Resources and Macro Planning: Mrs B Wiseman: 071 600 9805 3. Inkosi Langalibalele Municipal Planner: Mr B Msimango: 036 3530691 <p>This Department and Directorate: Spatial Planning would have no objection to the proposed initiative as described in the Basic Assessment Report dated 9 November 2015</p>	<p style="text-align: center;">C. Rushton</p> <p style="text-align: center;"><i>Spatial planning</i></p>	<p style="text-align: center;">14 December 2015</p>	<p>Thank you for your comment.</p> <p>The Interested and Affected Parties you listed were added to the project database. The Draft BAR will be send to them for comment as requested.</p>
<p>The proposed development which involves clearance of more than 300 square metres of vegetation is likely to impact on sites of heritage significance of an archaeological and historical nature. Amafa Heritage KZN would like the following to be addressed in the BAR:</p> <p>1) Identification of any culturally sensitive areas and water resources such as wetlands, streams, rock shelters, open shelters rivers associated with historical activities and beliefs, etc. as well as possible impacts and proposed mitigation measures to protect such resources.</p> <p>Considering the heritage value of the area of proposed development, a Heritage Impact Assessment is required to</p>	<p style="text-align: center;">Bernadet Pawandiwa,</p> <p style="text-align: center;"><i>Amafa/Heritage KwaZulu Natal.</i></p>	<p style="text-align: center;">29 November 2016</p>	<p>eThembeni Cultural Heritage was appointed to address the Heritage Impact Assessment requirements from AMAFA. According to eThembeni the SAHRIS palaeo-sensitivity mapping indicates that the proposed agriculture project falls within a general area of an underlying Beaufort Group lithology of extremely high sensitivity. However, the presence of intrusive dolerite sills and dykes within and surrounding the project area precludes the presence of any fossil material, thus requiring a protocol for finds, only. The project area has probably been eschewed for settlement primarily because of the high risk of lightening-strikes on the dolerite exposures.</p>

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ISSUES RAISED	COMMENTATOR	DATE	RESPONSE
<p>fulfill the requirements of Section 38 the National Heritage Resources Act No.25 of 1999 (Section 38). This must include the archaeological component (Phase 1) and any other applicable heritage components. Amafa KZN Heritage therefore requires the appointment of an Amafa accredited Heritage Practitioner to assist in the provision of recommendations and mitigation procedures.</p> <p>The Study should cover:</p> <p>Identification of all heritage resources in the development area and its surroundings -50m</p> <p>Assessment of the impact of the development on such heritage Evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development</p> <p>Results of consultation with communities affected by the proposed development and other interested and affected parties regarding the impact of the development on heritage resources.</p> <p>Consideration of alternatives if heritage resources are affected by the development Mitigation plans for any adverse effects during and after completion of the project</p> <p>Table of all heritage resources identified .This should show Heritage resource type, description, location, significance and reasons for this rating.</p>			
<p>Khanyani Coop is situated at KwaMkhize area under Inkosi Langalibalele municipality ward 11 now in Estcourt. The area has potential soils like Hutton and Clovelly these are good soils in terms of rooting depth and drainage The crops that were recommended maize and dry beans are</p>	<p style="text-align: center;">Hadebe JB</p> <p><i>KZN Department of Agriculture and Environmental Affairs; Soil Fertility and Analytical Services</i></p>	<p style="text-align: center;">19 March 2017</p>	<p>Thank you for the response.</p> <p>The management plan will be in cooperated in the EMPr.</p>

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suitable for the area and potatoes too are suitable. Maize with expected minimum yield of 4 t/ha, dry beans 1.5 t/ha and potatoes 20t/ha, but as long the soil nutrient and lime recommendations will be followed.			

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Appendix E.8b: Comments and Response Report for Draft BA

The table below lists all the comments received from Interested and Affected Parties (I&APs) following the release of the Background Information Document for comment regarding the proposed cultivation of 19 ha of fallow grassland to maize and beans on land on the KwaMkhize Traditional Council, KwaZulu-Natal. Copies of the correspondence are included in Appendix E7 of the Basic Assessment Report.

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<p>Department of Agriculture Forestry and Fisheries (DAFF) through the sub-directorate Forestry Regulation and support is the authority mandated to implement the National Forests Act, (Act No, 84 of 1998) by regulating the use of natural forest and protected trees species in terms of the said Act.</p> <p>With regard to the BID received on the 09th of November 2015 and the desktop analysis majority of the proposed site has no present trees. However, there is woody vegetation noted adjacent to the site even though it is not clear as to what type of species occur or whether they will be impacted on. The specialist scope of work included in the BID indicated that a terrestrial ecological study will be undertaken. This study will assist in determining the impact that the development and supporting infrastructure such as roads may have on the indigenous tree and/or protected trees in terms of the NFA.</p>	<p>N.Sontangane <i>DAFF: Forestry Regulation & Support KZN</i></p>	<p>19 November 2015</p>	<p>Thank you for your comment.</p> <p>The vegetation including forest will be mapped. Please see figure 7 for the forest and vegetation type in the area. Please see page 13 of the specialist report on the type of species which occur. The report notes that no woody species invasion was noted on site. The protected trees will not be impacted on. Should this be the case, the applicant must obtain the relevant permits from the Department.</p>
<p>With reference to your letter dated 9 November 2015, I have to inform you that the Minister as the Controlling Authority as defined in the Kwazulu-Natal Roads Act No. 4 of 2001, has in terms of section 21 of the said Act, no objections to the proposed application as represented in the Background Information Document CSIR/CAS/EMS/IR/2015/00011/A.</p> <p>However, please advise us on the position of the proposed access point and the number of vehicles that are envisaged to be utilised.</p>	<p>Michéle Schmid <i>KwaZuluNatal Department of Transport</i></p>	<p>23 November 2015</p>	<p>Thank you for your comment.</p> <p>The position of the proposed access point is shown in the map in Appendix A.</p> <p>One tractor will be used on site during cultivation and one truck will be used to transport the crops to the market. The harvested maize and beans will be transported four times to the marked but this may change due to the yield of the crops per harvesting.</p>

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<p>The proposal seems to be for the cultivation of maize and beans and the harvesting thereof without the development of structures.</p> <p>Food security endeavors would be encouraged and supported by the Department.</p> <p>Interested and Affected parties to consult would include:</p> <ol style="list-style-type: none"> 1. Ezemvelo KZN Wildlife: Mrs Longmore: 033 845 1349 2. Department of Agriculture: Natural Resources and Macro Planning: Mrs B Wiseman: 071 600 9805 3. Inkosi Langalibalele Municipal Planner: Mr B Msimango: 036 3530691 <p>This Department and Directorate: Spatial Planning would have no objection to the proposed initiative as described in the Basic Assessment Report dated 9 November 2015</p>	<p style="text-align: center;">C. Rushton <i>Spatial planning</i></p>	<p style="text-align: center;">14 December 2015</p>	<p>Thank you for your comment.</p> <p>The Interested and Affected Parties you listed were added to the project database. The Draft BAR was sent to them for comment as requested.</p>
<p>The proposed development which involves clearance of more than 300 square metres of vegetation is likely to impact on sites of heritage significance of an archaeological and historical nature.</p> <p>Amafa Heritage KZN would like the following to be addressed in the BAR:</p> <p>1) Identification of any culturally sensitive areas and water resources such as wetlands, streams, rock shelters, open shelters rivers associated with historical activities and beliefs, etc. as well as possible impacts and proposed mitigation measures to protect such resources.</p> <p>Considering the heritage value of the area of proposed development, a Heritage Impact Assessment is required to fulfill the requirements of Section 38 the National Heritage Resources Act No.25 of 1999 (Section 38). This must include the archaeological component (Phase 1) and any other applicable heritage components. Amafa KZN Heritage therefore requires the appointment of an Amafa accredited Heritage Practitioner to assist in the provision of recommendations and mitigation procedures.</p>	<p style="text-align: center;">Bernadet Pawandiwa, <i>Amafa/Heritage KwaZulu Natal.</i></p>	<p style="text-align: center;">29 November 2016</p>	<p>The CSIR contracted Ethembeni Cultural Heritage to undertake a Heritage Impact Assessment (HIA) for the proposed cultivation project of the Khanyani Agricultural Cooperative.</p> <p>According to eThembeni the SAHRIS palaeo-sensitivity mapping indicates that the proposed project falls within a general area of an underlying Beaufort Group lithology of extremely high sensitivity. However, the presence of intrusive dolerite sills and dykes within and surrounding the project area precludes the presence of any fossil material, thus requiring a protocol for finds, only. The project area has probably been eschewed for settlement primarily because of the</p>

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<p>The Study should cover:</p> <p>Identification of all heritage resources in the development area and its surroundings -50 m.</p> <p>Assessment of the impact of the development on such heritage.</p> <p>Evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development.</p> <p>Results of consultation with communities affected by the proposed development and other interested and affected parties regarding the impact of the development on heritage resources.</p> <p>Consideration of alternatives if heritage resources are affected by the development.</p> <p>Mitigation plans for any adverse effects during and after completion of the project.</p> <p>Table of all heritage resources identified .This should show Heritage resource type, description, location, significance and reasons for this rating.</p>			<p>high risk of lightening-strikes on the dolerite exposures.</p> <p>The SAHRIS Palaeontology sensitivity map indicates the area to be of low sensitivity and as such the Ethembeni Cultural Heritage applied for an Exemption from undertaking a full HIA. This request was granted by AMAFA. AMAFA has no objection to the proposed project.</p>
<p>Khanyani Coop is situated at KwaMkhize area under Inkosi Langalibalele municipality ward 11 now in Estcourt. The area has potential soils like Hutton and Clovelly these are good soils in terms of rooting depth and drainage The crops that were recommended maize and dry beans are suitable for the area and potatoes too are suitable. Maize with expected minimum yield of 4 t/ha, dry beans 1.5 t/ha and potatoes 20t/ha, but as long the soil nutrient and lime recommendations will be followed.</p>	<p style="text-align: center;">Hadebe JB <i>KZN Department of Agriculture and Environmental Affairs; Soil Fertility and Analytical Services</i></p>	<p style="text-align: center;">19 March 2017</p>	<p>Thank you for the response and for your confirmation that maize and dry beans are suitable crops for the area.</p> <p>The recommendations regarding soil nutrient and lime addition will be applied and have been incorporated in the EMPr.</p>
<p>Department of Agriculture Forestry and Fisheries (DAFF) through the sub-directorate Forestry Regulation and support is the authority mandated to</p>	<p style="text-align: center;">N.Sontangane</p>	<p style="text-align: center;">26 May 2017</p>	<p>Thank you for the response- duly noted we are considering other environmental</p>

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<p>implement the National Forests Act, (Act No, 84 of 1998) by regulating the use of natural forest and protected trees species in terms of the said Act.</p> <p>With regards to the DBAR received on the 26 of April 2017,the proposed developmental site is mostly covered by the grassland vegetation which is considered to be least threatened in terms of its conservation significance. Furthermore, it is indicated that ‘no forest or woody vegetation was noted on site during the ecological evaluation’. Therefore, DAFF has no objection towards the proposed project given that there are no indigenous and/or protected tree species in terms of NFA that will be impacted upon.</p> <p>This letter does not exempt you from considering other environmental legislation. Should any further information be required, please do not hesitate to contact this office.</p>	<p><i>DAFF: Forestry Regulation & Support KZN</i></p>		<p>legislation.</p>
<p>Thank you for the report. There are no comments on our side as the Traditional Council. Please may you continue with finalising the report.</p>	<p>Chief INkosi SN Mkhize</p>	<p>14 June 2017</p>	<p>Thank you for the positive response. The Draft Basic Assessment Report (version 2) has been compiled and is hereby released for a 30-day commenting period as it contains additional information that was not previously included in the Draft BA Report. The comments on this report will be included in the Final BA Report that will be submitted to the Department of Economic Development, Tourism and Environmental Affairs (EDTEA) for decision-making.</p>
<p>I fully support the Khanyani project as it is going to develop our area.</p>	<p>Induna Theophit Sibisi</p>	<p>26 May 2017</p>	<p>Thank you for the positive response. The Draft Basic Assessment Report (version 2) has been compiled and is hereby released for a 30-day commenting period as it contains additional information that was not previously included in the Draft BA Report. The comments on this report will be included in the Final BA Report that will be submitted to the EDTEA for</p>

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			decision-making.
The Khanyani Project will play an important role on our socio-economic, on creating permanent jobs, fighting poverty and also reducing criminal activities as more people employed the less the crime in our area, the project should progress.	Bhekeni E. Nkala	28 May 2017	Thank you for the positive response.
<p>DC23/0008/2017 Comments on the Draft Basic Assessment Report (BAR) for the proposed maize and bean cultivation and harvesting enterprise on the property of KwaMkhize tribal land located in Inkosi langalibalele Local Municipality; uThukela District, DC23</p> <p>1) The Draft BAR received by the Department on 28 April 2017 regarding the abovementioned refers.</p> <p>2) This Department has reviewed the report and the following should be addressed in the final report to be submitted to the Department for consideration:</p> <p>Former Imbabazane Local Municipality has been incorporated into former uMtshezi Local Municipality to form Inkosi langalibalele Local Municipality.</p> <p>Clearly highlight item (I) on the checklist of Appendix 1 requirements on page 15.</p> <p>Address all comments from Interested and Affected Parties including those that may require more Specialist Studies.</p> <p>Kind regards</p> <p>Salome Kubeka</p>	<p>Salome Kubeka</p> <p><i>KZN Department of Economic Development, Tourism and Environmental Affairs</i></p>	29 May 2017	<p>Thank you for the comments.</p> <p>The report was updated to include the Inkosi langalibalele Local Municipality as the relevant municipality.</p> <p>Item (I) was highlighted on the checklist of Appendix 1 requirements</p> <p>All the comments from the Interested and Affected were included and addressed in the report.</p>
<p>Kindly find the attached comments for the Basic Assessment for proposed maize and bean cultivation and harvesting enterprise for the Khanyani Agricultural Cooperative</p> <p>Change Department of Agriculture and Environmental Affairs to Department of Agriculture and Rural Development</p>	<p>Portia Cebekhulu</p> <p><i>Department of Agriculture and Rural Development</i></p>	20 June 2017	Thank you for the comments, Agric potential map was changed to the new demarcation and Imbabazane was change to Inkosi Langalibalele Municipality, Department of Agriculture and Environmental Affairs was changed to

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<p>Imbabazane-is now Inkosi Langalibalele Municipality Change the Agric potential map and replace with new demarcation one (maps needs to be updated).</p>			Department of Agriculture and Rural Development.
<p>PO. Box 1018, Durban, 4000. 88 Joe Slovo Street, Southern Life Building, Durban, 4001. Tel: (031) 336 2700. Fax (031) 304 9546. www.dws.gov.za</p> <p>Dear Madam</p> <p>RE: BASIC ASSESSMENT FOR THE PROPOSED MAIZE AND BEAN CULTIVATION AND HARVESTING ENTERPRISE OF THE KHANYANI AGRICULTURAL COOPERATIVE, EMTHEMBENI, IMBABAZANE LOCAL MUNICIPALITY, KWAZULU-NATAL</p> <p>Reference is made to the above-mentioned document received by this Office.</p> <p>This Department has the following comments with regards to the proposed development:</p> <p>(1) Water Uses and Water Use Authorisations</p> <p>(1.1) It is indicated on page 19 of the Specialist Report: Ecological Review of Portion of Landat iMbabazane near Kamberg, KwaZulu Natal that “Wetland and riparian system are associated with the Mtshezana and Boesman River systems and lie close proximity to the site. No wetland systems are identified on sites, however some sites do fall within 50om of the subject property”. Therefore, the Applicant must note that any activity within a 50om radius from the boundary of a wetland requires a water use licence in terms of Section 21(c) and (i) of the NWA. Your attention is drawn to Government Notice No. 1199 dated 18 December 2009 in Government Gazette No. 32805 which states that a General Authorisation (GA) is not applicable to “developments within a 50om radius from the boundary of a wetland or sewerage pipeline, pipelines carrying hazardous material and to water and wastewater treatment works”. This Department recommends that the delineations of the watercourse, riparian habitat and wetlands must be done according to this Department’s guideline titled, “A Practical Field Procedure for Identification and Delineation of Wetlands and Riparian Areas”, (DWAF, 2005).</p> <p>(1.2) It is noted from Page 31 of the BA that the crop will be rain fed.</p>	<p style="text-align: center;">Ms Lindiwe Dladla <i>Department of Water and Sanitation</i></p>	17 July 2017	<p>Thank you very much for the comments. All comments raised by the Department were addressed in the Draft BA Report (version 2).</p> <p>(1.1) It is noted that activities within 500 m from the boundary of a watercourse require a Water Use Licence. The applicant is applying to DWS for a water use license as recommended by the department. Simon Bundy of SDP Ecological and Environmental Services cc was appointed to undertake a Wetland Delineation and Risk Assessment. This report is included in Appendix D of this report.</p>

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<p>However the Department is requesting the Applicant to provide with the source, quality and estimated quantity of water that will be used as an alternative during the proposed activity in case of dry season. Furthermore the applicant must take note that activity trigger Section 21(a) of the NWA, i.e. “taking water from a water resource” therefore there must be no abstraction of water from a water resource unless authorised under the provision of the National Water Act, 1998 (Act 36 of 1998).</p> <p>(1.3) The Applicant must also note that irrigation with waste water triggers Section 21(e) “engaging in a controlled activity - activities which impact detrimentally on a water resource (activities identified in §37 (1) or declared as such under S38 (1)” of the National Water Act (Act 36 of 1998).</p> <p>(1.4) It is the responsibility of the Applicant to identify all water uses applicable to the activity in terms of Section 21 of the NWA and to ensure that all applicable water uses are authorised as such. The Applicant must consult with this Department if clarity is required with regards to water uses and water use authorisations.</p> <p>(1.5) Please note that no person may use water unless permitted under the NWA. Should you engage in any water use activity without the necessary water use authorisation, it will be regarded as an unlawful water use. The Applicant will thus be guilty of an offence and liable for a fine or imprisonment as stipulated in Section 151 of the NWA.</p> <p>(2) Solid Waste Management</p> <p>(2.1) The requirements of this Department with respect to solid waste must be strictly enforced and complied with.</p> <p>(2.2) All waste material generated must be disposed of at a permitted landfill site that is authorised to accept such waste. Safe disposal certificates must be kept on record.</p>			<p>(1.2) Noted. The proposed crops will be rain fed and the applicant is fully aware of the water use license requirement. The applicant stated that in dry seasons he won't cultivate.</p> <p>(1.3) Noted. The recommendation is included in the EMPr as part of the mitigation measures.</p> <p>(1.4) Noted and will be adhered to by the applicant.</p> <p>(1.5) Noted.</p> <p>(2.1) Recommendation noted and will be adhered to. The recommendation is included in the EMPr as part of the mitigation measures that need to be implemented to minimise waste. The relevant requirements of the National Environmental Management: Waste Act (Act 59 of 2008) regarding the handling, storage, transport and use of hazardous waste will be adhered to. As noted in the EMPr, all waste will be safely stored, and will be removed from site on a scheduled basis by an appointed contractor. The recycling and re-use of waste will be</p>

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<p>(2.3) Contaminated soil or other hazardous material must be disposed of at a permitted hazardous landfill site that is authorized to accept the said material and proof of this must be made available to this Department when required.</p> <p>(2.4) Should private contractors be used, all solid waste must be disposed of at a permitted landfill site and proof of this must be made available to this Department when required.</p> <p>(2.5) Such waste must be placed in skips stored in a designated storage / collection area prior to being safely disposed of and must not cause any surface and groundwater pollution, or pose any health hazards.</p> <p>(2.6) The recycling of suitable material is encouraged by this Department, provided it is properly managed.</p> <p>(3) Sewage and Wastewater Management</p> <p>(3.1) Washing, refuelling, maintaining of vehicles or the transfer of hazardous substances must be conducted within a bunded area. All drainage arising from the bunded area must be treated as a water containing waste and disposed of safely.</p> <p>(3.2) The use of any temporary, chemical toilet facilities must not cause any pollution to water sources or pose a health hazard. In addition, these toilets must not be situated within 100m from a watercourse or within the 1:100 year floodline (whichever is the greatest). Furthermore, no form of secondary pollution should arise from the disposal of refuse or sewage from the temporary, chemical toilets. Any pollution problems arising from the above are to be addressed immediately by the Applicant.</p> <p>(3.3) The following is applicable should small volumes of wastewater be generated during the construction phase: Water containing waste must not be discharged into the natural environment: Measures to contain the water containing waste and safely dispose thereof must be implemented.</p>			<p>considered as an alternative where possible. The waste, where applicable, will be disposed at a licenced municipal landfill site.</p> <p>(2.2) Recommendation noted. All waste material generated will be disposed of at a permitted landfill site that is authorised to accept such waste. Safe disposal certificates will be kept on record.</p> <p>(2.3) Recommendation noted. The proposed project will not produce any hazardous material. But, contaminated soil or other hazardous material will be disposed of at a permitted hazardous landfill site that is authorized to accept the said material and proof of this will be made available to this Department when required.</p> <p>(2.4) Noted and will be adhered to. This recommendation is included in the EMPr.</p> <p>(2.5) Noted and will be adhered to. This recommendation is included in the EMPr.</p> <p>(2.6) Noted. Suitable material will be recycled where possible and will be probably managed.</p> <p>Response to Section 3</p> <p>(3.1) Recommendation noted and will be</p>

