
BLUE BERRIES NAMIBIA (PTY) LTD

Environmental and Social Management Plan

Proposed Blueberries Irrigation Project, Located in
Divundu Settlement, Okavango East Region, Namibia

April 2023



ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN FOR THE PROPOSED BLUEBERRIES IRRIGATION PROJECT

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CONSULTANT'S EXPERTISE

I.N.K Enviro Consultants cc is the independent firm of environmental consultants that has been appointed by Blue Berries Namibia (Pty) Ltd to conduct the ESIA process.

Immanuel N. Katali, the Environmental Assessment Practitioner holds a B.Arts (Honors) Geography, Environmental Studies and Sociology and has over seven years of relevant experience in conducting/managing Environmental and Social Impact Assessments (ESIAs), and Environmental Compliance/Monitoring Audits in Namibia. Immanuel is certified as an Environmental Assessment Practitioner under the Environmental Assessment Professionals Association of Namibia (EAPAN).

DECLARATION OF INDEPENDENCE AND DISCLAIMER

I.N.K Enviro Consultants cc herewith declare that this report represents an independent assessment of the proposed Blueberries Irrigation Project, on the request of Blue Berries Namibia (Pty) Ltd.

The Environmental Consultant has prepared this report based on an agreed scope of work and acts in all professional manner as an Independent Environmental Consultant to Blue Berries Namibia (Pty) Ltd and exercises all reasonable skill and care in the provision of its environmental professional services in a manner consistent with the level of expertise exercised by members of the environmental profession.

The information, statements and commentary contained in this report have been prepared by I.N.K Enviro Consultants cc from information provided by Blue Berries Namibia (Pty) Ltd and the Public Participation Process. I.N.K Enviro Consultants cc does not express an opinion as to the accuracy or completeness of the information provided, the assumptions made by the party that provided the information or any conclusions reached. I.N.K Enviro Consultants cc has based this report on information received or obtained, on the basis that such information is accurate and, where it is represented to I.N.K Enviro Consultants cc as such, complete.

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LIST OF ACRONYMS, ABBREVIATIONS AND UNITS

Acronyms / Abbreviations / Units	Definition
BID	Background Information Document
DAE	Department of Agricultural Engineering
DEA	Directorate of Environmental Affairs
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
ESMP	Environmental and Social Management Plan
ha	Hectares
I&APs	Interested and Affected Party
m ³ /h	Cubic Metres per Hour
MAWLR	Ministry of Agriculture, Water and Land Reform
MEFT	Ministry of Environment, Forestry and Tourism
MHSS	Ministry of Health and Social Services
MLSW	Ministry of Labour and Social Welfare
MME	Ministry of Mines and Energy
NDP	National Development Plan
PPP	Public Participation Process

1 INTRODUCTION

1.1 Project Background

Blue Berries Namibia (Pty) Ltd (hereinafter referred to as “Namibia Berries”) intends to apply for an Environmental Clearance Certificate (ECC) for its proposed blueberries irrigation activities, located on a piece of land measuring ±253.9 hectares (ha), along the south eastern bank of the Okavango River, in Divundu Village.

Water for the irrigation project will be abstracted from the Kavango River, which is located approximately 300m south of the project site. The irrigation project will require roughly 2 million m³ of water per annum from the Okavango River during the operational phase and aims to produce blueberries (large-scale production) over four (4) phases.

The project objectives include the following:

- ◆ Green scheme agricultural production focusing on expanding market access for Namibia & promoting responsible sourcing.
- ◆ Implementation of sustainable practices, including habitat conservation & protection of natural resources.
- ◆ Local employment opportunities focusing on gender equality and reducing migration of women.
- ◆ Significant impact investment in the project area.
- ◆ Training, development and research opportunities for Namibia.
- ◆ Local community partnership.

The project infrastructure layout (Figure 2) consist of the following:

- ◆ Blueberry Orchard (238.65 ha).
- ◆ Tissue Culture Lab (3,0 ha).
- ◆ Grow-on: Avocados (3,0 ha).
- ◆ Greenhouse: Avocados (3,0 ha).
- ◆ Packhouse (3,0).

This proposed project follows the footsteps of the Government of Namibia’s aims and objectives of ensuring agricultural productivity and food security as envisaged in NDP III and Vision 2030 strategy.

Prior to the commencement of the project, an environmental clearance is required based on an approved Environmental and Social Impact Assessment (ESIA) and Environmental and Social

Management Plan (ESMP). The report describes the Environmental and Social Impact Assessment (ESIA) process being followed and provides an overview of the affected environment. It includes an assessment of the environmental impacts that the proposed activities are likely to have and sets out the consultants' recommendations. The proposed management and mitigation measures related to the proposed activities are documented in an Environmental and Social Management Plan (ESMP).

I.N.K Enviro Consultants cc (I.N.K), an independent firm of environmental consultants, has been appointed to undertake the Environmental and Social Impact Assessment process for this project. For more details on the ESIA process that was followed, please refer to Section 1.3.

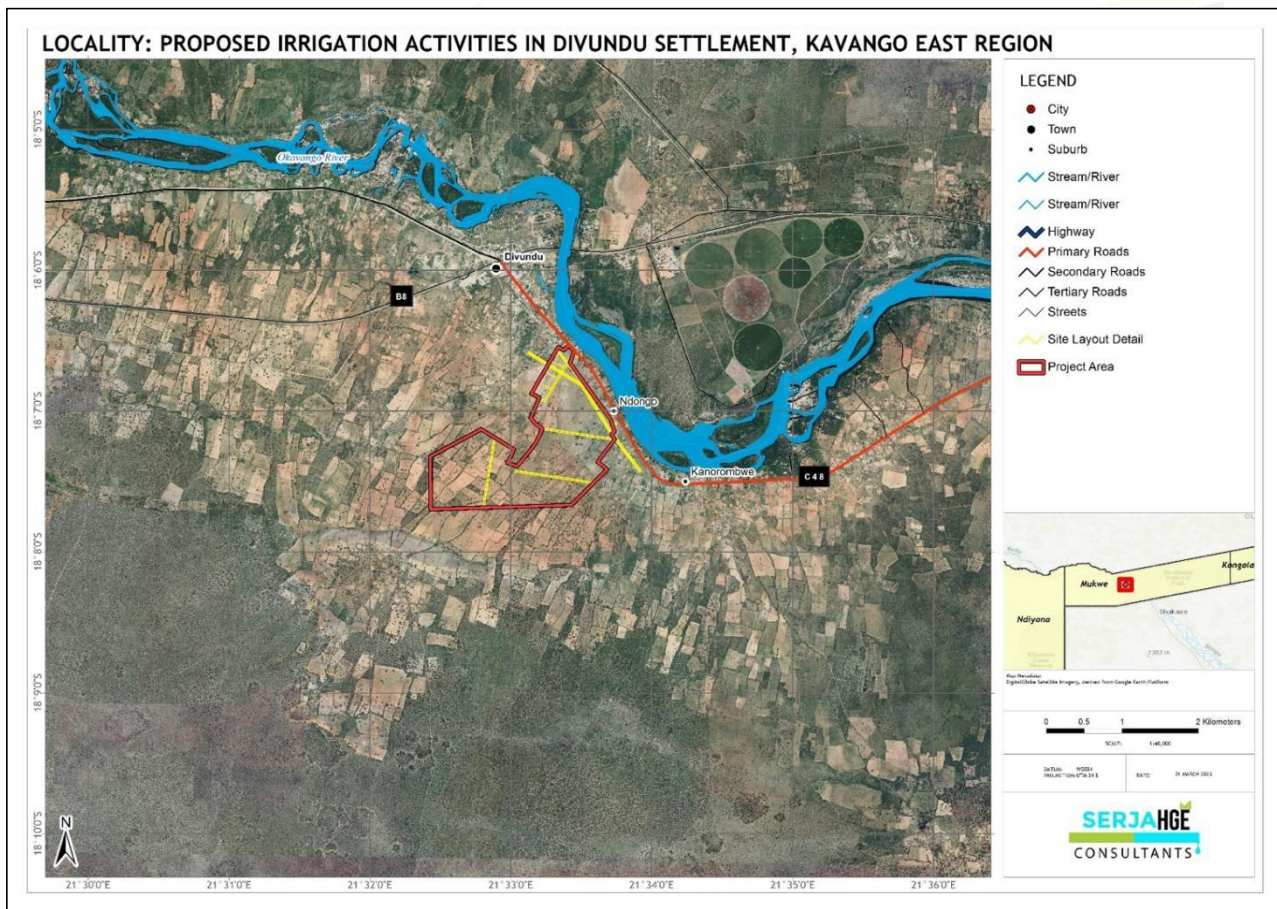


Figure 1: Daures Green Hydrogen Village Locality Map

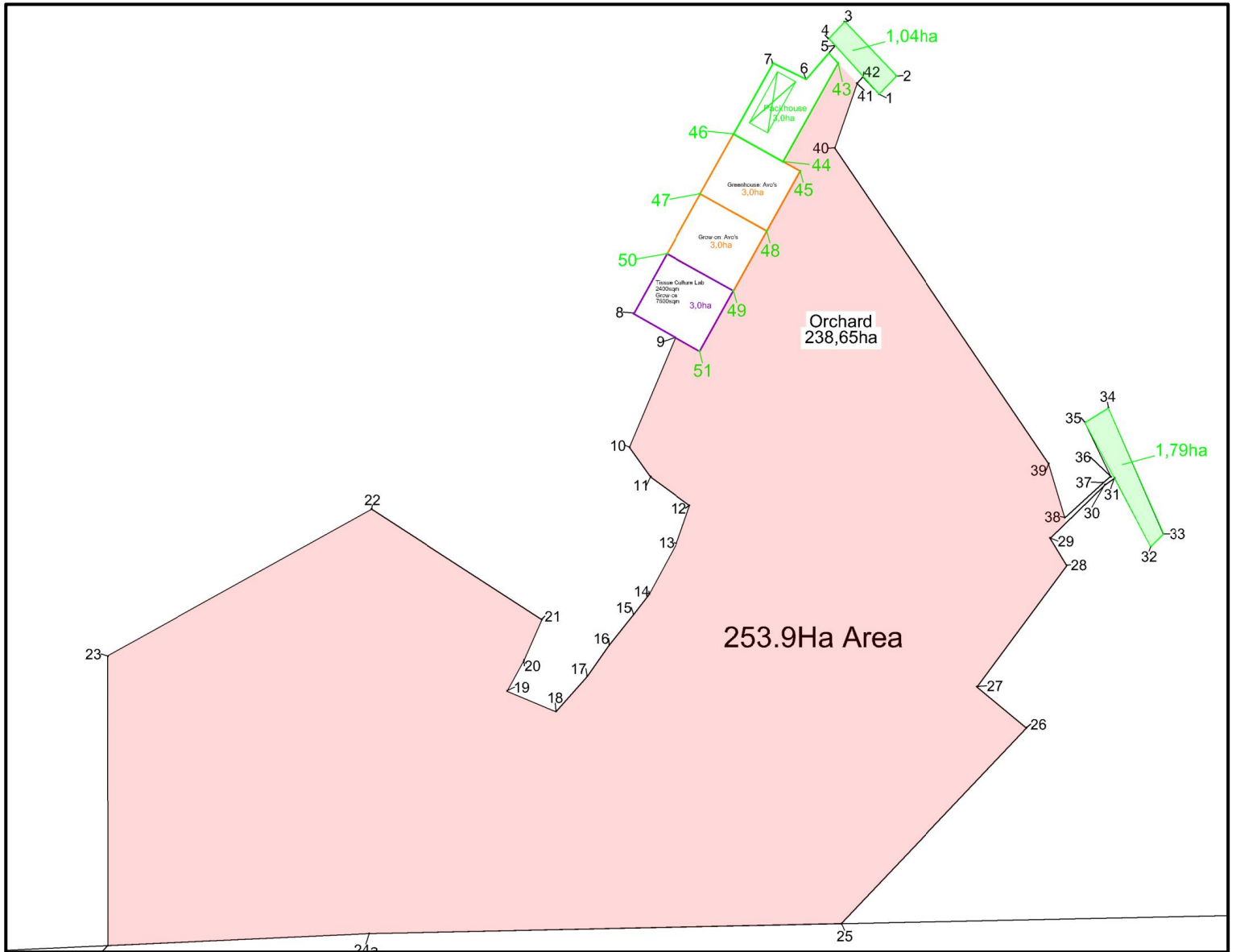


Figure 2: Project Site Layout

1.1.1 ESIA Team

.N.K Enviro Consultants cc is the independent firm of consultants that has been appointed by Namibia Berries to undertake the Environmental and Social Impact Assessment and related processes. The full ESIA team comprises of various environmental experts and specialists as per the following table below.

Table 1: ESIA Team

Specialist	Designation	Tasks and Roles	Company