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<p>(4) Stormwater Management</p> <p>(4.1) It is imperative that there is proper management of storm water at the project site. A stormwater management plan must therefore be drawn up and adhered to.</p> <p>(4.2) The Engineer or Contractor must ensure that only clean stormwater runoff enters the environment.</p> <p>(4.3) Drainage must be controlled to ensure that runoff from the project area does not culminate in off-site pollution, flooding or result in any damage to properties downstream of any stormwater discharge point(s).</p> <p>(5) Erosion Control</p> <p>(5.1) Erosion control measures must be put in place to minimise erosion along the proposed construction areas. Extra precautions must be taken in areas where the soils are deemed highly erodible.</p> <p>(5.2) Soil erosion onsite must be prevented at all times, i.e. pre-, during- and post- construction activities. Erosion control measures must be implemented in areas prone to erosion such as near water supply points, edges of slopes, etc. These measures could include the use of sand bags, hessian sheets, bidim, retention or replacement of vegetation.</p> <p>(5.3) Where the land has been disturbed during construction it must be rehabilitated and re-vegetated back to an acceptable state after construction.</p> <p>(5.4) Stockpiling of soil or any other materials used during the construction phase must not be allowed _on or near steep slopes, near a watercourse or water body. This is to prevent pollution or the impediment of surface runoff. The applicant must control and establish suitable mitigation measures to prevent the erosion of stockpiles.</p> <p>(6) Spillages Management</p> <p>(6.1) There must be no unacceptable impact on the quality of both surface and groundwater in the area. If pollution of any surface or groundwater occurs, it must be immediately reported to this Department and the appropriate mitigation measures must be employed. In addition, should the proposed development impact on any groundwater and/or surface water users, then water of equal quality and quantity must be provided to the affected users.</p>			<p>adhered to. The recommendation is included in the EMPr.</p> <p>(3.2) Noted. There will not be any chemical temporary toilets facilities on the site. Should this be placed on site, the recommendation to place the toilet 100m away from any watercourse and outside of the 100 m floodline will be adhered to. This recommendation is included in the EMPr.</p> <p>(3.3) Noted. The recommendation is included in the EMPr.</p> <p>Responses to Section 4</p> <p>(4.1) Stormwater management measures have been included in the EMPr. Recommendations for stormwater management will be considered by the Applicant during the design, construction and operation phase, as applicable and where possible.</p> <p>(4.2) Noted. Stormwater management measures have been included in the EMPr.</p> <p>(4.3) Noted. Stormwater management measures to address these issues have been included in the EMPr.</p> <p>Response to Section 5 (5.1-5.4)</p> <p>Measures for erosion control have been included in the EMPr and an erosion</p>

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<p>(6.2) Storage of material, chemicals, fuels etc. must not pose a risk to the surrounding environment, and this includes surface and groundwater. Temporary bunds must also be constructed around chemical or fuel storage areas to contain possible spillages. Such storage areas must be located outside the 1:100 year flood-line of the water source and must be fenced to prevent unauthorized access into the area.</p> <p>(6.3) It is important that any significant spillage of chemicals, fuels, etc. during the construction phase and/or operational phase is reported to this Office and other relevant authorities. In the event of a spill, the following steps can be taken: Stop the source of the spill; Contain the spill; All significant spills must be reported to this Department and other relevant authorities;</p> <p>Remove the spilled product for treatment and authorised disposal;</p> <p>Determine if there is any soil, groundwater or other environmental impact;</p> <p>If necessary, remedial action must be taken in consultation with this Department; and Incident must be documented.</p> <p>(7) General</p> <p>(7.1) No form of secondary pollution should arise from the disposal of sewage and refuse.</p> <p>The contractor must be clearly briefed on the method of disposal of such waste and compliance must be ensured I monitored. Any pollution problems arising from the above project is to be addressed immediately by the Applicant.</p> <p>(7.2) This Department acknowledges and emphasises the commitment on Appendix F of an “Environmental Management Programme (EMPr) compiled and contain guidelines to ensure that all activities associated with the construction and operation of the proposed project are carried out in an environmentally responsible and acceptable manner”.</p> <p>(7.3) This Office reserves the right to inspect the site without prior notice in order to ensure that its requirements, as mentioned above, are adhered to.</p>			<p>management plan has been included in it. Erosion control measures will be implemented during all phases of the project. Suitable measures will be implemented to prevent pollution into nearby watercourses as a result of erosion of stock piles.</p> <p>Figure 4 in the Draft BA Report includes a map on Rainfall erodibility (or erosivity). It shows that the area falls between 301-400mm which is a low risk.</p> <p>Responses to Section 6 (6.1-6.3)</p> <p>6.1 Noted. The recommendations from the Department in terms of management of spillages will be adhered to. Measures will be implemented to ensure that surface and groundwater is not polluted.</p> <p>Mitigation measures to manage spillage have been included in the EMPr.</p> <p>(6.2) Temporary bunds will be constructed around chemical or fuel storage areas to contain possible spillages. Such storage areas will not be located within the 1:100 year flood-line of the water source and will be fenced to prevent unauthorized access into the area.</p> <p>(6.3) The recommendations from the Department regarding the spillage of chemicals will be adhered to. The steps in</p>

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<p>Should any problems be noted, measures must be undertaken immediately to rectify the situation.</p> <p>(7.4) This Department reserves the right to revise I withdraw these comments and request further information from the applicant should any other information that contradicts the above comes to light.</p> <p>(7.5) Notwithstanding the above, the responsibility rests with the Applicant to identify all sources or potential sources of pollution from his undertaking and to take appropriate measures to prevent any pollution of the environment. Failure to comply with the requirements of the National Water Act, 1998 (Act No 36 of 1998) could lead to legal action being instituted against the Applicant.</p> <p>Please do not hesitate to call this Office should you have any concerns, comments or queries.</p> <p>Yours faithfully</p>			<p>the event of an accidental spill will also be implemented.</p> <p>Response to Section 7 (7.1-7.5)</p> <p>The general comments from DWS are noted and will be adhered to.</p>
<p>Dear Ms Mashabela</p> <p>COMMENTS ON DRAFT BASIC ASSESSMENT REPORT FOR THE PROPOSED MAIZE AND BEAN CULTIVATION AND HARVESTING ENTERPRISE FOR THE KHANYANI AGRICULTURAL COOPERATIVE, EMTHEBENI, IMBABAZANE LOCAL MUNICIPALITY</p> <p>The Draft Basic Assessment Report (DBAR) for the proposed maize and bean cultivation and harvesting for the Khanyani Agricultural Cooperative has been reviewed by Ezemvelo KZN Wildlife (Ezemvelo).</p> <p>Ezemvelo, as an Organ of State, is fully supportive of initiatives such as this which aim to create jobs, improve food security and thereby assist in uplifting livelihoods of previously disadvantaged communities. While this is a key focus area for Government, the imperative to create jobs and promote food security is not advocated at all costs. The Environmental Right (s24), contained in the Bill of Rights provides that:</p> <p>‘Everyone has the right-</p> <p>(a) to an environment that is not harmful to their health or well-being; and</p> <p>(b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that-</p> <p>(i) prevent pollution and ecological degradation;</p> <p>(ii) promote conservation; and</p>	<p style="text-align: center;">Jenny Longmore <i>Ezemvelo KZN Wildlife (Ezemvelo)</i></p>	<p style="text-align: center;">22 July 2017</p>	<p>The comments from Ezemvelo are noted. It is appreciated that Ezemvelo is fully supportive of initiatives such as this which aim to create jobs, improve food security and thereby assist in uplifting livelihoods of previously disadvantaged communities. It is also noted that Ezemvelo is concerned that the proposed agricultural project for the Khanyani Cooperative is not environmentally sustainable.</p> <p>Please note that the EMPr has been updated to ensure that mitigation measures are included to reduce the potential negative impacts of the project on the environment.</p>

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<p>(iii) Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.’</p> <p>Here the Constitution recognizes the direct relationship between the health and well-being of humankind and the persistence of the natural environment and the biodiversity therein. It is on these grounds that a constitutional duty is placed on the State (and all spheres of government therein) to take reasonable steps, in their current functions as well as future plans, to prevent environmental degradation, promote conservation and ensure sustainable development.</p> <p>As an organ of State Ezemvelo is bound by the Bill of Rights¹ and has a positive duty to ‘respect, protect, promote and fulfil the rights in the Bill of Rights.’² In terms of the KZN Nature Conservation Management Act 9 of 1997, Ezemvelo is charged to direct the management of the natural environment (including biodiversity) inside and outside protected areas, in partnership with other organs of state, private and communal landowners and civil society. It is thus incumbent on Ezemvelo, in collaboration with these partners, to oversee/guide the States trusteeship of biodiversity.</p> <p>Ezemvelo is also the Organ of State in the Province charged with the duty to fulfil the legal provisions and requirements provided for in the National Environmental Management: Biodiversity Act (Act 10 of 2004), the Natal Nature Conservation Ordinance 15 of 1974 and the KwaZulu Nature Conservation Act, 1992, which includes inter alia decisions regarding the issuing or not of permits for the destruction or removal (translocation) of protected and specially protected indigenous animals and plants, and threatened and/or protected species.</p> <p>Notwithstanding the in principled support for the Khanyani Agricultural Cooperative, the DBAR has failed to demonstrate with any surety that the development as proposed is environmentally sustainable and is in the best interests of the people. The Environmental Management Programme (EMPr) is vague and does not provide any assurance that environmental sustainability can or will be achieved. There is a strong likelihood that the Department of Environmental Affairs will not be in a position to grant environmental approval for this project.</p> <p>Please find outlined below specific comments and concerns on the EIA process conducted to date, the DBAR and the EMPr, as well as Ezemvelo’s recommendation in terms of the way forward.</p>			

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ISSUES RAISED	COMMENTATOR	DATE	RESPONSE
<p>COMMENTS ON THE EIA PROCESS, DBAR and EMPr</p> <p>Failure to investigate alternative sites</p> <p>While it is understood that the proposed development site was given to the project applicant by the KwaMkhize Traditional Council, no evidence is provided to suggest that the CSIR and project applicant made any attempt to: (i) bring to the attention of the Traditional Council the environmental sensitivity (constraints) of the area for cultivation and (ii) negotiate an alternative development site of lower conservation value.</p> <p>The recommendation of the EAP (Section G) that the Traditional Council should be assisted by KZN Wildlife and SANBI in defining areas for future cultivation and areas that should be set aside for conservation, implies that alternative cultivation areas within the KwaMkhize Traditional do potentially exist. The failure to investigate / consider alternative sites is prejudicial to all parties.</p> <p>Importance and representivity of the site at the local / regional level not contextualized</p> <p>No information is provided in the DBAR with respect to the representivity of the site in question to adjacent areas or other areas within the KwaMkhize Traditional area. This information is important not only in terms of assessing / determining the significance of developing (modifying) the site in question, but also in ensuring that representative areas exist that could potentially be used as receiving areas for flora and fauna.</p> <p>That the relocation of flora and fauna of conservation importance to adjacent areas is put forward as mitigation for habitat loss, in the absence of information as to whether suitable, representative sites exist, is highly problematic and prejudicial to the application.</p> <p>The conclusion and recommendation that project should proceed is not based on defensible reasoning</p> <p>The setting aside of the Independent Biodiversity Specialists recommendation(s), in the absence of empirical data and / or additional information to suggest that the specialist assessment may be inaccurate / no longer valid, is highly problematic.</p>			<p>Following the comments received from Ezemvelo, the CSIR consulted with the Traditional Council. From a cultural perspective, the site is part for the Abambo Traditional Council area and the use of this 26 ha site was allocated to the applicant by the INkosi Sbonelo N. Mkhize. The Nkosi has stated clearly that unfortunately he has no other sites that are available for this applicant (confirmed</p>

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<p>That the recommendation is made that the project proceeds when the loss of vegetation and faunal habitat is evaluated as being of “High (negative) significance after mitigation”, makes this application flawed. If the environmental harm that would occur through development of the site cannot be avoided, minimized (mitigated) or remedied, it cannot be allowed in terms of the law.</p> <p>Mitigation measures are put forward without evaluating whether they can be achieved in full or in part.</p> <p>The EMPr is vague, contradictory in places and provides little / no confidence that it will allow for environmental sustainability and good environmental practice</p> <p>Section 3.2 first speaks to an independent Environmental Control Officer</p>			<p>in a letter dated 31 July 2017; see Appendix E).</p> <p>It should be noted that only 17 ha of the total area of 26 hectares assigned to the applicant will be cultivated. The proposed area for cultivation was reduced to take environmental sensitivities on site into consideration. This is to avoid the portion of the site with shallower soil and rock outcrops, and maintaining a buffer of indigenous grassland vegetation around the periphery of the site.</p> <p>The site falls within the Mooi River Grassland. The biodiversity loss as a result of the cultivation of 17 ha of Mooi River Grassland is a negative impact of high significance. It is noted that this habitat is rated as Vulnerable on the national SANBI BGIS database and that 174 407 ha of this grassland currently exists (i.e. the footprint constitutes approximately 1/10 000th of the remaining area of this habitat).</p> <p>As stated above, the proposed project footprint has been reduced to 17 ha. The remaining 9 ha will be a buffer zone that will be used for the translocation of fauna and flora of conservation importance as relevant. Suitable areas exist in the buffer area to accommodate these species.</p> <p>The CSIR did not set aside the recommendation by the Independent</p>

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<p>(ECO) being appointed to monitor compliance with the project. It then suggests that the farm manager may assume the ECO function - bullet 3 - ECO / farm manger. Section 3.3 implies that the farm manager may also be farm workers - Farm Manager (Farm workers).</p> <p>The suggestion that: “No-go areas containing important plant habitat in the immediate vicinity of the construction activities must be declared, mapped and clearly demarcated”, be the responsibility of Farm Manager(s) is problematic. It is submitted that sensitive areas (on and adjacent to the site) needed to be mapped during the EIA process - there is no evidence provided to suggest that sensitive areas have been mapped. This function cannot be the responsibility of the Farm Managers.</p> <p>It is further noted that the collection and replanting of the flora of conservation importance is the joint responsibility of the Farm manager(s) and a Botanist/Horticulturalist. It is not clear whether funds have been set aside in this Special Needs and Skills Development Program to appoint a Botanist /Horticulturalist. If funds or alternatively the pro bona services of a botanist / horticulturalist has not been secured for this project post approval, it cannot be reflected in the EMPr.</p> <p>Similarly, making the responsibility for relocating red data fauna the responsibility of an Ezemvelo KZN Wildlife specialist, in the absence of any engagement / agreement from Ezemvelo is highly problematic. This needs to be negotiated with the Head of Ezemvelo’s Biodiversity Unit to determine if Ezemvelo indeed has the capacity and in-house expertise to perform this function. Further, the IUCN/SSC Guidelines for relocation and re-introduction will need to be followed in the case of the Rough Haired Golden Mole, as it is a red data species. With the information at hand, it is not possible to assess whether the level of risk, balanced against the scale of expected benefits, allows for a translocation exercise to be conducted. Naturally, if relocation is shown to be achievable, Ezemvelo will endeavor to support and assist the CSIR and the Khanyani Agricultural Cooperative.</p> <p>RECOMMENDATIONS</p> <p>1. It is strongly advised that the CSIR applies to the Department for an extension in which to submit the Final BAR (FBAR).</p>			<p>Biodiversity specialist. The comments from the specialist were considered. Additional information and data on the status of the biodiversity of the site was obtained and included in this report. The conclusion by the specialist that the loss of vegetation and faunal habitat after mitigation remains high is noted.</p> <p>However, in terms of the principles of sustainable development and environmental management, the CSIR have also considered the broader socio-economic context of this project. The positive and negative impacts of the proposed project on the geographical, physical, biological, social, economic, heritage and cultural sensitivity of the site and it’s surrounding location were considered.</p> <p>A holistic approach that considers the livelihoods of poor rural communities is therefore taken by the EAP in reaching its recommendation.</p> <p>This BA is conducted as part of the Special Needs programme that provides support to applicants who have been assessed to have “special needs” (as provided for in section 47 of the EIA Regulations, entitled “Assistance to people with special needs”) and are from disadvantaged backgrounds with very limited access to resources such as finances and land. For example, the applicant does not have access to</p>

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<p>2. The FBAR needs to include empirical data / input from a qualified and experienced ecologist if the site is no longer of conservation importance, as reported by independent Biodiversity Specialist Mr Simon Bundy.</p> <p>3. The importance of the site in question for the Rough Haired Golden Mole needs to be evaluated by an appropriately qualified and experienced mammalian specialist and the findings and conclusions must be reported on in the FBAR.</p> <p>4. The representivity of the site under consideration to adjacent areas and other sites within the KwaMkhize Traditional area needs to be assessed. Suitable potential receiving areas for flora and fauna needs to be identified and reported on in the EMPr.</p> <p>The recommendation of the EAP (Section G) that the Traditional Council should be assisted by KZN Wildlife and SANBI in defining areas for future cultivation and areas that should be set aside for conservation is a good recommendation. It is submitted that the CSIR should have called for the support and assistance of Ezemvelo and SANBI before embarking on the EIA process for the cultivation of site in question, or at least when the independent specialist identified the site in question as being of conservation importance, and recommended that alternative sites for cultivation be considered - namely the area in close proximity to the KwaMankonjane or proximal to the existing plantations.</p> <p>Ezemvelo will endeavor to support and assist the CSIR as far as possible in finding an environmentally sustainable way forward that will allow the Khanyani Agricultural Cooperative to proceed with their farming endeavors as soon as possible.</p> <p>Yours sincerely</p> <p>Jenny Longmore <i>Principal Conservation Planner</i> For CEO : EZEMVELO KZN WILDLIFE DATE : 22/07/17</p>			<p>alternative sites for cultivation.</p> <p>This project is within tribal authority land where historically the rights of the Nkosi would have provided sufficient authority for the applicant to grow maize and beans on this site. When the applicant was informed that an additional approval is required in terms of NEMA, they acted in good faith and left the land unutilised for the past two years. The BA process was initiated in 2015 and the Background Information Document was released to all stakeholders in November 2015.</p> <p>Please refer to the recommendation from the EAP in section G of the Draft BA Report (version 2) which provides the overall context and motivation why the project should be authorised.</p> <p>Please note that the EMPr has been revised to promote good environmental practice and to clarify the different roles and responsibilities of all parties involved who are responsible for the implementation of the EMPr.</p> <p>The manager of the Cooperative, currently Mr Bongani Mnculwane, is responsible for ensuring that the conditions of the Environmental Authorisation issued in terms of NEMA (should the project receive such authorisation) are fully satisfied, as well as ensuring that any other necessary permits or licenses are obtained and</p>

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			<p>complied with. It is expected that the Project Developer will appoint a Farm Manager and an Environmental Control Officer (ECO).</p> <p>The different parties will work together with the ECO to promote environmental compliance and sustainability.</p> <p>The project layout has been revised to consider environmental sensitivities on site. As such the project area has been reduced from 26 ha to 17 ha.</p> <p>The project applicant has limited funding to appoint an Ecologist or Botanist to relocate fauna and flora of Conservation Importance. It is recommended that should the project receive Environmental Authorisation, a Conservation body will be consulted to provide voluntary <i>pro bono</i> services to assist the Special Needs Applicant in this regard. Ezemvelo will also be contacted to request assistance (if at all possible) to ensure that the project is implemented in a sustainable manner. This will be discussed with Ezemvelo should the project be approved.</p> <p>The CSIR has applied to the EDTEA for an extension for the submission of the Final BA Report as recommended by Ezemvelo. As such the Draft BA Report has been updated and was released for comment. The comments received on this Draft BA Report (version 2) will be included in the Final BA Report and will be submitted to</p>

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			<p>EDTEA for decision-making.</p> <p>Recommendations for the conservation of the Rough Haired Golden Mole on site have been incorporated into the EMPr.</p> <p>The CSIR appreciates the comment from Ezemvelo that they support the recommendation that the Traditional Council should be assisted by Ezemvelo and SANBI in defining areas for future cultivation and areas that should be set aside for conservation.</p> <p>The CSIR wishes to thank Ezemvelo for their comments and propose that the parties work together in future should the project be authorised to find practical, positive solutions to implement this project in a sustainable manner.</p>
<p>COMMENTS ON BASIC ASSESSMENT FOR THE PROPOSED MAIZE AND BEAN CULTIVATION AND HARVESTING ENTERPRISE FOR THE KHANYANI AGRICULTURAL COOPERATIVE</p> <p>Dear Ms. Mashabela</p> <p>The draft basic assessment report as prepared by CSIR, with you as the lead author is noted. As the AbaMbo Traditional Council we have reviewed it, and although quite technical, we shall attempt to make comments that will hopefully assist the plight of the Khanyani Agricultural Cooperative. The AbaMbo Traditional Community is one of 7 Traditional Communities that fall within the jurisdiction of the Inkosi Langalibalele Local Municipality (a new entity formed after the merger of Imbabazane and uMtshezi Local Municipalities in August 2016). It is situated 45 km from Estcourt town, and 39 km from another town, Mooi River. Around the periphery of the community lies privately owned commercial farms, and also two game reserves, Giants' Castle and Highmoor Game Reserves, both of which are under the jurisdiction of the state's Ezemvelo KZN Wildlife.</p>	<p style="text-align: center;">INKosi Sbonelo N. Mkhize <i>AbaMbo Traditional Council: UThukela District</i></p>	<p style="text-align: center;">31 July 2017</p>	<p>Thank you for the comments.</p>

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<p>The municipality, to use available statistics from Stats SA, has a 48.6% unemployment rate, with 56,6% of the youth being unemployed. Of the 22,365 households that were recorded on Census 2011 in the former Imbabazane Local Municipality, 12,653 are considered agricultural households; households that make their livelihood through agricultural activities of different types. That equates to under 57% of the entire population of Imbabazane that depends on agriculture to live.</p> <p>The AbaMbo Traditional Council has intervened quite extensively in the last 8 years since I have taken over the reigns as iNkosi of the area to boost the micro-economy of Hlathikhulu. The geographical location of the area, in itself, is a hindrance for people to be actively participating in the labour force of Estcourt, seeing that a return fee by taxi is R50. 'Tis the reason why most people have dedicated their lives to agriculture in Hlathikhulu. As a Traditional Council we have concentrated much of our efforts into ensuring that agriculture forms the foundation of our economy. These have been some of our aggressive interventions: In 2014 we embarked on an expansive agricultural programme where, together with other Traditional Communities in the uThukela District, we were able to raise over R17 million for some of our primary agricultural activities. We were funded by the KZN Department of Cooperative Governance and Traditional Affairs (KZN CoGTA). Some of our yellow maize harvest was sold to De Heus (PTY) Ltd, and surrounding farmers, our potatoes to the Durban Market, and our kidney beans to a retailer in Verulam, north of Durban,</p> <p>☒ In 2016 the KZN Department of Agriculture and Rural Development invested over R18 million into the same programme to continue with the agrarian programme we had started. We have recently harvested 300 tons of yellow maize which we have sold to Meadow Feeds in Pietermaritzburg,</p> <p>☒ KZN CoGTA together with the Department of Land Reform and Rural Development have collaborated to fund a pack house in our area. Construction started 2 months ago, and the project is worth R5.2 million. We aim to provide a service to the local emerging farmers,</p> <p>☒ After meeting the Managing Director of AFGRI Africa Business, Mr. Hercu Bloem on 28 June 2017, AFGRI introduced us to a subsidiary unit of theirs called Harvest Time Investments which incubates emerging black farmers over a 3 year period, with the ultimate objective of creating viable commercial farmers. As a community we are to participate in this</p>			

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<p>programme, as we realised that knowledge of the industry, together with financial acumen is the key to being successful farmers.</p> <p>There are many other cases where I can elaborate on the vision of the community, and what our plans are, but that is not the focus of this letter. This letter is to highlight the economic necessity for a community like mine to be able to use the land that we have in order for us to make a living.</p> <p>As a marginalised community in terms of geography, demographics, economics, knowledge, and now seemingly, environmental, what chances do the people in this area have in terms of being able to make a meagre living for themselves, when legislation is likely to prevent them from being able to continue with their lives?</p> <p>We are no experts in environmental legislation, and for that matter the community seeks to carry out their activities in a manner that is ethical and legal. But with comments that seemingly are against Khanyani using the land in question due to environmental degradation that might occur, what is the alternative? There is no more land that the Traditional Council can allocate to Khanyani, so what is to happen?</p> <p>A Nepad Rural Futures Conference I attended in Contonou in May 2013 had a speaker present a paper highlighting the supposed conflict between developmentalists and environmentalists. I hope that this current study and experience at hand cannot be considered the "Crossing of the Rubicon" where, as developmentalists and/or environmentalists, we end up sitting on opposite sides and make conclusions that we shall develop at the expense of the environment, or we shall protect the environment at the expense of the people.</p> <p>At the heart of this application are the people who have no other alternative, and who are not looking for handouts, but would like to make a living off the land. I implore on the final</p> <p>Department of Environmental Affairs to make a decision that will place the people's needs first, but at the same time be able to provide expertise to prevent any aggressive disruption of the land from occurring.</p> <p>Thank you.</p>			
<p>Comments from town planning office Inkosi Langalibalele Municipality on the basic assessment for the proposed maize and beans cultivation and harvesting enterprise for the Khanyani Agricultural Cooperative, Emthebeni.</p>	<p style="text-align: center;">Zamokuhle Mathenjwa <i>Town Planner Technician</i> Inkosi Langalibalele Municipality Old</p>		<p>Thank you for the positive comments in support of the project. The municipality's name was changed in the report from the</p>

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<p>1. The municipality does not have any objection on the proposed development situated outside Estcourt Town Planning Schemes as:</p> <p>There is no significant impact on the environment, no negative socio economic conditions, and cultural heritage;</p> <p>No significant Impact of the proposal on existing or proposed developments or land uses in the Municipal area;</p> <p>No significant impact of the national, Provincial and municipal road networks;</p> <p>No significant impact on the protection or preservation of cultural and natural resources, unique areas or features and biodiversity will not be affected and</p> <p>No significant impact on the natural and physical qualities of that area.</p> <p>2. The proposed development is not in conflict with the provincial planning and developments of norms and standards</p> <p>3. The proposed development does not conflict with the municipality IDP and SDF</p> <p>4. Kindly note that on the 03 August 2016, Imbabazane Municipality and Untshedzi Municipality Amalgamated as one Municipality now known as Inkosi Langalibalele Municipality. Therefore kindly note the document should be amended and not state Imbabazane Municipality.</p>	<p>Post Office Building Estcourt 3310 Tel: +27 36 352 2353 zamokuhle@ilm.gov.za</p> <p>Municipal Manager: Hlula Alpheus Dladla (Acting), Mr</p> <p>Postal Address: PO Box 15, ESTCOURT, 3310 Street Address: Victoria Street, Civic Building, ESTCOURT Tel: 036 342 7801 Fax: 036 352 5829</p> <p>E-mail: municipalmanager@umtshazi.co.za</p>		<p>former Imbabazane Local Municipality to the Inkosi Langalibalele Local Municipality.</p>

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Appendix E.9: I&AP Database

COMPANY/ORGANISATION	First Name	Surname	Physical Address	Postal
Department of Environmental Affairs	MMatlala	Rabothata	315 Pretorius Street Pretoria 0002	Fedsure Building Private Bag X447
Department of Cooperative Governance and Traditional Affairs	Craig	Rushton	271 Church Street Pietermaritzburg 3201	Private Bag X9018 Pietermaritzburg 3200
Department of Agriculture, Forestry and Fisheries	Mashudu	Marubini	20 Steve Biko (Formerly Beatrix) Street Arcadia Pretoria 0002	Private Bag X138 Pretoria 0001
Department of Economic Development, Tourism and Environmental Affairs- HOD	Carol	Coetzee	270 Jabu Ndlovu Street, Pietermaritzburg	Private Bag X9152 Pietermaritzburg 3200
Department of Economic Development, Tourism and Environmental Affairs- HOD	Reta	Kallicharan	8 Warwick Road, Cascades	Private Bag X07 Pietermaritzburg 3202
Department of Economic Development, Tourism and Environmental Affairs- HOD	Kraigen	Govindasamy	8 Warwick Road, Cascades	Private Bag X07 Pietermaritzburg 3202
Department of Economic Development, Tourism and Environmental Affairs: South Region KZN	Mavis	Padayachee	A Block, 4 Pin Oak Avenue	Private Bag X6005 HILTON, 3245
Department of Agriculture, Forestry and Fisheries – KZN	Karen	Moodley	185 Longmarket Street Old Mutual Building Pietermaritzburg 3202	Private Bag X9029 Pietermaritzburg 3200
Department of Agriculture, Forestry and Fisheries – KZN	Thembile	Dlungwana	185 Longmarket Street Old Mutual Building Pietermaritzburg 3202	Private Bag X9029 Pietermaritzburg 3200
Department of Agriculture, Forestry and Fisheries – KZN	Jeffrey	Maivha	185 Longmarket Street Old Mutual Building Pietermaritzburg 3202	Private Bag X9029 Pietermaritzburg 3200
Department of Agriculture, Forestry and Fisheries –Land Use and Soil management	B.N.	De Lange	Delpen Building, Riveira	Private Bag X120 Gezina
Department of Agriculture, Forestry and Fisheries – Forestry regulations and Support-KZN	Nandipha	Sontangane	185 Longmarket Street Old Mutual Building Pietermaritzburg 3202	Private Bag X9029 Pietermaritzburg, 3200
Department of Agriculture, Forestry and Fisheries – Forestry regulations and Support-	Seokwang	Modise	185 Longmarket Street Old Mutual Building	Private Bag X9029 Pietermaritzburg 3200

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COMPANY/ORGANISATION	First Name	Surname	Physical Address	Postal
KZN			Pietermaritzburg 3202	
Department of Transport KwaZuluNatal	Michéle	Schmid	224 Prince Alfred St, Pietermaritzburg 3201	Private Bag X9043 Pietermaritzburg 3200
Department of Rural Development and Land Reform – KZN	Thembisile	Mabaso	200 Church Street, Pietermaritzburg 3201	Private Bag X9000 Pietermaritzburg 3200
Department of Rural Development and Land Reform – KZN	Babhekile	Mpisane	200 Church Street Pietermaritzburg 3201	Private Bag X9000 Pietermaritzburg,3200
Department of Rural Development and Land Reform – KZN	Khethakuthula	Nzimande	188 berg Street Pietermaritzburg 3200	Private Bag X9000 Pietermaritzburg 3200
Department of Transport – KZN	R.	Ryan	224 Prince Alfred Street, Pietermaritzburg 3201	Private Bag X9043 Pietermaritzburg 3200
Department of Water and Sanitation– KZN	Colleen	Moonsamy	88 Field Street, Southern Life Building, 7th Floor, Durban 4000	PO Box 1018 Durban 4000
Department of Water and Sanitation– KZN	Neo	Leburu	88 Field Street, Southern Life Building, 7th Floor, Durban 4000	PO Box 1018 Durban 4000
Department of Co-operative Governance and Traditional Affairs:	Frikkie	Brooks	Moses Mabhida Building, 4th Floor, 300 Langalibalele Street, Pietermaritzburg	Private Bag X9078 Pietermaritzburg 3200
uThukela District Municipality	Dudu	Mazibuko	Physical Address 36 Lyell Street / 33 Forbes Street	PO Box 116 Ladysmith, 3370
uThukela District Municipality	Cllr James	Nxumalo	36 Lyell Street / 33 Forbes Street Ladysmith, 3370	PO Box 116 Ladysmith 3370
Inkosi Langalibalele Local Municipality	M R	Mkhatshwa	1 Sobabili Road Ntabamhlophe Estcourt 3310	P.O Box 750 Estcourt 3310
Inkosi Langalibalele Local Municipality: Ward	Mr M B Mabaso	Ward Councillor	1 Sobabili Road Ntabamhlophe Estcourt 3310	P.O Box 750 Estcourt 3310
Khanyani Co-Operative	Bongani Mnculwane	Applicant	265 Vezunyawo Hlathikhulu	PO Box 54801 Estcourt 3310
Dry Bean producers' Organisation	Chris	Kleingeld,	Plot 20, Zeekoegat, Pretoria, South Africa	P.O. Box 26269 Arcadia 0007
Department of Human Settlement (Head of Dept)	Gabi	Gumbi-Masilela	203 Church Street 3rd Floor Pietermaritzburg	Private Bag X644 PRETORIA 0001

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COMPANY/ORGANISATION	First Name	Surname	Physical Address	Postal
Grain SA	Du Toit	Wessels	Alenti Office Park, 457 Witherite Street, The Willows Pretoria, South Africa	PO Box 88 Bothaville 9660
Ezemvelo KZN Wildlife	Nerissa	Pillay	1 Peter Brown Drive	Ezemvelo KZN Wildlife 1 Peter Brown Drive PO Box 13053 Cascades 3200
Zululand Chamber of Commerce and Industry	Thula	Mkhwanazi	Buscom Building, ZCBF Community Park, Richards Bay, 3900	PO Box 649 Richards Bay 3900
Zululand Environmental Alliance	Debbie	Smith		PO Box 442 Kwambonambi 3915
WWF – SA (Land Programme Manager)	Natasha	Wilson	Bridgetown, Cape Town, 7764, South Africa	PO Box 23273 Claremont 7735
South African Heritage Resources Agency (SAHRA)	Marie	South	111 Harrington street, Cape Town	PO Box 4637 Cape Town 8000
South African National Biodiversity Institute (SANBI) –Invasive plants	Michael	Cheek	4 Problem Mkhize Road, Berea, 4001	PO Box 52099, Durban, 4000
AMAFA KZN	Bernadet	Pawandiwa	195 Langalibalele Street, Pietermaritzburg, 3201	PO Box 2685, Pietermaritzburg 3206
KZN Department of Agriculture and Environmental Affairs; Soil Fertility and Analytical Services;	Buyisiwe	Hadebe	Private Bag X9059, Pietermaritzburg 3200.	P.O Box 1490 Estcourt

Appendix E.10: Background Information Document (BID)

Basic Assessment for the proposed maize and bean enterprise for the Khanyani Agricultural Cooperative, Imbabazane, KwaZulu Natal



CSIR Reference Number:

CSIR/CAS/EMS/IR/2015/00011/A



**Khanyani
Agricultural
Cooperative**

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INTRODUCTION TO THE PROPOSED PROJECT

Khanyani Agricultural Cooperative is a crop producing community owned enterprise, located on a portion of land owned by KwaMkhize Traditional Council, in the Imbabazane local municipality, KwaZulu Natal (KZN) (see Figure 1). The Agricultural Cooperative consists of twelve community members and is led by Bongani Mnculwane.

Khanyani Agricultural Cooperative proposes to farm 10 ha of maize and 9.5 ha of bean crops thus making it 19.5 ha of the farm which was given to them by KwaMkhize traditional Council for the purpose of farming.

The development triggers a listed activity in terms of the Environmental Impact Assessment (EIA) Regulations, Government Notice Regulations (GNR) 983 which came into effect on 8 December 2014 promulgated under the National Environmental Management Act (Act no 107 of 1998) (NEMA). In terms of the said Regulations, a Basic Assessment (BA) should be undertaken for the proposed project. The Council for Scientific and Industrial Research (CSIR) is the Environmental Assessment Practitioner (EAP) who will be managing the BA process.

AIM OF THE DOCUMENT

This Background Information Document (BID) provides potential Interested and Affected Parties (I&APs) with:

- Information on the proposed project;
- A description of the Basic Assessment process to be followed; and
- Details on how to register your interest in the project and receive further information.

As a registered I&AP, there will be opportunities for you to be involved in this BA process through receiving information, contributing issues and commenting on the BA Report (BAR). The input from I&APs, together with the information and assessment provided by the EAP and relevant specialists, will be used by the Competent Authority, in this instance the KZN Economic Development, Tourism and Environmental Affairs (KZN EDTEA), to determine whether to grant or refuse Environmental Authorisation (EA) for the proposed project.

PROJECT LOCATION

The proposed project will be located on a portion of land owned by KwaMkhize Traditional Council, Imbabazane local municipality, KZN (see Figure 1); with the centre point having the following GPS coordinates: 29° 41' 33" E, 29° 13' 1" S and a total area for cultivation is 19.5 hectares.

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Figure 1: Location of the Khanyani Agricultural Cooperative Project Site

BRIEF PROJECT DESCRIPTION

The key components of the proposed project are described below:

- Clearance of more than 300 square metres of vegetation;
- Start and associated operations of a crop production; and
- Harvesting of maize and bean crops.

NEED AND JUSTIFICATION FOR THE PROJECT

There is a guaranteed market for maize and bean crops in the area in which the Agricultural Cooperative operates. The crops grown are not only for consumption but the surplus will be sold to make a profit. The Agricultural Cooperative currently has a written offtake agreement with a local buyer, Macksons, to buy their produce as well as there is demand from surrounding villages.

Khanyani Agricultural Cooperative will employ a total of twelve employees, nine of which will be responsible for the crops and three of which will be responsible for the administration of the Agricultural Cooperative.

In terms of capacity building, the employees will undergo training for crop production and gain skills in monitoring and harvesting crops. Khanyani Agricultural Cooperative could contribute to the

SECTION H: APPENDICES

viability of the crop to the local community.

ENVIRONMENTAL LEGISLATION –SUMMARY OF THE BASIC ASSESSMENT PROCESS

In terms of the NEMA EIA Regulations published in GNR 983, 984 and 985 on the 8 December 2014 Government Gazette Number 38282, a BA process is required as the project triggers the following listed activity which requires an EA from KZN EDTEA (detailed in Table 1 below).

Table 1: Listed activity to be triggered

Relevant notice:	Activity No (s) (in terms of the relevant notice) :	Description of each listed activity as per the Government Notice:
GN. R 983, 8 December 2014	27	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for – i) The undertaking of a linear activity ii) Maintenance purposes undertaken in accordance with a maintenance management plan.

The BA process that will be undertaken for this project is summarised in the following steps below:

Step 1: Notify Authorities and potential I&APs (30 days) (current stage)

The first stage in the process entails notifying all potential I&APs of the proposed project, by sending out a BID, and providing I&APs with an opportunity to register as an I&AP. I&APs are required to register their interest on the project database within 30 days (in order to be included from the outset of the BA process) and/or raise issues or concerns.

Step 2: BAR for Public Comment (30 days)

The BA process is undertaken in order to identify and assess potential environmental impacts, both positive and negative, that may be associated with the project. Mitigation and management measures will be identified to reduce potential negative impacts and maximise positive benefits. These mitigation and management measures will be included in the Environmental Management Programme (EMPr) for this project. One specialist study will be undertaken as part of the proposed project, i.e. a terrestrial ecological study which will comprise a biodiversity scan of the site.

The BAR will include comments received from all I&APs on this BID and findings of the specialist study. All registered I&APs on the project database will be notified in writing of the 30-day comment period for the BAR.

Step 3: BAR to be submitted to KZN EDTEA for decision-making

Following the public commenting period, the BAR will be finalised and will be submitted to KZN EDTEA for decision-making. The comments and issues raised will be included in the BAR submitted to KZN EDTEA. All I&APs will be provided with written notification whether the project has been granted or refused EA and about the appeal process.

SECTION H: APPENDICES

SPECIALIST SCOPE OF WORK

A terrestrial Ecological study will be undertaken. The scope of work includes:

- A terrestrial biodiversity scan will be performed due to the need for clearance of vegetation. The scan will include: *An initial desktop study including literature review, followed by a field visit and the compilation of a biodiversity report.*

HOW CAN YOU GET INVOLVED?

1. By responding to our invitation for your involvement as advertised in the local newspaper.
2. By mailing or emailing a comment form to the EAP indicated below.
3. By telephonically contacting the EAP if you have a query, comment, or require further project information.
4. By reviewing the various reports and provide comments within the stipulated comment periods provided (i.e. the BiD and BAR).
5. By attending any meetings, which may be held during the review period.

WHO SHOULD YOU CONTACT?

Environmental Assessment Practitioner Details

To register as an I&AP, please complete the Registration Form included with this BID and kindly send to:

Abulele Adams	
Email:	aadams1@csir.co.za
Tel:	021-888-2482
Address:	CSIR, PO Box 320, Stellenbosch, 7599
Website:	http://www.csir.co.za/ems/specialneeds/

Basic Assessment for the proposed maize and bean cultivation and harvesting enterprise for the Khanyani Agricultural Cooperative, Emthebeni, Inkosi Langalibalele Local Municipality, KwaZulu Natal.