Mr. Immanuel N. Katali	Project Manager Social Expert	Management of the process, team members and other stakeholders. Report compilation and process review.	I.N.K Enviro Consultants cc
Mr. Johann Venter	Health and Safety and Risk Assessment Practitioner	Health and Safety Input	I.N.K Enviro Consultants cc
Ms. Fredrika Shagama	Hydrogeology Specialist	Hydrogeology Assessment	Serja Hydrogeo-Environmental Consultants cc
Mr. Nahas Angula	Vegetation Expert	Vegetation Input	Freelance

1.1.2 Applicable Listed Activities

The EIA Regulations promulgated in terms of the Environmental Management Act, identify certain activities which could have a substantially detrimental effect on the environment. These listed activities require environmental clearance from MEFT prior to commencing. The following activities identified in the regulations apply to the proposed project:

Table 2: Listed activities triggered by the proposed Project

Listed activity
4. The clearance of forest areas, deforestation, afforestation, timber harvesting or any other related activity that requires authorisation in term of the Forest Act, 2001 (Act No.12 of 2001) or any other law.
8.1 The abstraction of ground or surface water for industrial or commercial purposes.
8.3 Any water abstraction from a river that forms an international boundary.
8.7 Irrigation schemes for agriculture excluding domestic irrigation.
8.8 Construction and other activities in water courses within flood lines.
10.1 The construction of-(a) oil, water, gas and petrochemical and other bulk supply pipelines;

2 IDENTIFICATION OF APPLICABLE ENVIRONMENTAL AND SOCIAL GUIDELINES

2.1 Introduction

The Republic of Namibia has five tiers of law and several policies relevant to environmental assessment and protection, which include:

- ◆ The Constitution.
- ◆ Statutory law.
- ◆ Common law.
- ◆ Customary law.
- ◆ International law.

As the main source of legislation, the Constitution of the Republic of Namibia (1990) makes provision for the creation and enforcement of applicable legislation. In this context and in accordance with its constitution, Namibia has passed numerous laws intended to protect the natural environment and mitigate against adverse environmental impacts.

The management and regulation of agricultural activities fall within the jurisdiction of the Ministry of Agriculture, Water and Land Reform (MAWLR). The environmental regulations are guided and implemented by the DEA within the MEFT.

In the context of the proposed project activities, there are several laws and policies currently applicable. Key legislation and policies are summarized below, and all relevant National Acts, Policies, Plans, as well as International Conventions and Protocols, are listed below.

The EIA Policy (1995) is enforced through the Environmental Management Act, 7 of 2007 and the EIA Regulations of 6 January 2012 (EIA Regulations). In terms of this legal framework certain identified activities may not commence without an environmental clearance issued by MEFT.

2.2 National Policies and Plans

Namibia's policies provide the framework to the applicable legislation. Whilst policies do not often carry the same legal recognition as official statutes, policies are used in providing support to legal interpretation. The following policies and plans is applicable:

- ◆ The EIA Policy (1995).