DRAFT BASIC ASSESSMENT REPORT (Version 2)

APPENDIX F: ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

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1. INTRODUCTION

This Environmental Management Programme (EMPr) is prepared as part of the requirements of the National Environmental Management Act (NEMA) EIA Regulations published in GNR 324, 325, 326 and 327 on the 7 April 2017 on the 7 April 2017 Government Gazette Number 40772. Regulations published in GNR 921 on the 29 November 2013 Government Gazette No 7 April 2017. The EMPr is to be submitted to the KZN Department of Economic Development, Tourism and Environmental Affairs (DEDTEA) as part of the Application for Environmental Authorisation for the proposed maize and bean cultivation and harvesting enterprise, Imbabazane Local Municipality, KwaZulu Natal.

The purpose of this EMPr is to ensure good environmental practice by the Khanyani Agricultural Cooperative. This EMPr therefore sets out the methods by which proper environmental controls are to be implemented by the cultivation management. This Draft EMPr is prepared as part of the requirements of the Environmental Impact Assessment (EIA) Regulations (December 2014, as amended) promulgated under the National Environmental Management Act (NEMA) (Act 107 of 1998, as amended).

This EMPr is also being made available for a 30-day review period, as part of the Draft Basic Assessment (BA) Report. Comments received from stakeholders during the aforementioned review period will be incorporated into the EMPr, where applicable. Following the incorporation of comments from stakeholders, this EMPr is intended as a “living” document and should continue to be updated regularly, as needed.

1.1 Project Description

The Khanyani Agricultural Cooperative is a crop producing community owned enterprise that has been allocated a 26 hectare (ha) portion of land owned by the KwaMkhize Traditional Council, in the Imbabazane Local Municipality, KwaZulu-Natal (KZN). The Agricultural Cooperative consists of twelve community members and is led by Mr Bongani Mnculwane. The Khanyani Agricultural Cooperative proposes to cultivate a combination of maize and bean crops on approximately 17 ha of this site, avoiding the portion of the site with shallower soil and rock outcrops, and maintaining a buffer of indigenous grassland vegetation around the periphery of the site.

Maize and beans are among the most important food crops in South Africa and are produced throughout the country under diverse environments. The combination of maize with a legume crop such as soya beans has been shown to have advantages in maintaining nitrogen levels in the soil (refer to the report mentioned in the section below on Maize-Legume Intercropping). Furthermore, the agricultural adviser from the KZN provincial Department of Agriculture and Environmental Affairs has also advised the Cooperative to include potato crops in order to enhance the soil moisture content (13 March 2017).

The project comprises the following proposed activities:

- Demarcation of the buffer of natural vegetation around the periphery of the site to be left intact.
- Clearing of the 17 hectares for cultivation of maize, beans and potatoes. This clearing is expected to be done using a communal tractor, noting that the tractor must not impact on the natural vegetation buffer (i.e. the turning areas for the tractor need to be within the 17 ha). The

ploughing will be done along the contour lines, with low agricultural berms (ridges) created parallel to contour lines to retain run-off water and prevent erosion.

- Planting of crops will then take place. The maize and beans of the Khanyani Agricultural Cooperative will be planted from October to December. Due to variations in rainfall pattern, temperature and duration of the growing season, different cultivars will be available, adapted to the range of climatic and production conditions. Maize can take from 60 to 100 days to reach harvest depending upon variety and the amount of heat during the growing season. The optimal temperature for soya beans growth is 13 to 30 degrees Celsius, with rainfall of 500 mm to 900 mm required (DAFF, 2010, Soya Beans Production Guideline).
- These crops will be planted, thinned, weeded and harvested annually to promote maximum employment opportunities for unskilled and semi-skilled employees from the local community. Harvesting will take place in January to March each year. This will mostly be done manually. It is expected that approximately 400 person-days will be utilised, with employment of some 12 to 24 workers.
- Maize crops will mostly be sold to buyers, with potential for a portion to be consumed locally, either as fresh produce or to be dried and ground to maize meal. The soya beans will either be sold to buyers and/or consumed locally.
- After harvesting, the stalks and leaves of the crops can be manually cut and used to return organics back to the soil. This may reduce the use of fertilisers. Cattle may also be allowed to graze the maize leaves and stalks.
- The maize, beans and potato crops will be rotated to optimise soil nitrogen levels and moisture retention, while also balancing economic factors such as the lower produce value of potatoes.
- The plants will be rain fed (i.e. dry-land crops) and the developer does not have financial means to set up irrigation schemes. Therefore in droughts the applicant may not plant any crops.

The activities described in the EMPr will be addressed in the following three phases of the operation:

- Planning and Design Phase
The design and layout of the proposed maize and bean cultivation project.
- Operational Phase: Cultivation and Harvesting
Site preparation, cultivation of maize and beans and harvesting. Planting will follow seasonal structure.
- Restoration phase
Sowing of indigenous grass species and ongoing veld management to promote a natural restoration process.

Authors of the EMPr

This EMPr has been compiled by Environmental Assessment Practitioners at CSIR, using inputs from the terrestrial ecological specialist and the heritage specialist (as indicated in Table 1), as well as a range of authorities (listed below). The details and expertise of the Environmental Assessment Practitioners and the specialists are provided in Appendix G of the Draft BA Report.

Table 1: Project Team

ENVIRONMENTAL ASSESSMENT PRACTITIONER			
Name	Organisation	Role	Qualification/Expertise
Paul Lochner	CSIR	EMS Manager & Lead Reviewer	BSc Civil Engineering MPhil Environmental Science
Minnelise Levendal	CSIR	Project Leader (Reviewer)	MSc Botany
Karabo Mashabela	CSIR	Project Manager	MSc Environmental Science
SPECIALIST TEAM			
Name	Organisation	Role/Specialist Study	Qualification/Expertise
Simon Bundy	SDP Ecological and Environmental Services cc	Terrestrial ecological specialist study	MSc Ecology
Len van Schalkwyk	eTHEMBENI Cultural Heritage Management	Principal Investigator: Later Stone Age and Iron Age archaeology; Ancestral Graves Management.	MA Archaeology
Pat Morant	Private consultant	Reviewer	MSc Environmental Studies
Simon Bundy	SDP Ecological and Environmental Services cc	Wetlands delineation and Risk assessment Khanyane community agricultural project, near Mooi River Kwa Zulu-Natal	MSc Ecology

This EMPr also draws on the following inputs, comments and guidelines from authorities that were obtained during the BA process:

- **Fertilizer Advisory Services Report** (7 pp) for the Khanyani project provided by Ms JB Hadebe, KZN Department of Agriculture and Environmental Affairs – Soil Fertility and Analytical Services, Pietermaritzburg (tel. 033 – 355 9455 / 036 – 352 3033). This provides agricultural recommendations for nutrient and lime addition based on the soil analysis for the Khanyani site.
- **Soya Beans Production Guideline**, published by the national Department of Agriculture, Fisheries and Forestry, 2010, obtainable from the Resource Centre: Directorate Agricultural Information Services, Pretoria (tel. 012 - 319 6072, email: DPP@daff.gov.za). This Guideline includes best practice and recommendations on soil preparation, fertilization, planting, weed and pest control, harvesting, processing and utilisation. Two soil tillage options are possible either, conventional tillage that inverts the surface layer of the soil, or conservation tillage that leaves most of the surface covered by crop residues following planting which has benefits of protecting the soil surface from wind and water erosion and conserving soil moisture levels.
- **Maize-Legume Intercropping Report**, produced by the One Acre Fund, published March 2015 and available at www.oneacrefund.org. This presents results from experiments in small-scale agriculture in western Kenya in 2014 and explains the benefits of intercropping of maize and legumes (e.g. soybeans) in order to sustain agricultural productivity. Maize is a heavy feeder on nitrogen in the soil, whereas legumes are able to biologically extract nitrogen from the air and increase soil nitrogen.

Contents of the EMPr

This EMPr specifies the management actions necessary to ensure no or minimal environmental impacts, as well as procedures for monitoring these impacts associated with the proposed activity. In terms of legal compliance, this EMPr aims to satisfy Appendix 4 of Government Notice 324, 325, 326 and 327 on the 7 April 2017 presented in Table 2 below.

Table 2: Compliance with Appendix 4 of Government Notice Regulation 982 of 7 April 2017 and Section 24N of the National Environmental Management Act 107 of 1998.

Requirements according to Appendix 4 of GNR 982 of 4 December 2014	Section in EMPr
(1) An EMPr must comply with section 24N of the Act and include- a) details of - (i) the EAP who prepared the EMPr; and (ii) the expertise of that EAP to prepare an EMPr, including a curriculum vitae;	Section 1.3 Appendix I of BAR
b) a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description;	Section 2
c) a map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that any areas that should be avoided, including buffers;	Section 2, Figure 2-1, 2-2, 2-3
d) a description of the impact management objectives, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development including-	Section 4
(i) planning and design;	Section 4
(ii) pre-construction activities;	Section 4
(iii) construction activities;	Section 4
(iv) rehabilitation of the environment after construction and where applicable post closure; and	Section 4
(v) where relevant, operation activities;	Section 4
e) a description and identification of impact management outcomes required for the aspects contemplated in paragraph (d);	Section 4
f) a description of proposed impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (d) and (e) will be achieved, and must, where applicable, include actions to –	Section 4
i. avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;	
ii. comply with any prescribed environmental management standards or practices;	Section 4
iii. comply with any applicable provisions of the Act regarding closure, where applicable; and	N/A
iv. comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable;	N/A
g) the method of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 4
h) frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 4
i) an indication of the persons who will be responsible for the implementation of the impact management actions;	Sections 3 & 4

Requirements according to Appendix 4 of GNR 982 of 4 December 2014	Section in EMPr
j) the time periods within which the impact management actions contemplated in paragraph (f) must be implemented;	Section 4
k) the mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);	Section 4
l) a program for reporting on compliance, taking into account the requirements as prescribed by the Regulations;	Section 4
m) an environmental awareness plan describing the manner in which- (i) the applicant intends to inform his or her employees of any environmental risk which may result from their work; and (ii) risks must be dealt with in order to avoid pollution or the degradation of the environment; and	Section 4
n) any specific information that may be required by the competent authority.	N/A

2. APPROACH TO PREPARING THE EMPr

The EMPr follows an approach of identifying over-arching objectives, accompanied by management actions that are aimed at achieving these objectives. The management actions are presented in a table format in order to show the links between associated objectives, actions, responsibilities and monitoring requirements.

The management plans for the design, operation and decommissioning phases consist of the following components:

- **Impact:** The potential positive or negative impact of the development that needs to be enhanced, mitigated or eliminated.
- **Objectives:** The objectives necessary in order to meet the goal; these take into account the findings of the specialist studies.
- **Mitigation/Management Actions:** The actions needed to achieve the objectives, taking into consideration factors such as responsibility, methods, frequency, resources required and prioritisation.
- **Monitoring:** The key monitoring actions required to check whether the objectives are being achieved, taking into consideration responsibility, frequency, methods and reporting.

The **overall goal for environmental management for the proposed Khanyani project** is to operate the project in a manner that:

- Minimises the ecological footprint of the project on the local environment;
- Facilitates agricultural land use in a responsible manner that supports local livelihoods;
- Facilitates harmonious co-existence between the project and other land uses in the area; and
- Contributes to the environmental baseline and understanding of environmental impacts of cultivation e.g. erosion, in a South African context.

3. ROLES AND RESPONSIBILITIES

This section provides a generic outline of the roles and responsibilities for environmental management for this project. It is expected that this will be defined in detail in the final EMPr, drawing on the further project planning if the project goes head. It needs to be borne in mind that this Khanyani project has qualified for “special needs” support from the national Department of Environmental Affairs (DEA), largely because the applicant is from a disadvantaged background with limited financial resources and ability to afford the costs of a BA process. Consequently, the costs of the roles and responsibilities for the EMPr are framed within the affordability constraints facing the applicant, while still promoting a responsible approach to this proposed 17 ha agricultural development.

For the purposes of this EMPr for this agricultural project, the generic roles that need to be defined are those of the:

- **Project Developer**, the Khanyani Agricultural Cooperative, led by Mr Bongani Mnculwane;
- **Farm Manager**, to be appointed by the Cooperative;
- **Environmental Control Officer**, to be appointed by the Cooperative and including Environmental Health and Safety (EHS) requirements;

3.1 Project Developer

The Project Developer, Khanyani Agricultural Cooperative, will ensure delivery and keep the development team on track and provide day to day technical management and process guidance on development activities. The manager of the Cooperative, currently Mr Bongani Mnculwane, is responsible for ensuring that the conditions of the Environmental Authorisation issued in terms of NEMA (should the project receive such authorisation) are fully satisfied, as well as ensuring that any other necessary permits or licenses are obtained and complied with. It is expected that the Project Developer will appoint a Farm Manager and an Environmental Control Officer (ECO).

The Project Developer is overall responsible for ensuring that all legislative requirements associated with the development are satisfied. Table 3 lists the relevant environmental legislation, guidelines and policies.

3.2 Farm Manager

The farm will be developed and operated by farm workers living off the property. However, it is envisaged that a Farm Manager will be residing on the farm and will ensure the following:

- Development and operation of the farm.
- Required maintenance of the farmhouse, equipment etc.
- Management of farm workers, who will most likely come from the local community.

The Farm Manager will be responsible for the following:

- Meetings on site with the ECO prior to the commencement of cultivation activities to confirm the cultivation procedure and designated activity zones.
- Overall cultivation and harvesting programme, project delivery and quality control for the construction of the facility.

- Overseeing compliance with the Health, Safety and Environmental Responsibilities specific to the project.
- Promoting total job safety and environmental awareness by employees/workers, and the importance that the project proponent attaches to safety and the environment.
- Ensuring that all appointed farm workers are aware of this EMPr and their responsibilities in relation to the programme.

3.3 Environmental Control Officer

An Environmental Control Officer (ECO) must be appointed by the applicant to monitor the compliance of the proposed project with the conditions of Environmental Authorisation (should such authorisation be granted by DEDTEA) for the first two seasons of cultivation. The ECO must also monitor compliance of the proposed project with environmental legislation and recommendations of the EMPr.

The roles and responsibilities of the ECO include the following:

- Prepare the Final EMPr based on the Draft EMPr, as well as update the EMPr as and when necessary, and compiling a monitoring checklist based on the EMPr
- Maintain a diary of site visits and audits, a copy of the Environmental Authorisation and relevant permits for reference purposes, a non-conformance register, a public complaint register, and a copy of previous environmental audits undertaken.
- Prior to the commencement of cultivation, the ECO and Farm Manager must meet on site to confirm the development procedure and to clearly designate and demarcate the cultivation areas.
- The ECO and Farm Manager must undertake periodic environmental audits during the relevant phases of the proposed project in order to monitor and record environmental impacts and non-conformances. It is recommended that environmental audits be undertaken every three (3) months by the ECO and Farm Manager during the cultivation and harvesting phase.
- Environmental compliance reports must be submitted by the ECO to the Competent Authority (KZN DEDTEA) on a regular basis (i.e. every three months during the cultivation and harvesting phases or as stipulated by the KZN DEDTEA).
- Typical Environmental Health and Safety (EHS) roles associated with this agricultural project.

During the initial land development, cultivation and harvesting, the ECO will be responsible for the following EHS requirements:

- Overseeing the implementation of the EMPr and monitoring programmes for the operation phase.
- Ensuring compliance with the Environmental Authorisation conditions.
- Ensuring that the necessary environmental monitoring takes place as specified in the EMPr.
- Updating the EMPr and ensuring that records are kept of all monitoring activities and results.

During the restoration phase, an EHS Manager will need to be identified and be responsible for:

- Overseeing the implementation of the EMPr for the restoration phase; and
- Conducting an environmental inspection on completion of restoration and 'signing off' the site rehabilitation process.

Note: It is proposed that the ECO be retained for the first two seasons of cultivation, then phased out as sustainable farming measures are adopted by the Farm Manager.

Table 3: Description of applicable legislation, policies and guidelines.

Legislation, policy of guideline	Description of compliance
National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998 as amended).	An application for Environmental Authorisation for the proposed development is submitted in terms of GNR 324, 325, 326 and 327 on the 7 April 2017 of NEMA EIA Regulations, , promulgated under NEMA.
GNR 324, 325, 326 and 327 of NEMA EIA Regulations 7 April 2017	To promote integrated environmental management, contents of this EMPr adhere to the requirements of Appendix 4 of the EIA Regulations. This EMPr outlines the conditions that the project will adhere to if authorisation is received. Appendix E of the BAR refers to the Public participation followed thus far in undertaking this assessment.
National Development Plan	The South African Government through the Presidency has published a National Development Plan. The Plan aims to eliminate poverty and reduce inequality by 2030. The Plan has set the target of developing people’s capabilities to improve their lives through education and skills development, health care, better access to public transport, jobs, social protection, rising income, housing and basic services, and safety. It proposes the following strategies to address the above goals: <ol style="list-style-type: none"> 1. Creating jobs and improving livelihoods; 2. Expanding infrastructure; 3. Transition to a low-carbon economy; 4. Transforming urban and rural spaces; 5. Improving education and training; 6. Providing quality health care; 7. Fighting corruption and enhancing accountability; 8. Transforming society and uniting the nation.
National Heritage Resources Act (Act 25 of 1999)	An application for Heritage Resources review was submitted to SAHRA
National Environmental Management Biodiversity Act (Act 10 of 2004)	The National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004) as amended (NEMBA) including all the pertinent legislation published in terms of this act was considered in compiling this EMPr. This included the determination and assessment of the fauna and flora prevailing in the proposed project and the handling thereof in terms of NEMBA.

4. ENVIRONMENTAL MANAGEMENT PLAN

As part of environmental management and enhancement, an impact management objectives must be identified, inclusive of the proposed methods and effective management and mitigation measures required during the design, development and operational phases of the proposed agricultural project. The table below lists potential impacts and mitigation measures recommended for the Khanyani Agricultural Cooperative development at the different phases.

Table 4: Impact management plan for the proposed Khanyani Agricultural Cooperative

Impact Description	Environmental Objective	Management/Mitigation Measures	Methodology	Monitoring Compliance & Reporting	Monitoring Frequency	Responsibility
A. Planning and Design Phase						
4.1 Loss of sensitive vegetation and faunal habitat as a result of poor planning and design from planting and harvesting.	To prevent further loss of vegetation on site, specifically in highly sensitive areas.	<ul style="list-style-type: none"> ▪ The cultivation area must be clearly demarcated prior to any clearing of vegetation (e.g. using hazard tape). ▪ No additional clearing of vegetation is to be undertaken outside the demarcated area. ▪ Removal or collecting of plants or shrubs must be prohibited, apart from the plant search and rescue. ▪ Farm workers must be clearly informed of the reason for the buffer area and held accountable for any infringements that may occur (e.g. damage to natural grassland habitat in buffer area). 	Highly sensitive areas should be avoided by revising the planned site plan and demarcate the cultivation site accordingly.	Project Developer to ensure development layout adheres to the proposed mitigation measures of this EMPr	Prior to site clearing, with subsequent monthly monitoring	ECO to demarcate the no-go areas that are to be retained as natural vegetation, and monitor compliance, and report on this in monthly monitoring reports
4.2 Loss of Conservation Important (CI) flora, in accordance with law and best practice, and encourage rehabilitation.	To protect plants of conservation concern and to minimise loss of CI or medicinally important plant species in accordance with law and best practice and encourage rehabilitation	<ul style="list-style-type: none"> ▪ If removing CI species, then first submit and obtain permits for their removal. ▪ Prior to cultivation any CI and medicinally important floral specimens that may occur within the site layout footprint should be collected and replanted in the surrounding areas. ▪ Adhere to law and best practice guidelines regarding the displacement of CI and medicinally important floral species. 	Permits to be obtained for CI flora within the site, and this flora to be collected, stored and transplanted into the natural buffer area on site. Obtain permits for the removal of CI important species from the site. Collect and transplant medicinally important floral specimens.	Project Developer to verify implementation of the mitigation measures proposed in this EMPr.	Monthly	Qualified specialist Botanist or Horticulturist to compile a plant search and rescue plan, that includes listing of relevant species, documenting the relevant permit procedures and the process for collection and transplanting of specimens.
4.3 The continued spread of alien invasive species, such as grasses, within the site, as well as introduction of new invasive species.	To prevent the spreading and increase of alien invasive species.	<ul style="list-style-type: none"> ▪ Cleared vegetation must be either be removed from site or burned <i>in-situ</i> in a demarcated area. ▪ Any alien seed bearing material should be removed from the drainage areas on site to prevent the spread of seed. ▪ Identify alien invasive species on site and remove species where practical. 	Prepare an Alien Invasive Species Maintenance Plan for the site. Pro bono advice to be requested from bodies such as Ezemvelo KZN Wildlife on the removal of alien plant species and management of the natural vegetation buffer.	Project Developer to ensure these management actions are included in the project planning and design.	Monthly	ECO to provide an Alien Invasive Species Maintenance Plan for the site, sourcing inputs from a qualified specialist Botanist or Horticulturist if necessary.
4.4 Destruction of natural habitats and consequential loss and/or displacement of fauna (e.g. secretary birds and golden moles)	To minimise the disturbance of natural habitats and reduce the loss of ecosystem functioning on site.	<ul style="list-style-type: none"> ▪ Of the 26 ha site, 17 ha is to be developed and a buffer of natural vegetation to be retained (refer to plan in Appendix A). This provides habitat on site to support indigenous fauna. 	Incorporate a natural buffer zone into the project layout plan (refer to Appendix A).	Project Development to include the natural buffer zone into the project business plan.	Inclusion in project business plan	Project Developer

Impact Description	Environmental Objective	Management/Mitigation Measures	Methodology	Monitoring Compliance & Reporting	Monitoring Frequency	Responsibility
B. Operational phase: Cultivation and Harvesting						
4.5 Potential of soil erosion due to exposed soil during cultivation.	To prevent soil erosion and consequential loss of top soil and sedimentation of watercourses in close proximity.	<ul style="list-style-type: none"> ▪ Only the demarcated 17 ha area necessary for cultivation and development should be cleared. ▪ Ploughing to be done along contours and low earth berms (ridges) to be established to minimise erosion. Existing contour furrows (if existing on site) to be retained in order to manage run-off. ▪ Design and implement a way of attenuating the run-off from the cultivation so that it does not lead to soil erosion ▪ Conduct maintenance of earth berms before rainy seasons. 	<p>Good farming techniques to be followed and practiced.</p> <p>Erosion protection measures to be implemented on the site to reduce erosion and sedimentation of the receiving environment.</p>	<p>Monthly site inspections by ECO to ensure effective soil erosion measures are in place.</p> <p><u>Note:</u> ECO is proposed to be retained for the first two seasons, then phased out, as sustainable farming measures are adopted by the Farm Manager.</p>	Monthly monitoring, with annual reporting during the operational lifetime of the project	Farm Manager and ECO (for the period while the ECO is still appointed).
4.6 Loss of natural habitats from agricultural development.	To minimise the disturbance of natural habitats.	<ul style="list-style-type: none"> ▪ A buffer of natural vegetation to be retained on the site (refer to Site Plan in Appendix A) 	Retain natural buffer.	Site inspections are carried out by the ECO during the first two seasons of the operational phase.	Monthly monitoring during first two seasons.	Farm Manager and ECO (for the period while the ECO is still appointed).
4.7 Ongoing management of alien flora in the natural buffer area (alien grasses have been identified on site prior to development).	To prevent the spreading and increase of alien invasive species.	<ul style="list-style-type: none"> ▪ Ongoing implementation of the Alien Invasive Species Maintenance Plan for the site that is prepared in the planning phase. 	Pro bono advice to be requested from bodies such as Ezemvelo KZN Wildlife on the removal of alien plant species and management of the natural vegetation buffer.	Monitoring of alien flora on site and effectiveness of Maintenance Plan	Annually	Input from qualified specialist Zoologist or Botanist, preferably as pro bono support to the Cooperative
4.8 Destruction or disturbance of indigenous fauna as a result of agriculture.	To avoid destruction and minimise disturbance of indigenous fauna on site.	<ul style="list-style-type: none"> ▪ No trapping or killing of fauna especially Golden mole (<i>Chrysochloris asiatica</i>) to be allowed. ▪ Ensure that staff are trained and properly equipped to identify and safely handle fauna (particularly snakes and moles) or that the services of a trained professional are readily available on call. ▪ Educate staff on prohibited actions involving the utilisation of wildlife (i.e. poaching / harvesting) through training and notices. ▪ Routinely walk fence lines to remove snares. 	Monitor activities, especially ensuring that there is no infringement by vehicles into the natural vegetation buffer	Site inspections are carried out by the ECO during the first two seasons of the operational phase.	Monthly monitoring during first two seasons.	Farm Manager and ECO (for the period while the ECO is still appointed).
4.9 Noise disturbances as a result of cultivation activities.	To minimise noise generation on site.	<ul style="list-style-type: none"> ▪ All activities e.g. ploughing and use of tractors will be done during the day in order avoid night-time noise impacts. 	Restraints on night-time operations using noisy equipment such as tractors.	Ensure tractors are well maintained.	Monthly	Farm Manager and ECO (for the period while the ECO is still appointed).
4.10 Cultivation activities may disturb or destroy sites or features of heritage importance.	To protect heritage resources.	<ul style="list-style-type: none"> ▪ The site does not have any heritage resources, however should any archaeological features be discovered on site then a qualified heritage specialist and SAHRA will be notified. <p>The contact details for SAHRA are: Telephone: 021 462 4502 Fax: 021 462 4509 Email: mgalimberti@sahra.org</p> <p>AMAFA: Enquiries: Bernadet Pawandiwa Tel: 033 394 6543 Email: bernadetp@amafapmb.co.za</p>	The farm team must be briefed on the potential uncovering of heritage features and what actions are then required. In the event that artefacts of heritage significance are discovered, all construction activities are to cease and the South African Heritage Resources Agency (SAHRA) must be immediately contacted.	Report any features of heritage significance.	Monthly	Farm Manager and ECO (for the period while the ECO is still appointed).

Impact Description	Environmental Objective	Management/Mitigation Measures	Methodology	Monitoring Compliance & Reporting	Monitoring Frequency	Responsibility
B. Operational phase: Cultivation and Harvesting						
4.11 Impact of dust and vehicle emissions generated during use of the gravel road when transporting vegetables during Harvesting.	To minimise the impact of transport activities on the air quality and surrounds.	<ul style="list-style-type: none"> ▪ Vehicles transporting to and from the farm must keep at minimum speed to reduce dust generation. 	<p>A checklist should be generated in this regard to ensure adherence to the safety requirements.</p> <p>Inspections to be carried out during the cultivation, harvesting and restoration phase</p>	A complaints register must be kept on the farm, in which any dust complaints from the public must be logged	Monthly	Farm Manager and ECO (for the period while the ECO is still appointed).
4.12 Application of Lime	To reduce the PH of the soil	<ul style="list-style-type: none"> ▪ Lime should be applied at least one or two months before cultivation and it should be incorporated to a depth of 20 cm. Thorough incorporation is essential. Discing followed by ploughing is recommended 	<p>Soils samples to be collected annually and analysed. If required lime to be applied to reduce acidity.</p> <p>A checklist should be generated in this regard.</p>	Soil should be analysed annually	Annually	Farm Manager
4.13 Soil PH test for adequate level	To measure of the acidity and alkalinity in soils.	<ul style="list-style-type: none"> ▪ Where soil test P levels are considered adequate, but are less than 120 mg/L, a starter application of 20 kg P/ha has been recommended to promote initial plant growth 	Soils samples to be collected quarterly and analysed	Application of 20 kg P/h	Quarterly	Farm Manager
4.14 Soil PH test for abnormally high sample	To measure of the acidity and alkalinity in soils.	<ul style="list-style-type: none"> ▪ Where the soil P test of a sample is abnormally high (>120 mg/L), and the sample is truly representative of the whole field, no fertilizer P should be applied until test levels indicate a P requirement 	Soils samples to be collected quarterly and analysed	No fertilizer P should be applied until test levels indicate a P requirement	Quarterly	Farm Manager
4.15 Sulphur Fertilizer Application in Crop Production	To increase plants nutrients	<ul style="list-style-type: none"> ▪ This crop requires 20 - 30 kg S/ha. This can usually be supplied from the atmosphere and by the mineralization of organic sulphur in soils, but supplementary sulphur fertilizers may be necessary on sandy soils, where sulphate is lost by leaching 	Soils samples to be collected quarterly and analysed	Application of 20 - 30 kg S/ha on soils	Quarterly	Farm Manager, Agronomist or plant production specialist
4.16 Erosion and damage from stormwater especially after heavy rains	To minimise the impact of stormwater on the surrounding environment	<ul style="list-style-type: none"> ▪ Planning should include a detailed stormwater management plan outlining appropriate measures to address runoff from the developed area of the farm 	Stormwater should be managed during rainy seasons	A monitoring programme should be implemented to assess any stormwater damage	Quarterly	Farm Manager and ECO (for the period while the ECO is still appointed).
4.17 Potential spillage of effluent or pollution from sanitation facilities for farm workers	Reduce the spillage of domestic effluent and the impact thereof on the environment	<ul style="list-style-type: none"> ▪ Ensure that normal sewage management practices are implemented during construction such as regularly emptying toilets and ensuring safe transport and disposal of sewage. ▪ Ensure that all domestic effluent/waste water is disposed safely at an appropriate, licenced facility by an appointed (suitable) service provider. Ensure that no discharge of waste water to the land surface is permitted. 	Monitor via site audits and record non-compliance and incidents (including incidents that nearly occur).	A monitoring programme should be implemented to assess the potential spillage of effluent (from portable sanitation	Daily	Farm Manager and ECO (for the period while the ECO is still appointed).
4.18 Potential for fires to occur as a result of the agriculture.	To prevent fires occurring on site.	<ul style="list-style-type: none"> ▪ Create safe storage on the premises for flammable materials. If artificial burning is considered necessary, establish and implement a fire management plan with emergency fire procedures. ▪ Educate workers about the plan and emergency procedures with regular training and notices. 	Qualified specialist should be contacted and a checklist should be generated in this regard	Ensure effective fire management plans and equipment to deal with fire incidence is readily available at all times on site.	Monthly	Farm manager(s) and ECO

Impact Description	Environmental Objective	Management/Mitigation Measures	Methodology	Monitoring Compliance & Reporting	Monitoring Frequency	Responsibility
C. Restoration Phase (i.e. return 17 ha agricultural area to natural grassland vegetation)						
4.19 Loss of natural grassland vegetation during agricultural activities.	To restore natural vegetation on site.	<ul style="list-style-type: none"> ▪ Identify robust and ecologically acceptable pioneer grasses and succession species that can be seeded on site to initiate the natural restoration and succession process. 	Seeding of suitable indigenous plants (pioneer species and suitable succession species)	Site monitoring should be conducted daily and report any non-compliance.	Monthly for two years	Farm Manager and horticulturalist
4.20 Spread of alien invasive species (e.g. grasses) as a result of clearing of natural vegetation and cultivation.	To prevent the spreading and increase of alien invasive species.	<ul style="list-style-type: none"> ▪ Ensure that alien invasive species are identified on site 	Qualified specialist should be contacted for the removal and planted alien species.	Management to verify implementation of the mitigation measures proposed in this EMP.	Monthly for two years	Farm Manager and horticulturalist
4.21 Erosion of soil due to clearing of natural vegetation and cultivation.	To retain/restore soil integrity on site and avoid impacts on downslope and downstream habitats	<ul style="list-style-type: none"> ▪ Identify areas with existing erosion or high erosion risk and ensure that erosion management structures are in place. ▪ Provide set of management options for erosion management. 	Regular inspection of erosion prevention measures.	Monitor for any significant erosion and need for additional erosion prevention measures.	Quarterly for two years	Suitable expert such as a Soil scientist or Civil engineer

5. EMERGENCY RESPONSE PLAN

The project Applicant must identify any potential emergencies and must develop any procedures to prevent and/or react to said emergencies. Emergency reaction procedures must be in place before operation (cultivation and harvesting) commence. Emergency procedures to be considered include:

- Fire (e.g. associated with vehicles, fuel or the crops)
- Spills (e.g. fuels and pesticides)
- Employee accidents.

Emergency telephone/cell phone numbers should be kept visible on site at all times throughout operation and restoration.

APPENDIX A – PROPOSED SITE PLAN OF THE PROPOSED PROJECT



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Appendix H: CVs of the Project Team

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Jan Cilliers Street
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Stellenbosch 7600
South Africa

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Fax: +27 21 888 2693
Email: plochner@csir.co.za



Curriculum Vitae of Paul Lochner – Technical Advisor and Quality Assurance (EAPSA) Certified

Name of firm	CSIR
Name of staff	Paul Lochner
Profession	Environmental Assessment and Management
Position in firm	Manager: CSIR Environmental Management Services
Years' experience	24 years
Nationality	South African

Biographical Sketch

Paul Lochner commenced work at CSIR in 1992, after completing a degree in Civil Engineering and a Masters in Environmental Science, both at the University of Cape Town. His initial work at CSIR focused on sediment dynamics and soft engineering applications in the coastal zone, in particular, beach and dune management. He conducted several shoreline erosion analyses and prepared coastal zone management plans for beaches. He also prepared wetland management plans.

As the market for environmental assessment work grew, he led Environmental Impact Assessments (EIAs), in particular for coastal resort developments and large-scale industrial developments located on the coast; and Environmental Management Plans (EMPs), in particular for wetlands, estuaries and coastal developments. He has also been involved in researching and applying higher-level approaches to environmental assessment and management, such as Strategic Environmental Assessment (SEA). In 1998-1999, he coordinated the SEA research programme within the CSIR, which led to him being a lead author of the Guideline Document for SEA in South Africa, published by CSIR and national Department of Environmental Affairs (DEA) in February 2000.

In 1999 and 2000, he was the project manager for the legal, institutional, policy, financial and socio-economic component of the Cape Action Plan for the Environment ("CAPE"), a large-scale multi-disciplinary study to ensure the sustainable conservation of the Cape Floral Kingdom. This was funded by the Global Environmental Fund (GEF) and prepared for WWF-South Africa. The study required extensive stakeholder interaction, in particular with government institutions, leading to the development of a Strategy and Action Plan for regional conservation.

In July 2003, he was certified as an Environmental Assessment Practitioner by the Interim Certification Board for Environmental Assessment Practitioners of South

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Africa.

He has authored several guidelines for government. In 2004, he was lead author of the *Overview of IEM* document in the updated Integrated Environmental Management (IEM) Information Series published by national Department of Environmental Affairs and Tourism (DEAT). In 2005, he was part of the CSIR team that prepared the series entitled *Guidelines for involving specialists in EIA processes* for the Western Cape Department of Environmental Affairs and Development Planning (DEADP); and he authored the *Guideline for Environmental Management Plans* published by Western Cape government in 2005. In 2006-2007, he worked closely with the (then) Dept of Minerals and Energy (DME) of South Africa to prepare a Guideline for Scoping, Environmental Impact Assessment and Environmental Management Plans for mining in South Africa.

Over the past 20 years has been closely involved with several environmental studies for industrial and port-related projects in Coega Industrial Development Zone (IDZ), near Port Elizabeth. This included the SEA for the establishment of the Coega IDZ in 1996/7, an EIA and EMP for a proposed aluminium smelter in 2002/3, and assistance with environmental permit applications for air, water and waste. At the Coega IDZ and port, he has also conducted environmental assessments for port development, LNG storage and a combined cycle gas turbine power plant, manganese export, rail development, marine pipelines, and wind energy projects.

Since 2009, he has undertaken numerous EIAs for the renewable energy sector, in particular for wind and solar photovoltaic energy projects. In these EIAs, he has been project leader and integrated the specialist findings from a range of specialist disciplines.

He is currently project leader on two Strategic Environmental Assessments (SEAs) that are being undertaken for national DEA. These SEAs are to support the implementation of the Strategic Integrated Projects (SIPs) that are being promoted by the Presidential Infrastructure Coordinating Committee (PICC). The SEA for Wind and Solar Photovoltaic Energy for South Africa is being conducted over 2013-2014, and the SEA for electricity grid infrastructure commenced January 2014.

Since 2009, Paul has been the manager of the Environmental Management Services (EMS) group within CSIR. This group currently consists of approximately 20 environmental assessment practitioners and a group assistant, with offices in Stellenbosch and Durban. EMS focuses on conducting complex environmental studies in challenging environments, such as remote and data poor regions in Africa (e.g. Cameroon, Gabon, Angola, Namibia and Ethiopia). We also specialise in environmental studies for emerging and innovative technologies, drawing on research and applied scientific expertise within CSIR. Our role is to assist in ensuring the sustainability of projects in terms of environmental and social criteria, by providing a range of environmental services that extend across the project lifecycle, from the pre-feasibility stage through to feasibility, commissioning, operations and closure. We provide this service to government, international agencies, private sector and non-government organisations.

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EMPLOYMENT TRACK RECORD

The following table presents a sample of the projects that Paul Lochner has been involved in to this date:

Completion Date	Project description	Role	Client
In progress	SEA for Aquaculture Development in South Africa (marine and freshwater)	Project leader	DEA and DAFF
In progress	SEA for the Square Kilometre Array radio-telescope in the Karoo, South Africa	Project leader	DEA and DST
2015-2017	SEA for Shale Gas Development in South Africa	Project co-leader	Dept of Environmental Affairs (DEA), DMR, DOE, DST, DWS
2015-2016	SEA for the development of Electrical Grid Infrastructure for South Africa	Project leader	DEA
2016-2017	EIA for the 75 MW x 12 solar photovoltaic energy projects near Dealesville, Free State	Project Leader	Mainstream Renewable Power SA
2014-2015	SEA of planning for the far south Cape Peninsula	Project Leader	City of Cape Town
2013-2015	EIA for the Ishwati Emoyeni 140 MW wind energy project and supporting electrical infrastructure near Murraysburg, Western Cape	Project Leader	Windlab
2013-2015	EIA for the Saldanha marine outfall pipeline	Project Leader	Frontier Saldanha Utilities
2012-2015	SEA for identification of renewable energy zones for wind and solar PV projects in South Africa	Project leader	DEA
2012-2013	Environmental Screening Study for a desalination plant for the City of Cape Town	Project leader	City of Cape Town & WorleyParsons
2012-2013	EIA for LNG Import to the Mossel Bay Gas-to-Liquid refinery (stopped end of Scoping)	Project leader	PetroSA
2012-2013	EIA for the desalination plant for the Saldanha area	Project leader	West Coast District Municipality & WorleyParsons
2012-2013	EIA for the manganese export terminal at the Port of Ngqura and Coega IDZ	Project leader	Transnet
2011 - 2012	EIA for the 100 MW solar photovoltaic project proposed by Mainstream Renewable Power at	Project leader	Mainstream Renewable Power

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Completion Date	Project description	Role	Client
	Blocuso, near Keimoes in the Northern Cape		
2011 – 2012	EIA for the 100 MW solar photovoltaic project proposed by Mainstream Renewable Power at Roode Kop Farm, near Douglas, in the Northern Cape	Project leader	Mainstream Renewable Power
2011 – 2012	EIA for the 75 MW solar photovoltaic project proposed by Solaire Direct at GlenThorne , near Bloemfontein in the Free State	Project leader	Solaire Direct
2011 – 2012	EIA for the 75 MW solar photovoltaic project proposed by SolaireDirect at Valleydora , near Springfontein in the Free State	Project leader	Solaire Direct
2010-2011	More than 10 Basic Assessments (BAs) for solar photovoltaic projects in the western cape, Northern Cape, Eastern Cape and Free State	Project leader	Various clients including Dutch, German, French and South African companies
2010/2011	EIA for the Langerfontein wind project near Darling, Western Cape.	Project leader	Mr Herman Oelsner, Khwe Khoa
2010/2011	EIA for a 100 MW wind project at Zuurbron and a 50 MW wind project Broadlands in the Eastern Cape	Project leader	WindCurrent SA (German-based company)
2010/2011	EIA for the proposed 143 MW Biotherm wind energy project near Swellendam , Western Cape, South Africa	Project leader	Biotherm South Africa (Pty) Ltd
2010/2011	EIA for the proposed InnoWind wind energy projects near Swellendam, Heidelberg, Albertinia and Mossel Bay (totalling approx 210 MW) , Western Cape, South Africa	Project leader	InnoWind South Africa (Pty) Ltd
2009/2010	EIA for the proposed Electrawinds wind energy facility of 45-75 MW capacity in the Coega IDZ, Eastern Cape	Project leader	Electrawinds N.V. (Belgium)
2009/2010	EIA for proposed 180 MW Jeffreys Bay wind energy project , Eastern Cape	Project Leader and co-author	Mainstream Renewable Power South Africa