- ◆ Namibia's Environmental Assessment Policy for Sustainable Development and Environmental Conservation (1995).
- ◆ Namibia Vision 2030.
- ◆ National Development Plan, 201/2018 – 2021/2022, guided by Vision 2030.
- ◆ Policy for the Conservation of Biotic Diversity and Habitat Protection, 1994.
- ◆ Namibia's Second National Biodiversity Strategy and Action Plan (2013-2022).
- ◆ SADC: Protocol on Energy.
- ◆ National Environmental Health Policy (2002).
- ◆ National Solid Waste Management Strategy (2020).
- ◆ The National Climate Change Policy of Namibia (2010).
- ◆ New Equitable Economic Empowerment Framework Policy, 2011.
- ◆ National Rangeland Management Policy and Strategy of 2012.
- ◆ Atmospheric Pollution Prevention Ordinance of 1976.
- ◆ Hazardous Substance Ordinance of 1974.

2.3 Summary of Applicable legislation and standards

The following legislation is applicable:

- ◆ The Public Health Act 36 of 1919.
- ◆ National Monuments Act 28 of 1969.
- ◆ Soil Conservation Act 76 of 1969.
- ◆ Nature Conservation Ordinance 14 of 1975.
- ◆ The Constitution of the Republic of Namibia of 1990.
- ◆ Nature Conservation General Amendment Act 1990.
- ◆ The Regional Councils Act No. 22 of 1992.
- ◆ Nature Conservation Amendment Act 5.
- ◆ Road Traffic and Transport Act, 1999 (No. 22 of 1999).
- ◆ The Forestry Act 12 of 2001.
- ◆ Pollution Control and Waste Management Bill (3rd Draft September 2003).
- ◆ National Heritage Act 27 of 2004.
- ◆ Burial Place Ordinance, Act No. 27 of 1966.
- ◆ Labour Act, 2007 (No. 11 of 2007).
- ◆ Electricity Act No.4 of 2007.

- ◆ Environmental Management, Act 7 of 2007.
- ◆ Regulations promulgated in terms of the Environmental Management, Act 7 of 2007.
- ◆ Draft Protected Areas and Wildlife Management Bill (2009).
- ◆ Public and Environmental Health Act No. 1 of 2015.
- ◆ Nature Conservation Amendment Act 3.
- ◆ Draft Bill Wildlife and Protected Areas Management (version March 2021).
- ◆ Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act No. 36 of 1947.
- ◆ Air Quality Act (No. 39 of 2004).
- ◆ Traditional Authorities Act (No. 17 of 1995)

A summary of the applicable legislation is provided below:

Table 3: Applicable Legislation

YEAR	NAME	Natural Resource Use (energy & water)	Emissions to air (fumes, dust & odours)	Emissions to land (non-hazardous & hazardous)	Emissions to water (industrial & domestic)	Noise	Visual	Impact on Land use	Impact on biodiversity	Impact on Archaeology	Socio-economic	Safety & Health
1990	The Constitution of the Republic of Namibia of 1990	X	X	X	X	X	X	X	X	X	X	X
1997	Namibian Water Corporation Act, 12 of 1997	X									X	
2001	The Forestry Act 12 of 2001	X						X	X			
2013	Water Resources Management Act 11 of 2013	X			X						X	
2004	National Heritage Act 27 of 2004									X		X
2007	Environmental Management, Act 7 of 2007	X	X	X	X	X	X	X	X	X	X	X
2012	Regulations promulgated in terms of the Environmental Management, Act 7 of 2007											
1975	Nature Conservation Ordinance 14 of 1975	X			X				X	X		
1976	Atmospheric Pollution Prevention Ordinance 11 of 1976		X									
1995	Namibia's Environmental Assessment Policy for Sustainable	X	X	X	X	X	X	X	X	X		X

	Development and Environmental Conservation											
2008	Green Scheme Policy										X	
1995	National Agricultural Policy										X	
2003	Agricultural (Commercial) Land Reform Amendment Act										X	

2.4 Applicable IFC Performance Standards

International Finance Corporation's (IFC) Environmental and Social Performance Standards define IFC clients' responsibilities for managing their environmental and social risks. The Performance Standards provide guidance on how to identify sustainability risks and impacts and are designed to help avoid, mitigate, and manage them as a way of doing business in a more sustainable way.