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Completion Date	Project description	Role	Client
2009/2010	Basic Assessment for the national wind Atlas for South Africa	Project leader	SANERI and SA Wind Energy Programme, Dept of Energy
2009/2010	EIA for the proposed Gecko soda plant, Otjivalunda and Arandis, Namibia (cancelled)	Project leader	Gecko, Namibia
2009-2010	EIA for the proposed desalination plant at Swakopmund, Namibia	Project leader	NamWater, Namibia
2009	EMP for the Operational Phase of the Berg River Dam, Franschoek, South Africa	Project leader and report co-author	TCTA, South Africa
2009/2010 <i>(on hold)</i>	EIA for the proposed crude oil refinery at Coega, South Africa	Project leader and lead author	PetroSA, South Africa
2008	Environmental Risk Review for proposed LNG/CNG import to Mossel Bay, South Africa	Project leader and lead author	PetroSA, South Africa
2008	Review of the Business Plan for catchment management for the Berg Water Dam Project, Franschoek, South Africa	Project reviewer and co-author	TCTA, South Africa
2007 – 2010	EIA for proposed Jacobsbaai Tortoise Reserve eco-development, Saldanha, Western Cape	Project Leader and co-author	Jacobsbaai Tortoise Reserve (Pty) Ltd
2007 – 2010	Independent reviewer for the EIA proposed Amanzi lifestyle development, Port Elizabeth	Independent reviewer appointed to advise EAP	Public Process Consultants and Pam Golding
2007 – 2008	EIA for proposed 18 MW Kouga wind energy project, Eastern Cape	Project Leader and co-author	Genesis Eco-Energy (Approved by DEDEA in March 2009)
2007	Review of EIA for the proposed Hanglip Eco-Development, Plettenberg Bay, Western Cape	Co-author of review of EIA, undertaken on behalf of DEADP	Dept of Environmental Affairs & Development Planning, Western Cape
2006-2007	Scoping phase for the EIA for the proposed Coega LNG-to-Power Project at the Port of Ngqura, Coega IDZ	Project Leader and co-author	Eskom and iGas
2006-2007	Guideline for Scoping, Environmental Impact Assessment and Environmental Management Plans for mining in South Africa	Project leader and co-author	Dept of Minerals and Energy (DME), South Africa

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Completion Date	Project description	Role	Client
2006	Environmental Impact Assessment (EIA) for the extension of the Port of Ngqura, Eastern Cape	Project Leader and co-author	Transnet
2006	Integrating Sustainability Into Strategy: Handbook (Version 1)	Project Leader and co-author	CSIR (STEP research report)
2005	Technology Review for the proposed aluminium smelter at Coega, South Africa	Project Leader and lead author	Alcan, Canada
2005	Environmental and Social Impact Assessment (ESIA) report for the proposed alumina refinery near Sosnogorsk, Komi Republic, Russia	Project manager and co-author	Komi Aluminium, Russia, IFC, EBRD
2005	Guideline for Environmental Management Plans (EMPs) for the Western Cape province, including conducting a training course for provincial government	Author	Dept of Environmental Affairs & Development Planning, Western Cape
2005	Guideline for the review of specialist studies undertaken as part of environmental assessments	Member of Steering Committee and project facilitator	Dept of Environmental Affairs & Development Planning, Western Cape
2004	Review of Strategic Management Plan for Table Mountain National Park (2001-2004)	Reviewer and co-author	South African National Parks
2004	Strategic Needs Assessment Process for mainstreaming sustainable development into business operations	Researcher and co-author	CSIR (internal research)
2004	Environmental Monitoring Committees booklet in the IEM Information Series for DEAT	Contributing author	Department of Environmental Affairs and Tourism (DEAT)
2004	Overview of Integrated Environmental Management (IEM) booklet in the IEM Information Series	Lead author and researcher	DEAT
2003	Environmental Screening Study for gas power station, South Africa	Project Manager and lead author	Eskom, iGas and Shell
2003	Environmental Management Programme (EMP) Framework for the proposed Coega Aluminium Smelter; and assistance with preparing permit and licence	Project Manager and lead author	Pechiney, France

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Completion Date	Project description	Role	Client
	applications		
2003	Environmental Management Plan for the Operational Phase of the wetlands and canals at Century City, Cape Town	Project leader and lead author	Century City Property Owners' Association
2002	Environmental Impact Assessment for the proposed Pechiney aluminium smelter at Coega, South Africa	Project Manager and lead author	Pechiney, France
2002 - 2003	Research project: Ecological impact of large-scale groundwater abstraction on the Table Mountain Group aquifer	Project Manager	Water Research Commission
2002	Environmental Management Plan for the Eskom Wind Energy Demonstration Facility in the Western Cape	Co-author	Eskom
2001-2002	Environmental Impact Assessment for the Eskom Wind Energy Demonstration Facility in the Western Cape	Quality control & co-author	Eskom
2001	Environmental Due Diligence study of four strategic oil storage facilities in South Africa	Project manager and co-author	SFF Association
2000	Cape Action Plan for the Environment: a biodiversity Strategy and Action Plan for the Cape Floral Kingdom - legal, institutional, policy, financial and socio-economic component	Project manager and contributing writer	World Wide Fund for Nature (WWF): South Africa
1999	Environmental Management Plan for the establishment phase of the wetlands and canals at Century City, Cape Town	Project manager and lead author	Monex Development Company
1999	Environmental Management Programme for the Thesen Islands development, Knysna	Process design and Co-author	Chris Mulder Associates Inc; Thesen and Co.
1999	Management Plan for the coastal zone between the Eerste and Lourens River, False Bay, South Africa	Project manager and lead author	Heartland Properties and Somchem (a Division of Denel)
1998	Environmental Assessment of the Mozal Matola Terminal Development proposed for the Port of Matola, Maputo,	Project manager and author.	<i>SNC-Lavalin-EMS</i>

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Completion Date	Project description	Role	Client
	Mozambique		
1998	Strategic Environmental Assessment (SEA) for the Somchem industrial complex at Krantzkop, South Africa	Project manager and co-author	Somchem, a Division of Denel
1997	Strategic Environmental Assessment (SEA) for the proposed Industrial Development Zone and Harbour at Coega, Port Elizabeth, South Africa	SEA project manager and report writer	Coega IDZ Initiative Section 21 Company
1996	Environmental Impact Assessment of Development Scenarios for Thesen Island, Knysna, South Africa	Project manager and report writer	Thesen and Co.
1996	Environmental Impact Assessment of the Management Options for the Blouvllei wetlands, Cape Town	Project manager and report writer	Ilco Homes Ltd (now Monex Ltd)
1995	Environmental Impact Assessment for the Saldanha Steel Project, South Africa	Report writing and management of specialist studies	Saldanha Steel Project
1994	Environmental Impact Assessment for the upgrading of resort facilities on Frégate Island, Seychelles	Member of the project management team, co-author, process facilitator	Schneid Israelite and Partners
1994	Environmental Impact Assessment for exploration drilling in offshore Area 2815, Namibia	Project manager and co-author	Chevron Overseas (Namibia) Limited
1994	Management Plan for the Rietvlei Wetland Reserve, Cape Town	Project manager and lead author	Southern African Nature Foundation (now WWF-SA)
1993	Beach management plan for Stilbaai beachfront and dunes, South Africa	Project manager and lead author	Stilbaai Municipality
1993	Beach and dune management plan for Sedgfield for the beach east of the mouth of the Swartvlei estuary	Project manager and lead author	Nel and De Kock Planners, George
1993	Coastal Stability analysis and beach management plan for the Table View coastline north of Blaauwberg Road, Cape Town	Project manager and lead author	Milnerton Municipality

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EMPLOYMENT RECORD

- **1992 to present** Involved in coastal engineering studies; and various forms of environmental assessment and management studies. Council for Scientific and Industrial Research – Environmental Management Services (EMS) - Stellenbosch

QUALIFICATIONS/EDUCATION

- M. Phil. Environmental Science (University of Cape Town)
- B.Sc. Civil Engineering (awarded with Honours) (University of Cape Town)

LANGUAGE CAPABILITY

LANGUAGES	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Afrikaans	Moderate	Moderate	Moderate

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PROPOSED MAIZE AND BEAN CULTIVATION PROJECT OF THE KHANYANI AGRICULTURAL COOPERATIVE

Minnelise Levendal (Project Leader, Reviewer)



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Email: mlevendal@csir.co.za



CURRICULUM VITAE OF MINNELISE LEVENDAL – PROJECT LEADER

Name of firm	CSIR
Name of staff	Minnelise Levendal
Profession	Environmental Assessment and Management
Position in firm	Project Manager
Years' experience	8 years
Nationality	South African
Languages	Afrikaans and English

CONTACT DETAILS:

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Telephone Number: 021-888 2495/2661
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BIOSKETCH:

Minnelise joined the CSIR Environmental Management Services group (EMS) in 2008. She is focussing primarily on managing Environmental Impact Assessments (EIAs), Basic Assessments (BAs) and Environmental Screening studies for renewable energy projects including wind and solar projects. These include an EIA for a wind energy facility near Swellendam, Western Cape South Africa for BioTherm (Authorisation granted in September 2011) and a similar EIA for BioTherm in Laingsburg, Western Cape (in progress). She is also managing two wind farm EIAs and a solar Photovoltaic BA for WKN-Windcurrent SA in the Eastern Cape. Minnelise was the project manager for the Basic Assessment for the erection of ten wind monitoring masts at different sites in South Africa as part of the national wind atlas project of the Department of Energy in 2009 and 2010. She was also a member of the Project Implementation Team who managed the drafting of South Africa's Second National Communication under the United Nations Framework Convention on Climate Change. The national Department of Environmental Affairs appointed the South African Botanical Institute (SANBI) to undertake this project. SANBI subsequently appointed the CSIR to manage this project.

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EDUCATION:

- | | | |
|--------------------------|--------------------------------|------|
| ▪ M.Sc. (Botany) | Stellenbosch University | 1998 |
| ▪ B.Sc. (Hons.) (Botany) | University of the Western Cape | 1994 |
| ▪ B.Sc. (Education) | University of the Western Cape | 1993 |

MEMBERSHIPS:

- International Association for Impact Assessment (IAIA), Western Cape (member of their steering committee from 2001-2003)
- IUCN Commission on Education and Communication (CEC); World Conservation Learning Network (WCLN)
- American Association for the Advancement of Science (AAAS)
- Society of Conservation Biology (SCB)

EMPLOYMENT RECORD:

- **1995:** Peninsula Technicon. Lecturer in the Horticulture Department.
- **1996:** University of the Western Cape. Lecturer in the Botany Department.
- **1999:** University of Stellenbosch. Research assistant in the Botany Department (3 months)
- **1999:** Bengurion University (Israel). Research assistant (Working in the Arava valley, Negev – Israel; 2 months). Research undertaken was published (see first publication in publication list)
- **1999-2004:** Assistant Director at the Department of Environmental Affairs and Development Planning (DEA&DP). Work involved assessing Environmental Impact Assessments and Environmental Management Plans; promoting environmental management and sustainable development.
- **2004 to present:** Employed by the CSIR in Stellenbosch:
 - September 2004 – May 2008: Biodiversity and Ecosystems Services Group (NRE)
 - May 2008 to present: Environmental Management Services Group (EMS)

PROJECT EXPERIENCE RECORD:

The following table presents a list of projects undertaken at the CSIR as well as the role played in each project:

Completion Date	Project description	Role	Client
2011 <i>(in progress)</i>	EIA for the proposed Electrawinds Swartberg wind energy project near Moorreesburg in the Western Cape	Project Manager	Electrawinds
2010-2011 <i>(in progress)</i>	EIA for the proposed Ubuntu wind energy project, Eastern Cape	Project Manager	WKN Windkraft SA
2010-2011 <i>(in progress)</i>	EIA for the proposed Banna ba pifhu wind energy project, Eastern Cape	Project Manager	WKN Windkraft SA
2010-2011	BA for a powerline near Swellendam in the Western Cape	Project Manager	BioTherm Energy (Pty Ltd)
2010-2011 <i>(Environmental Authorisation granted in September 2011)</i>	EIA for a proposed wind farm near Swellendam in the Western Cape	Project Manager	BioTherm Energy (Pty Ltd)
2010 <i>(complete)</i>	Basic Assessment for the erection of two wind monitoring masts near Swellendam and Bredasdorp in the Western Cape	Project Manager	BioTherm Energy (Pty Ltd)
2010 <i>(complete)</i>	Basic Assessment for the erection of two wind monitoring masts near Jeffrey's Bay in the Eastern Cape	Project Manager	Windcurrent (Pty Ltd)
2009-2010	Basic Assessment Process for the proposed	Project	Department of Energy

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Completion Date	Project description	Role	Client
((<i>Environmental Authorisations granted during 2010</i>))	erection of 10 wind monitoring masts in SA as part of the national wind atlas project	Manager	through SANERI; GEF
2010	South Africa's Second National Communication under the United Nations Framework Convention on Climate Change	Project Manager	SANBI
2009 (<i>Environmental Authorisation granted in 2009</i>)	Basic Assessment Report for a proposed boundary wall at the Port of Port Elizabeth, Eastern Cape	Project Manager	Transnet Ltd
2008	Developing an Invasive Alien Plant Strategy for the Wild Coast, Eastern Cape	Co-author	Eastern Cape Parks Board
2006-2008	Monitoring and Evaluation of aspects of Biodiversity	Project Leader	Internal project awarded through the Young Researchers Fund
2006	Integrated veldfire management in South Africa. An assessment of current conditions and future approaches.	Co- author	Working on Fire
2004-2005	Biodiversity Strategy and Action Plan Wild Coast, Eastern Cape, SA	Co-author	Wilderness Foundation
2005	Western Cape State of the Environment Report: Biodiversity section. (Year One).	Co- author and Project Manager	Department of Environmental Affairs and Development Planning

PUBLICATIONS:

Bowie, M. (née Levendal) and Ward, D. (2004). Water status of the mistletoe *Plicosepalus acaciae* parasitic on isolated Negev Desert populations of *Acacia raddiana* differing in level of mortality. *Journal of Arid Environments* 56: 487-508.

Wand, S.J.E., Esler, K.J. and **Bowie, M.R** (2001). Seasonal photosynthetic temperature responses and changes in ¹³C under varying temperature regimes in leaf-succulent and drought-deciduous shrubs from the Succulent Karoo, South Africa. *South African Journal of Botany* 67:235-243.

Bowie, M.R., Wand, S.J.E. and Esler, K.J. (2000). Seasonal gas exchange responses under three different temperature treatments in a leaf-succulent and a drought-deciduous shrub from the Succulent Karoo. *South African Journal of Botany* 66:118-123.

LANGUAGES

<i>Language</i>	<i>Speaking</i>	<i>Reading</i>	<i>Writing</i>
<i>English</i>	<i>Excellent</i>	<i>Excellent</i>	<i>Excellent</i>
<i>Afrikaans</i>	<i>Excellent</i>	<i>Excellent</i>	<i>Excellent</i>

Minnelise Levendal



July 2017

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PROPOSED MAIZE AND BEAN CULTIVATION PROJECT OF THE KHANYANI AGRICULTURAL COOPERATIVE

Karabo Mahabela (Project Manager)



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South Africa

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Fax: +27 21 888 2693
Email: kmashabela1@csir.co.za



CURRICULUM VITAE – Karabo Mashabela (Cand.Sci.Nat)

Position in Firm: Environmental Assessment Practitioner (Intern)
Full Name: Karabo Mashabela
Professional Registration: Cand.Sci.Nat Environmental Sciences
Date of Birth: 11/12/1989
Nationality: South African
Marital Status: Single
Language Proficiency: English, N Sotho, Swati, Ndebele, Zulu and Tsonga

BIOSKETCH:

Karabo holds a master's degree in Environmental Science and Geography from University of Limpopo Turfloop campus. Her undergraduate degree was a Bachelor of Science with majors in Environmental Science and GIS and remote sensing. She is currently working as an environmental assessment practitioner intern at the Council for Scientific and Industrial Research (CSIR). Karabo has been the co-author of a various special need and skills programme Basic Assessment. She assisted with the Umgeni water desalination plant and wind and solar SEA. She is also a project officer for National Strategic environmental assessment for Aquaculture.

EMPLOYMENT TRACK RECORD:

The following table presents a list of projects that Karabo Mashabela has been involved in to this date:

Completion Date	Project description	Role	Client
In progress	National Strategic environmental assessment for Aquaculture	Project officer	National Department of Environmental Affairs and National Department of Agriculture Forestry and Fisheries
In progress	Special Needs and Skills Development Programme (DEA-CSIR)	Project Manager conducting Environmental services such as basic Assessments and Environmental Screening Studies.	Various SMME's and Community Trusts

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Completion Date	Project description	Role	Client
In progress	Strategic Environmental Assessment (SEA) Wind and solar	Project assistant	National Department of Environmental Affairs
In Progress	EIA for Desalination plants on the KZN Tongaat.	Project member- Public Participation Process, stakeholder engagement and project support.	Umgeni Water
In progress	Intubayethu screening study Eastern Cape	Project manager	DEA
In progress	Basic Assessment for Blue-Green Aquaculture PTY Ltd	Project manager	DEA
In progress	Basic assessment for FishLab	Project manager	DEA

EMPLOYMENT RECORD:

- **2016** Environmental Scientist and Assessment Practitioner (Intern) for National Strategic environmental assessment. Council for Scientific and Industrial Research – Consulting and Analytical Services (CAS) – Stellenbosch
- **2016** Environmental consultant **and contractor trainer Dwarsrivier Chrome Mine**
- **2011-2015** University of Limpopo Geography Department - GIS and Remote Sensing lab assistant, facilitating GIS practical's using Quantum GIS and ARC-GIS software.
- **2010** National greening in the 2010 national environmental volunteer project ambassador for the department during the FiFa world cup (LEDET) Limpopo Department of Economic Development, Environment and Tourism

QUALIFICATIONS/EDUCATION:

<i>Qualification Obtained:</i>	BSc (Environmental and Resource Studies)
<i>Name of Institution:</i>	University of Limpopo
<i>Duration:</i>	3 years (2009-2011)
<i>Major Subjects Passed:</i>	<ul style="list-style-type: none"> • Environmental Management and Planning, Impact Studies (EIA, SEA, SIA, Risk Assessment, etc) • Solid Waste Management, Water Treatment Processes and Technology, Natural Resource Ecology, Remote Sensing and Geographic Information System (GIS)
<i>Qualification obtained:</i>	BSc Honours (Geography and Environmental Sciences)
<i>Name of Institution:</i>	University of Limpopo (2012)
<i>Major Subjects Passed:</i>	<ul style="list-style-type: none"> • Elements of Environmental Management • (Environmental Law, Environmental Management • Systems (ISO 14001), EIA, SEA, SIA, IEM, Risk Assessment, • Project Management, Environmental Monitoring and Auditing) • GIS-Applications • Demography • Geography Research Methods
<i>Honours Research Topic:</i>	"Waste management strategies at Lebowakgomo Central Business Area"
<i>Qualification obtained:</i>	MSc Geography and Environmental Sciences (GIS and Remote Sensing)
<i>Name of Institution:</i>	University of Limpopo (2013-2015)

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<i>Master of Science Research Topic:</i>	Onsite greywater reuse as a water conservation Method: A case study of Lepelle-Nkumpi local Municipality, Limpopo province of South Africa
<i>Masters results:</i>	Completed

TRAINING, CONFERENCES AND PROFESSIONAL REGISTRATIONS:

- Media and Science Training Accreditation through Jive Media Africa (2016)
- IAIA WC Workshop for roles and responsibilities of an environmental control officer (2016)
- IAIA 2016 Annual National Conference Port Elizabeth (17-18 August 2016) Presented MSc study CSIR collaboration
- Project Management accreditation through the CSIRs Innovation, Leadership and Learning Academy Project Management Course (2016)
- Participated in the ACCESS Student Heritable planet workshop (2011)
- Registered as a Candidate Natural Scientist with the South African Council for Natural Scientific Professions (SACNASP) (Reg #: 116164)
- Member of the IAIA (Membership no: 5322)

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PROPOSED MAIZE AND BEAN CULTIVATION PROJECT OF THE KHANYANI AGRICULTURAL COOPERATIVE

Reinett Mogotshi (Project Assistant Reviewer)



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Fax: +27 21 888 2693
Email: RMogotshi@csir.co.za

CURRICULUM VITAE – REINETT MOGOTSHI – PROJECT MANAGER

Surname:	Mogotshi
First names:	Mashedi Reinett
Gender:	Female
Local address:	42 Bakker Street, Stellenbosch, 7600
Contact cell number	0729268494
Email address:	u10243900@tuks.co.za
Home language:	Tswana
Other:	English
Health:	Good
Nationality:	South African
Hobbies:	Watching Television and Reading
Driver's licence:	Code 10
Membership:	IAIAsa membership

EDUCATIONAL QUALIFICATIONS:

TERTIARY	
Institute:	Business Success Solutions
Duration:	29-30 October 2015
Qualification:	Environmental Law (Short Course)
Institute:	Council for Scientific and Industrial Research (CSIR)
Duration:	10-11 November 2015
Qualification:	Project Management I
Institute:	University Of Pretoria
Duration:	2014
Qualification:	BSc (Hons): Environmental Management and Analysis
Institute:	University Of Pretoria

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Duration:	2010-2013
Qualification:	BSc Environmental Sciences
SECONDARY	
School:	Tlhako Combined School
Year:	2009
Qualification:	Matric
Subjects passed:	Mathematics, Life Orientation, Life Sciences, Geography, Physical sciences, English and Seped
SKILLS	
Computer skills:	Microsoft Office: Word, Excel, Access and PowerPoint, Email Internet and Databases search
GIS skills:	ArcGIS 10, SAGA GIS, R 3.0.2

EMPLOYMENT INCLUDING VOLUNTEER WORK:

Company:	Council for Scientific and Industrial Research (CSIR)
Duration:	August 2015- Currently
Job title:	Environmental Assessment Practitioner Intern
Responsibilities:	Project manager for Basic Assessment Reports, Conduct Public Participation, GIS Mapping, Conduct site visits, Project assistant for EMF development and Report Compilation
Company:	City of Tshwane Metropolitan Municipality
Duration:	November 2014- July 2015
Job title:	Environmental Intern
Responsibilities:	Assisting senior officials with, amongst others, reviewing of development applications (EIA, Basic Assessments) seeking environmental authorization, inspecting proposed development sites, thematic mapping using ArcGIS, participating in EIA forum meetings as well as data capturing between Excel & ArcMap, site inspection reports as well as planning and designing of CoT green spaces, parks, gardens, cemeteries, city gateways
Company:	University of Pretoria
Duration:	July 2014- October 2014
Job title:	Assistant Lecturer
Responsibilities:	<ul style="list-style-type: none"> • Teaching the students core concepts of the module • Responsible for the Administration in Mamelodi
Company:	University of Pretoria
Duration:	February 2013- June 2014
Job title:	IT lab Teaching assistant
Responsibilities:	<ul style="list-style-type: none"> • Assisting students who are struggling with the module • Assist the lecture in class • Responsible for the class register • Responsible for making sure that the lab is in a good condition, enforcing rules on students i.e. chairs pushed in, computers are off and there is no eating in the labs
Company:	SEISPRO (Seidet school projects)
Duration:	September 2012- August 2013
Job title:	Advisory member of Student society

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Responsibilities:	Assist the leadership with the day to day running of the society
Company:	Tuks Student Christian Fellowship
Duration:	September 2011- August 2012
Job title:	Vice catering leader Groenkloof
Responsibilities:	<ul style="list-style-type: none"> • Assisted the leader with the administrative work • Organising catering meetings • Catered food for church events
Company:	Centre for the Study of Aids
Duration:	8 weeks
Job title:	Voluntary 8 week entry-level course on HIV and AIDS
Training:	<ul style="list-style-type: none"> • Basic information on HIV/AIDS • Preventing HIV infection, • Living positively with HIV/AIDS • An introduction to counselling • HIV/AIDS and human rights education • Peer education • Leadership and citizenship
Company:	Zinnia Residence
Duration:	September 2011- August 2012
Job title:	IT lab assistant
Responsibilities:	Assist with opening and closing of the IT lab

CONFERENCES AND WORKSHOPS:

2015 Practical Adaptation for vulnerable communities by Adaptation Network, Kirstenbosch Botanical Gardens, Cape Town, August 2016.

2016 International Association for Impact Assessors South Africa (IAIAsa) National Annual Conference, August 2016, Port Elizabeth.

REFERENCES:

Name:	Willie Mothowamodimo
Relation:	Deputy Director Landscape and Urban Planning
Company:	City of Tshwane Metropolitan Municipality
Contact:	076 1912243
Name:	Vusi Makwela
Relation:	Catering leader
Company:	Tuks Student Christian Fellowship
Contact:	073 1341192
Name:	Minnelise Levendal
Relation:	Senior Project Manager
Company:	Council for Scientific and Industrial Research
Contact:	012 4205349

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LANGUAGES

<i>Language</i>	<i>Speaking</i>	<i>Reading</i>	<i>Writing</i>
<i>Tswana</i>	<i>Excellent</i>	<i>Excellent</i>	<i>Excellent</i>
<i>English</i>	<i>Excellent</i>	<i>Excellent</i>	<i>Excellent</i>

Reinett Mogotshi



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CURRICULUM VITAE - PATRICK D MORANT

Nationality	British
Profession	Environmental Scientist
Specialisation	Coastal environmental management, environmental impact assessment
Language proficiency	English (mother tongue); Afrikaans (basic); Swahili (basic); French (basic)

FIELD OF EXPERTISE

- (i) Coastal environmental management, environmental impact assessment and environmental planning (opportunities and constraints analysis).
- (ii) Estuarine ecology and wetland classification.
- (iii) Ornithology - bird banding (ringing) and distribution studies.
- (iv) Food microbiology.

SKILLS AND EXPERIENCE

- Thirty four years experience of coastal environmental management and environmental impact assessment in Sub-Saharan Africa. Experience in the management of multi-disciplinary project teams in commercial and academic situations.
- Wetland ecology and classification. Specialist expertise in the management of estuarine ecosystems.
- Ornithology: Primarily in the management of bird ringing (banding) studies in southern Africa and the sub-Antarctic.
- Assessment of spoilage in canned and other food products, food factory hygiene, and the management of food factory wastes and waste disposal

EDUCATION AND PROFESSIONAL STATUS

BSc	Zoology and Microbiology	University of Cape Town	1968
BSc (Hons)	Microbiology	University of Cape Town	1969
MSc	Environmental studies	University of Cape Town	1982

Professional member: South African Institute of Ecologists and Environmental Scientists.

Registered Natural Scientist, South African Council for Natural Scientists. Registration No. 401514/83

Member: BirdLife South Africa

Member: IUCN/SSC Flamingo Specialist Group

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EMPLOYMENT RECORD

- 2006 – date: Retired from CSIR but retained on a contractor/consultancy basis with particular emphasis on the provision of advisory, mentoring and review services.
- 2002 - 2006: Principal Environmental Consultant, Environmental Assessment, Air and Energy Programme, Environmentek, CSIR.
- 1996 - 2002: Business Area Manager, Coastal Development and Marine Resources Programme, Environmentek, CSIR. At the end of 1995 three CSIR Divisions, Ematek, Forestek and Watertek, were amalgamated to form the new Division of Water, Environment and Forest Technology (Environmentek).
- The development and management of business in environmental management, particularly environmental impact assessment and strategic environmental assessment, in the coastal zone of the Western and Eastern Cape Provinces, Namibia and further afield.
- 1993 - 1995: Project Manager, Coastal Development Programme, EMATEK.
- The coastal development core competency was down-sized and restructured into a single programme. Main role was to develop the Division=s Integrated Environmental Management (IEM) business with particular emphasis on Namibia and the Western Cape and the offshore oil prospecting and marine diamond mining industries.
- 1991-1992: Programme Manager, Coastal Environmental Management Programme (CEM), EMATEK.
- EMATEK was re-structured on a core competency basis with CEM being one of four programmes within the Coastal Development core competency. CEM comprises two teams respectively addressing coastal zone management and marine pollution. The size of the business is *ca.* R5 000 000 per annum.
- 1989 - 1991: Programme Manager, CPMA, EMATEK. The management of a multidisciplinary team (engineers, biologists, geologists), addressing environmental management in the coastal zone. This included the assessment of physical and biotic processes and their interaction with various anthropogenic factors. The Programme Manager is responsible for the viability of the business (*ca.* R5 000 000 per annum), quality of the product, development of a research programme in support of contracts, human resource management, etc.
- 1988 - 1989: Project Leader, Coastal Processes and Management Advice Programme (CPMA), Division of Earth, Marine and Atmospheric Science and Technology (EMATEK), CSIR, Stellenbosch.
- Essentially the task consisted of a continuation of the work for DEA, i.e. synthesis of estuary data and site investigations. Additional tasks included developing and producing physical and botanical sensitivity maps of the administrative coastal zone. A secondary task was the investigation of the possibility of exploiting unconventional marine resources, e.g. sea urchins. The conclusion of this project was that culture of abalone was likely to produce the most commercially viable product. Consequently EMATEK took the decision to invest in the development of abalone culture and assigned a dedicated team to the task from 1989.
- 1983 - 1987: Head, Estuarine and Coastal Research Unit. Continuation of the estuary report series and site-specific environmental investigations for the Department of Environment Affairs (DEA) were the main tasks for this period. The annual value of the contract for DEA was R500 000

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in 1991. Additional activities included contribution to a coastal sensitivity atlas for use in oil spill contingency planning.

During 1987 the CSIR was restructured to assume a commercialized, market-related approach to Research, Development and Implementation.

- 1982: Research Officer, Estuarine and Coastal Research Unit, CSIR, Stellenbosch, South Africa. Prime task was the production, under contract to the Department of Environment Affairs, of reports synthesising the available information on the estuaries of the Cape Province. Special emphasis was placed on the inclusion of management recommendations.
- 1982: Overseas travel: South America, USA, UK.
- 1981: Full-time M.Sc. student, University of Cape Town. Completion of thesis: *Wetland Classification: a review of existing wetland classification systems and their applicability in southern Africa.* (Awarded 1982.)
- 1977 - 1981: Officer-in-Charge, South African Bird Ringing Unit (SAFRING), Cape Town. SAFRING serves the interests of ornithologists primarily in southern Africa south of the Zambezi but also in Malawi and the Sub-Antarctic. Duties of the Officer-in-Charge include:
- * Data bank - the maintenance of a computerized data bank containing 25 000-plus records of birds ringed in southern Africa and recovered elsewhere and vice versa.
 - * Contact with foreign bird ringing schemes - an essential task to ensure the full interchange of ringing and recovery data. Regular contact was maintained with 20-plus countries in the northern hemisphere as well as Australia, New Zealand and Chile.
 - * Support of bird ringers in southern Africa - storage of ringing data, supply of rings and ringing tools, importation of mist nets, assistance with the obtaining of permits, etc.
 - * Handling of recovery data - including correspondence with the finder, verification of data, reporting to the original ringer and entry into data bank.
 - * Communication - editing and production of *Safring News* as a means of communication between bird ringers in southern Africa and elsewhere in the world.
 - * Reports and publications - analysis of data in the SAFRING data bank for publication in refereed journals and less formal reports.
- 1976: Full-time M.Sc. student, School of Environmental Studies, University of Cape Town.
- 1970 - 1976: Food microbiologist, Metal Box Co. (South Africa), Cape Town. All aspects of food microbiology were addressed as a service to customers in the canning industry:
- * Food spoilage - investigation of spoilage occurring as a result of container failure, underprocessing, poor cannery hygiene and problem microbes. An example of the latter resulted in a study of the heat resistance of the pectinase-producing ascomycete *Byssochlamys fulva*.

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- * Processing criteria, i.e. the determination of safe processing temperatures for a wide range of canned foods.
- * Waste disposal - investigation of methods for the disposal of high COD (chemical oxygen demand) cannery wastes.
- * Water supply - assessing the microbiological quality and suitability of water supplies. Developing economical water use systems.
- * Quality control - the development of a rapid method to assess the microbiological status of machine tool cutting fluids used in the manufacture of drawn one-piece beverage cans.

EXPERIENCE RECORD - CONTRACT PROJECTS

2016	Strategic Environmental Assessment (SEA) for Electricity Grid Infrastructure in South Africa <i>for</i> Department of Environmental Affairs
2015	Review of the Namibian 2004 Integrated State of the Environment Report indicators <i>for</i> The Namibian Sustainable Development Advisory Council.
2015	ongoing Integrated Environmental Management Plan for the Square Kilometre Array (SKA) Phase 1 Project in South Africa <i>for</i> Department of Environmental Affairs.
2015	Environmental Impact Study for the Kuito Field Abandonment Project in Block 14 Cabinda Province, Angola <i>for</i> Cabinda Gulf Oil Company (CABGOC).
2015	Strategic Environmental Assessment (SEA) for wind and solar photovoltaic energy in South Africa <i>for</i> Department of Environmental Affairs.
2015	Environmental Impact Assessment for the development of a 75 MW solar photovoltaic facility (Mulilo Boven Solar PV4) , Kenhardt District, Northern Cape Province <i>for</i> Mulilo Renewable Projects Developments.
2014	Environmental Screening Study for proposed LNG terminal at Saldanha and associated pipeline infrastructure supplying Atlantis and Cape Town <i>for</i> Department of Economic Development and Tourism, Western Cape Provincial Government.
2014	Biodiversity Management Plan for the Lion (<i>Panthera leo</i>) in South Africa <i>for</i> Department of Environmental Affairs.
2014	Environmental impact assessment for the Saldanha Regional Marine Outfall Project, Danger Bay, Saldanha Region, Western Cape <i>for</i> Frontier Saldanha Utilities (Pty) Ltd
2014	Environmental screening study for a proposed LNG terminal at Saldanha and associated pipelines to Atlantis and Mossel Bay, Western Cape <i>for</i> . PetroSA.
2013 – 2014	Verification survey and report in support of the EIA for marine phosphate mining offshore Meob Bay, Namibia <i>for</i> Namibian Marine Phosphate (Pty) Ltd.

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2013	Environmental Impact Study for the Kuito Clean and Release Project in Block 14 Cabinda Province, Angola <i>for</i> Cabinda Gulf Oil Company (CABGOC).
2013	Environmental Management Plan (EMP) for marine phosphate prospecting in the Outeniqua West Licence Area on the Eastern Agulhas Bank, offshore Mossel Bay <i>for</i> Diamond Fields International Ltd.
2013	Cumulative Impact Assessment for the container terminal expansion project, Walvis Bay, Namibia. Addendum to EIA of for proposed strategic expansion of the Port of Walvis Bay's container terminal <i>for</i> Namibian Ports Authority.
2013	EIA for the proposed construction, operation and decommissioning of a seawater reverse osmosis plant and associated infrastructure in the Saldanha Bay Region, Western Cape <i>for</i> Worley Parsons RSA Ltd and the West Coast District Municipality.
2012	Artificial reef site selection study offshore Cabinda, Angola <i>for</i> Chevron/Cabinda Gulf Oil Co.
2012	Avifauna study for EIA for petroleum exploration drilling in South Omo Block, Ethiopia <i>for</i> Tullow Oil.
2012	Avifauna study for EIA for the Manganese Export facility in the Coega Industrial Zone, Eastern Cape Province <i>for</i> Transnet Capital Projects (Pty) Ltd.
2012	Revision of environmental description for EIA for petroleum exploration drilling in the Kiarsseny Permit offshore Gabon <i>for</i> Tullow Oil Gabon SA
2011/12	EIA for marine phosphate mining offshore Meob Bay, Namibia <i>for</i> Namibian Marine Phosphate (Pty) Ltd.
2011/12	EIA for the onshore phosphate processing infrastructure at Walvis Bay, Namibia <i>for</i> Namibian Marine Phosphate (Pty) Ltd.
2011	Marine environmental screening study in the Walvis Bay/Swakopmund region, Namibia <i>for</i> Gecko Namibia
2011	C.A.P.E. Estuaries Programme: Development of Gouko Estuary management plan <i>for</i> GEF C.A.P.E. Estuaries Programme (CapeNature)
2011	EIA for the proposed Ubuntu wind energy project near Jeffrey's Bay, Eastern Cape <i>for</i> Windcurrent SA (Pty) Ltd, South Africa
2011	Revision of EIA for exploration drilling in Block 5/06 offshore Luanda, Angola <i>for</i> VAALCO, Houston Tx, USA
2011	EIA for decommissioning oil field infrastructure Block 0, Cabinda, Angola <i>for</i> Chevron/Cabinda Gulf Oil Co (CABGOC)
2011	Environmental study of Kunene River mouth region for EIA of proposed Baynes hydropower project, Kunene River, Namibia/Angola border <i>for</i> Environmental Resources Management (Southern Africa) Pty Ltd (ERM)
2010	Coega Refinery: feasibility level oil spill response analysis, Part I: oil spill preparedness and response plan <i>for</i> PetroSA, Parow, South Africa

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- 2010 Environmental screening study: Proposed West coast natural gas transmission pipeline, South Africa *for* iGas (pty) Ltd, Tygervalley, South Africa
- 2010 EIA for exploration drilling in Block 5/06 offshore Luanda, Angola *for* VAALCO, Houston Tx, USA
- 2010 EIA for the proposed Jacobsbaai Tortoise Reserve development *for* Jacobsbaai Tortoise Reserve (Pty) Ltd, South Africa
- 2010 EIA for Jeffrey's Bay wind project *for* Mainstream Renewable Power, South Africa
- 2010 EIA for the BioTherm wind energy project at the Uitkyk/Excelsior site near Swellendam, Western Cape *for* BioTherm Energy (pty) Ltd, South Africa
- 2009 EIA for the proposed Desalination Project at Mile 6 near Swakopmund, Namibia *for* NamWater, Windhoek, Namibia
- 2009 EIA for Exploration Drilling in the Azobe Block, Gabon *for* Tullow Oil Gabon SA
- 2009 Environmental screening study for the proposed development of an offshore ship and rig maintenance and repair facility, Port of Walvis Bay, Namibia *for* WML Coast (Pty) Ltd, Namibia
- 2009 EIA of proposed strategic expansion of the Port of Walvis Bay container terminal *for* Namport (Namibian ports Authority)
- 2009 C.A.P.E. Estuaries Programme: Development of the Verlorenvlei Estuary management plan: situation assessment *for* GEF C.A.P.E. Estuaries Programme (CapeNature)
- 2008 Environmental Risk Review for LNG and CNG supplies for the PetroSA GTL and Eskom power plants, Mossel Bay *for* PetroSA.
- 2008 Review of Environmental Impact Assessment for Petrobras' exploration drilling campaign in Block 6/06, Angola *for* Lwandle Technologies
- 2008 Review of environmental description and impact assessment sections of the Environmental Impact Assessment of Sonangol's exploration drilling campaign in Block 3/05A Punja, Angola *for* Lwandle Technologies
- 2008 Review of the Environmental Impact Assessment of Petrobras' exploration drilling campaign in Block 18/06, Angola *for* Lwandle Technologies
- 2008 Review of the National Programme of Action (NPA) for South Africa to protect the marine environment from land-based activities. Report prepared by CSIR for the Department of Environmental Affairs and Tourism: Marine and Coastal Management.
- 2008 Environmental Impact Assessment of the proposed seismic survey in Block 1/06, Angola *for* Tullow Angola B.V.
- 2008 Compilation of the environmental description section for the Environmental Impact Assessment of Sonangol P&P's planned decommissioning and abandonment of the Canuku Oilfield in Block 3, Angola *for* Lwandle Technologies

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- 2008 Compilation of the environmental description section for the environmental Impact Assessment of Sonangol's exploration drilling campaign in Block 34, Angola *for* Lwandle Technologies
- 2008 Review of Fatal Flaw Assessment of the Zuwarah Resort Development, Libya *for* Lwandle Technologies
- 2007 Advise on preparation of, and review, the Environmental Impact Assessment of Sonangol P&P's drilling campaign in Block 3/05, Angola *for* Lwandle Technologies
- 2007 Review of the Environmental Impact Assessment of Sonangol's seismic survey in Block 3/05A, Angola *for* Lwandle Technologies
- 2007 Review of baseline survey of species and biodiversity in estuarine habitats in the Benguela Current Large Marine Ecosystem (BCLME) region *for* BENEFIT, Swakopmund
- 2007 Review of Environmental Impact Assessment of Petrobras' seismic survey in Block 6/06, Angola *for* Lwandle Technologies
- 2007 Preliminary environmental assessment of a single point mooring in St Helena Bay *for* Transnet Projects.
- 2007 Review of Environmental Impact Assessments for Maersk Oil's seismic surveys in Blocks 8 and 23 offshore Angola *for* Lwandle Technologies.
- 2006 Environmental management programme report for exploration/appraisal drilling in the Kudu Gas Production Licence No 001 on the continental shelf of Namibia *for* Energy Africa Kudu Limited.
- 2006 Monitoring of the effectiveness of the Cuntala artificial reef in Block 2, offshore Angola *for* Chevron.
- 2006 Environmental management programme report for the development of the Kudu Gas Field on the continental shelf of Namibia *for* Energy Africa Kudu Limited.
- 2006 Marine environmental description for Environmental Impact Assessment of Marathon Oil's liquefied natural gas plant, Malabo, Equatorial Guinea *for* Continental Shelf Associates, Florida, USA.
- 2005 Environmental Audit of the Middle Timan bauxite mine, Komi republic, Russian Federation *for* the International Finance Corporation (IFC/ World Bank)
- 2005 Site assessment for the proposed alumina refinery at Sosnogorsk, Komi Republic, Russian Federation *for* SUAL Komi
- 2005 Addendum to Environmental Impact Assessment for the proposed Kudu Gas field Development Project on the continental shelf of Namibia *for* Energy Africa Kudu Limited.
- 2005 Environmental Impact Assessment of seismic surveys in the Luderitz Licence Area *for* Hunt Oil Company.

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- 2005 Technical and economic feasibility assessment of poverty alleviation projects on the coasts of KwaZulu-Natal and Eastern Cape Province *for* the National Department of Environmental Affairs and Tourism.
- 2005 Assessment of the physical and socio-economic effects of climate change in the Western Cape *for* The Government of the Western Cape Province.
- 2005 Monitoring of the effectiveness of the Cuntala artificial reef in Block 2 offshore Angola *for* Chevron.
- 2005 Integrated Environmental Management Information Series: Documents No. 17-21 *for* The Department of Environmental Affairs and Tourism, South Africa.
- 2004 Environmental Fatal Flaw analysis of a heavy minerals prospect on the continental shelf of northern KwaZulu-Natal, South Africa *for* Tisand (Pty) Ltd.
- 2004 Operational Policy for the Disposal of Land-derived Water Containing Waste to the Marine Environment of South Africa *for* Department of Water Affairs and Forestry, South Africa.
- 2004 Environmental Impact Assessment for the proposed Kudu CCGT power plant, Oranjemund, Namibia *for* Namibian Power Corporation (NamPower).
- 2004 Cuntala well protector platform pilot artificial reefing project offshore Angola: first monitoring survey, 2004 *for* Texaco Panama Inc. Angola.
- 2004 Environmental Impact Assessment for the proposed Kudu gas field development project, offshore Namibia *for* Energy Africa Kudu Limited.
- 2004 Environmental Impact Assessment of petroleum exploration drilling in Block P, offshore Rio Muni, Equatorial Guinea *for* Ocean Equatorial Guinea Corporation.
- 2003 Review of (1) Final Environmental Impact Report, (2) Environmental Management Programme Report, and (3) Social and Macro-Economic Development Plan for the Ibhubesi Gas Field, offshore South Africa *for* Petroleum Agency SA.
- 2003 Integrated Environmental Management Information Series: Documents No. 0 and 7-16 *for* The Department of Environment Affairs and Tourism, South Africa.
- 2003 Report on Environmental Impact Assessment in Southern Africa *for* Southern African Institute for Environmental Assessment, Windhoek, Namibia.
- 2003 Environmental Due Diligence study, Kwanda Base, Soyo, Angola *for* Cabinda Gulf Corporation.
- 2003 Environmental Impact Assessment of offshore petroleum exploration drilling activities in Block 24, Angola *for* Ocean Angola Corporation.
- 2003 Site abandonment and pilot artificial reefing project implementation, Cuntala well protector platform, Block 2, Angola *for* Texaco Panama Inc. Angola.
- 2003 Environmental Impact Assessment of the seismic survey in Block PH-77, offshore Cameroon *for* Phillips Petroleum Company Cameroon.

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- 2003 Walvis Bay Local Agenda 21 Project, Namibia: Coastal Area Study – Review of Ecology Study for COWI, Lyngby, Denmark/Danida.
- 2003 Environmental Impact Assessment of the seismic survey in the Ngosso Exploration Permit, Rio del Rey, offshore Cameroon for Addax Petroleum Cameroon Ltd.
- 2003 Environmental Impact Assessment of offshore petroleum exploration drilling in Block 10, Angola (Addendum Report) for Ocean Angola.
- 2003 Waste Management, Disposal and Deposit Plan for offshore petroleum exploration drilling operations in Block 10, Angola for Ocean Angola Corporation.
- 2003 National Oil Spill Contingency Plan, Cameroon for Comité de Pilotage et de Suivi des Pipelines (CPSP), Yaoundé, Cameroon.
- 2003 Environmental Impact Assessment of offshore petroleum exploration drilling activities in Block 25 Angola (Update and Revision Report) for Texaco Angola Natural Gas Inc.
- 2002 Integrated Environmental Management Information Series: Documents No. 1-6 for The Department of Environment Affairs and Tourism, South Africa.
- 2002 Environmental Impact Assessment of the offshore seismic survey in the Quiluma Development Area, Blocks 1 and 2, Angola for Texaco Angola Natural Gas Inc.
- 2002 Environmental Impact Assessment of offshore petroleum exploration activities in Block 10, Angola for Ocean Energy Inc.
- 2002 Description of the coastal and marine environment of the Republic of Equatorial Guinea for Continental Shelf Associates Inc., Florida, USA.
- 2002 Environmental Impact Assessment of offshore petroleum exploration drilling activities in Permit PH-77, Cameroon for Phillips Petroleum Company Cameroon.
- 2002 Environmental Impact Assessment of offshore petroleum exploration drilling activities in the Ebodjé Permit (PH-69), Cameroon for Perenco Cameroon S.A.
- 2002 Environmental fatal flaw analysis of heavy mineral prospect southern Mozambique for Rio Tinto Iron & Titanium, Quebec.
- 2002 Review of effectiveness of environmental impact assessment in the Southern African Development Community region for Southern African Institute for Environmental Assessment.
- 2002 Environmental Impact Assessment of a refined petroleum products impact terminal, Banjul, The Gambia for Gamfuels Consortium.
- 2002 Review of Local Agenda 21 Project, Walvis Bay, Namibia for COWI Consultants/Daneda, Denmark.
- 2002 Environmental Impact Assessment of petroleum exploration activities in Block 10 offshore Angola for Ocean Energy, Inc.
- 2001 Environmental Impact Assessment of exploration drilling operations in Block 22 on the

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- continental slope of Angola *for* Texaco Exploration Angola Sumbe Inc.
- 2001 Environmental Impact Assessment of sidetrack drilling operations in Block 2 on the continental shelf of Angola *for* Texaco Panama Inc. Angola.
- 2001 Environmental Impact Assessment (Addendum) of exploration drilling activities in Block 9 on the continental shelf of Angola *for* Texaco Exploration Benguela Inc.
- 2001 Environmental Impact Assessment of the Central Fields Gas Compression Project in Block 2 on the continental shelf of Angola *for* Texaco Panama Inc. Angola.
- 2001 Environmental Impact Assessment of the gas lift gas injection project in the Sulele South Fields in Block 2 on the continental shelf of Angola *for* Texaco Panama Inc. Angola.
- 2001 Environmental Impact Assessment and Plan of Abandonment for Cuntala Well Protector Platform, Block 2, Angola (Addendum Report) *for* Texaco Panama Inc. Angola.
- 2001 Environmental Impact Assessment of geophysical prospecting and sampling for heavy minerals on the continental shelf of northern KwaZulu-Natal, South Africa *for* Richards Bay Minerals.
- 2001 Environmental Management Programme for geophysical prospecting and sampling for heavy minerals on the continental shelf of northern KwaZulu-Natal, South Africa *for* Richards Bay Minerals.
- 2001 Environmental due diligence of planned liquid natural gas plant site, Luanda, Angola *for* Texaco Angola Natural Gas Inc.
- 2001 Environmental Impact Assessment of seismic survey activities in Licence Area 2814A on the continental shelf of Namibia *for* Shell Exploration and Production Namibia B.V.
- 2001 Environmental Impact Assessment of petroleum exploration activities (geophysical survey and exploration drilling) in Block 18 on the continental slope of Angola *for* Amoco Angola B.V.
- 2001 Report on the natural environment of the Orange River mouth for the Orange River Mouth Development Plan (in association with Pulles Howard and de Lange) *for* the Gariep Spatial Development Initiative, Northern Cape Province.
- 2001 South African country report for the Development and Protection of the Coastal and Marine Environment in Sub-Saharan Africa project *for* the Advisory Committee on Protection of the Sea (ACOPS), London, UK.
- 2001 Description of the coastal and marine environment of the Republic of Congo *for* Continental Shelf Associates Inc, Florida, USA.
- 2000 Environmental Impact Assessment of petroleum exploration activities (geophysical survey and exploration drilling) in Block 31 on the continental slope of Angola *for* Amoco Angola B.V.
- 2000 Environmental Impact Assessment of a submarine oil pipeline between Lombo East (Block 2) and Elf Terminal (Block 3) on the continental shelf of Angola *for* Texaco Panama Inc. Angola.
- 2000 Review of the status of the water quality of False Bay, South Africa *for* the False Bay Water Quality Advisory Committee and the Cape Metropolitan Council.

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- 2000 Development/identification of state of the environment indicators for physical processes in the coastal zone *for* the South African Department of Arts, Culture, Science and Technology.
- 2000 Environmental Management Programme Report for exploration drilling in Block 17/18 on the continental shelf of KwaZulu-Natal, South Africa (Addendum report) *for* Phillips Petroleum South Africa Ltd.
- 2000 Environmental Impact Assessment of exploration drilling in Block 15 on the continental slope of Angola (Addendum report) *for* Esso Exploration Angola (Block 15) Ltd.
- 2000 State of Environment Assessment for Robben Island *for* Robben Island Museum.
- 2000 Environmental Impact Assessment of tourism on Marion Island *for* the Prince Edward Islands Management Committee, Department of Environmental Affairs and Tourism (South Africa).
- 2000 Environmental Impact Assessment of petroleum exploration drilling in Block 24 on the continental shelf of Angola *for* Esso Exploration and Production (Block 24) Limited.
- 2000 Environmental Impact Assessment of petroleum exploration drilling in Block 25 on the continental slope of Angola *for* AGIP Angola Exploration B.V.
- 2000 Description of the coastal and marine environment of the Republic of Ghana *for* Continental Shelf Associates Inc, Florida, USA.
- 2000 Environmental Impact Assessment of petroleum exploration drilling in Block 33 on the continental slope of Angola *for* Esso Exploration and Production Block 33 Limited.
- 2000 Description of the coastal and marine environment of the Republic of Gabon *for* Continental Shelf Associates Inc, Florida, USA.
- 2000 Environmental Impact Assessment of an oil pipeline between Lombo East (Block 2) and Elf Terminal (Block 3) on the continental shelf of Angola *for* Texaco Panama Inc. Angola.
- 2000 Environmental Impact Assessment of petroleum exploration drilling in the Mer Profonde Nord concession on the continental slope of the Republic of the Congo *for* Esso Exploration and Production Congo Limited.
- 2000 Environmental Impact Assessment of petroleum exploration drilling in Block 9 on the continental shelf of Angola *for* Texaco Exploration Benguela Inc. Angola.
- 2000 Environmental Management Programme Report for marine diamond mining in offshore concession Blocks C and E in Diamond Area 2, Namibia *for* Okakoverua Coast Diamonds (Pty) Ltd.
- 2000 Environmental Management Programme Report for marine diamond mining in Licence Area No. 2491, Namibia *for* Together Quando Mining Consortium (Pty) Ltd.
- 1999 Environmental Impact Assessment of petroleum exploration drilling in Block 15 on the Angolan continental slope *for* Esso Exploration Angola (Block 15) Limited.
- 1999 Environmental Impact Assessment of seismic survey in Block 33 on the Angolan continental slope *for* Esso Exploration and Production (Block 33) Limited, Angola.

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PROPOSED MAIZE AND BEAN CULTIVATION PROJECT OF THE KHANYANI AGRICULTURAL COOPERATIVE

- 1999 Environmental Impact Assessment of exploration drilling in Block 1 on the continental shelf of Angola *for* Texaco Exploration Angola Sumbe Inc.
- 1999 Plan of Abandonment and Environmental Impact Review: Cuntala Well Protector Platform in Block 2 on the Angolan continental shelf *for* Texaco Panama Inc. Angola.
- 1999 Environmental Impact Assessment of seismic survey in Block 24 on the Angolan continental shelf *for* Esso Exploration Angola (Block 15) Limited.
- 1999 Environmental Impact Assessment of seismic survey in Block 25 on the Angolan continental shelf *for* AGIP Angola Ltd.
- 1999 Environmental Impact Assessment of seismic survey in Block 19 on the Angolan continental shelf *for* Fina Oil & Gas West Africa B.V.
- 1999 Integrated Overview of the Offshore Oil and Gas Industry in the Benguela Current Region. Benguela Current Large Marine Ecosystem (BCLME) Thematic Report No. 4 *for* United Nations Development Programme.
- 1999 Integrated Overview of Coastal Zone Developments in the Benguela Current Region. Benguela Current Large Marine Ecosystem (BCLME) Thematic Report No. 5 *for* United Nations Development Programme.
- 1999 Environmental Management Programme Report for seismic survey in Block 2 on the South African continental shelf *for* Forest Exploration International (South Africa) (Pty) Ltd.
- 1998 Environmental Management Plan for the Construction of the New Quay at the Port of Lüderitz, Namibia *for* Namport (Namibian Ports Authority).
- 1998 Environmental Impact Assessment of seismic survey in Block 22 on the Angolan continental shelf *for* Texaco Exploration Africa Inc. Angola.
- 1998 Environmental Impact Assessment of exploration drilling in Block 18 on the Angolan continental slope *for* Amoco Corporation.
- 1998 Environmental Management Programme Report for the exploration drilling in Block 17/18, KwaZulu-Natal, South Africa *for* Phillips Petroleum South Africa Limited.
- 1998 Environmental Impact Assessment of exploration drilling in Block 17/18 on the KwaZulu-Natal (South Africa) continental shelf *for* Phillips Petroleum South Africa Limited.
- 1998 Environmental Impact Assessment of seismic survey in Block 9 on the Angolan continental shelf *for* Texaco Exploration Africa Inc. Angola.
- 1998 Environmental Impact Assessment of seismic survey in Block 21 on the Angolan continental shelf *for* BHP Petroleum Limited.
- 1998 Environmental Impact Assessment for the proposed Kudu Gas Field Development Project on the continental shelf of Namibia *for* Shell Exploration and Production, Namibia B.V.
- 1997 Environmental Management Programme Report for seismic survey in Block 17/18, KwaZulu-Natal, South Africa *for* Phillips Petroleum South Africa Limited.

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- 1997 Environmental Impact Assessment of seismic survey in Block 17/18, KwaZulu-Natal, South Africa *for* Phillips Petroleum South Africa Limited.
- 1997 Review of the natural environment of Lüderitz Bay for the study to assess the viability of a Waterfront Development for the Port of Lüderitz *for* Stubenrauch Planning Consultants, Windhoek, Namibia.
- 1997 Environmental Impact Assessment of exploration drilling in the Otiti Prospect offshore Gabon *for* Atlantic Richfield Co. (ARCO), Plano Texas.
- 1997 Environmental Impact Assessment of exploration drilling in Licence Area 2313A & B Namibia *for* Shell Namibia Exploration B.V.
- 1997 (With Crowther Campbell and Associates). Environmental Impact Assessment for the proposed Oribi Oil Production Facility and hydrocarbon exploration off the southern Cape coast *for* SOEKOR E and P (Pty) Ltd, Parow, Western Cape, Republic of South Africa.
- 1997 (With Crowther Campbell and Associates). Environmental Impact Assessment for prospect well drilling in Block 9 situated off the southern Cape coast *for* SOEKOR E and P (Pty) Ltd, Parow, Western Cape, Republic of South Africa.
- 1997 (With Crowther Campbell and Associates). Environmental Management Programme Report for seismic exploration surveys in Block 9 situated off the southern Cape coast *for* SOEKOR E and P (Pty) Ltd, Parow, Western Cape, Republic of South Africa.
- 1997 (With Crowther Campbell and Associates). Environmental Management Programme Report for development of the E-AR oil field in Block 9 situated off the southern Cape coast *for* SOEKOR E and P (Pty) Ltd, Parow, Western Cape, Republic of South Africa.
- 1997 Environmental Impact Assessment of exploration drilling in Block 15 on the Angolan continental shelf *for* Esso Exploration Angola (Block 15) Limited.
- 1997 Environmental Impact Assessment (in association with Crowther Campbell Associates) of proposed grape pomace processing factory, Worcester, W. Cape *for* Somchem and KWV.
- 1996 Environmental baseline study of Licence Area 2313 on the Namibian continental shelf *for* Shell Namibia Exploration B.V.
- 1996 Environmental baseline study for seismic survey in Licence Area 2313 on Namibian continental shelf *for* Shell Namibia Exploration B.V.
- 1996 Environmental Impact Assessment of marine diamond mining in the Namibian Islands Concession, Lüderitz, Namibia *for* Ocean Diamond Mining Ltd.
- 1996 Environmental Impact Assessment of the FA Satellite Development on the Agulhas Bank *for* Mossgas.
- 1996 Assessment of the environmental impact of the proposed Epupa Hydroelectric Scheme on the lowermost reaches and mouth of the Kunene River, Namibia/Angola *for* the NamAng Consortium.
- 1996 Environmental Impact Assessment of exploration drilling in Licence Area 2814A on Namibian continental shelf *for* Shell Exploration and Production, Namibia.

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- 1996 Environmental Impact Assessment of exploration drilling in Phenix Prospect on Gabon continental shelf *for* Amoco, Houston Texas.
- 1995 Pre-production Environmental Impact Assessment, E-BT Field on the Agulhas Bank *for* Soekor.
- 1995 Environmental Impact Assessment of marine diamond mining in Concession Area M46/3/1607, Lüderitz, Namibia *for* BHP-Benguela Joint Venture.
- 1995 Environmental audit of Portnet and Strategic Fuel Fund operations and contingency plans: Saldanha *for* Portnet Saldanha and SFF Association, Saldanha.
- 1994 Environmental Impact Assessment of exploration drilling in Concession Block 1 on Angolan continental shelf, *for* Shell Angola Exploration B.V.
- 1994 Environmental Impact Assessment of exploration drilling in Concession Block 16 on Angolan continental shelf, *for* Shell Exploration and Production, Angola B.V.
- 1994 Environmental Impact Assessment of exploration drilling in Licence Area 2815 on Namibian continental shelf, *for* Chevron Namibia Limited.
- 1993 Coastal environmental sensitivity mapping and oil spill contingency planning, Namibia. Prepared for the Government Action Control Group (GACG) managed by the Namibian Ministry of Works, Transport and Communication.
- 1993 Environmental baseline study for seismic survey in Licence Area 2814A on Namibian continental shelf, *for* Shell Exploration and Production, Namibia B.V.
- 1993 Environmental permitting issues pertaining to the proposed Coalex coal terminal, Richards Bay *for* Soros Associates, Consulting Engineers New York, New York.
- 1993 Assessment of freshwater requirements of the Berg River Estuary, *for* the Department of Water Affairs and Forestry.
- 1993 Environmental (current status) audit of Richards Bay Coal Terminal (RBCT), Richards Bay, South Africa.
- 1992 Environmental baseline study prior to exploration in Licence Area 2012 on Namibian continental shelf *for* SASOL Namibia.
- 1992 A preliminary investigation of beach erosion on the island of Mauritius *for* the Ministry of the Environment and Quality of Life, Government of Mauritius.
- 1991 *Building the foundation for sustainable development in South Africa.* National report to the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, June 1992. Prepared for the Department of Environment Affairs, South Africa.
- 1991 Water resource development for Walvis Bay *for* the Department of Water Affairs and Forestry.
- 1991 Council for the Environment: A Policy for Coastal Zone Management in the Republic of South Africa Part 2: Guidelines for Coastal Land-use.

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- 1989 Orange River ecology assessment of environmental water requirements for the Orange River mouth *for* the Department of Water Affairs, South Africa.
- 1989 Nuclear power station site survey: Cape West Coast *for* Eskom/Atomic Energy Corporation of South Africa Ltd.
- 1989 Assessment of sewage effluent disposal options for the proposed Hermanus East Sewage Works *for* the Municipality of Hermanus, South Africa.
- 1987 Nuclear power station site investigation: Gansbaai - Agulhas region *for* Eskom, South Africa.
- 1986 An assessment of the state of the estuaries of the Cape and Natal in 1985/86 *for* SANCOR/Department of Environment Affairs, South Africa.
- 1985 Freshwater requirements of the Orange River Estuary *for* Department of Environment Affairs, South Africa.
- 1985 Proposed mining of dune sand Schelmoek - Sundays River mouth *for* Pretoria Portland Cement Company Limited, South Africa.
- 1984 Khayelitsha Beach bathing facilities: A feasibility study (stage 1) *for* the Divisional Council of the Cape, South Africa.
- 1983-1986 Coastal environmental management consultants to the Department of Environment Affairs primarily concerning technical advice (opportunities and constraints assessments) on development proposals.
- 1982-ongoing Synthesis of available information on the estuaries of the Cape Province (Orange River to Kei River) *for* Department of Environment Affairs: 38 reports on 47 estuaries completed to date.

PUBLICATIONS

PUBLICATIONS AVAILABLE UPON REQUEST.