The following are the performance standards that are applicable to the construction and operation of the project and are used as the basis of investigation for the ESMP:

Table 4: Applicable Performance Standards

IFC Performance Standard	Description	Applicable	Not Applicable
1. Environmental and Social Management System	An environmental and social management system (ESMS) helps companies integrate plans and standards into their core operations—so they can anticipate environmental and social risks posed by their business activities and avoid, minimize, and compensate for such impacts as necessary. A good management system provides for consultation with stakeholders and a means for complaints from workers and local communities to be addressed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

2. Labour and Working Conditions	It asks that companies treat their workers fairly, provide safe and healthy working conditions, avoid the use of child or forced labor, and identify risks in their primary supply chain.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Pollution Prevention and Control	It guides companies to integrate practices and technologies that promote energy efficiency, use resources—including energy and water—sustainably, and reduce greenhouse gas emissions.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Occupational Health and Safety, Public Health and Security	It helps companies adopt responsible practices to reduce such risks including through emergency preparedness and response, security force management, and design safety measures.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Land Acquisition and Involuntary Resettlement	It advises companies to avoid involuntary resettlement wherever possible and to minimize its impact on those displaced through mitigation measures such as fair compensation and improvements to and living conditions. Active community engagement throughout the process is essential.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Biodiversity and Ecosystems	It recognizes that protecting and conserving biodiversity, maintaining ecosystem services, and managing living natural resources adequately are fundamental to sustainable development.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<p>7. Rights and Interests of Indigenous People</p>	<p>It seeks to ensure that business activities minimize negative impacts, foster respect for human rights, dignity and culture of indigenous populations, and promote development benefits in culturally appropriate ways. Informed consultation and participation with IPs throughout the project process is a core requirement and may include Free, Prior and Informed Consent under certain circumstances.</p>	<p><input checked="" type="checkbox"/></p>	<p><input type="checkbox"/></p>
<p>8. Cultural Heritage</p>	<p>Cultural heritage encompasses properties and sites of archaeological, historical, cultural, artistic, and religious significance. It also refers to unique environmental features and cultural knowledge, as well as intangible forms of culture embodying traditional lifestyles that should be preserved for current and future generations. PS8 aims to guide companies in protecting cultural heritage from adverse impacts of project activities and supporting its preservation. It also promotes the equitable sharing of benefits from the use of cultural heritage.</p>	<p><input checked="" type="checkbox"/></p>	<p><input type="checkbox"/></p>

3 ENVIRONMENTAL MANAGEMENT PLAN

3.1 Aims

The aim of the Environmental and Social Management Plan (ESMP) is to detail the actions required to effectively implement mitigation and management measures. These actions are required to minimise negative impacts and enhance positive impacts associated with the operations.

It is important to note that an ESMP is a living document in that it will be updated and amended as new information (e.g. environmental data), policies, authority guidelines, technologies and proposed activities develop. The conceptual management measures proposed to mitigate the potential impacts are detailed in the action plans below.

3.2 Roles and Responsibilities

It is the responsibility of Namibia Berries to implement the measure (commitments) below and to ensure that all actions are carried out. The successful implementation of these measures is however dependent on clearly defined roles and responsibilities. The company will ensure that it will establish and document clearly defined roles and their associated responsibilities in relation to its key activities.

3.3 Training and Awareness

The purpose of the job specific environmental awareness training is to ensure that employees are equipped to implement the actions committed to in the ESMP. The staff involved in operations will receive training regarding the requirements of this ESMP.

Four main forms of training will be provided on site:

- ◆ Site induction
- ◆ Environmental management training – general and targeted
- ◆ Environmental Toolbox Talks
- ◆ Poster awareness

The following will be done to ensure all employees, contractors, suppliers and visitors receive the appropriate training/awareness:

Four main forms of training will be provided on site:

- ◆ Site induction

- ◆ Environmental management training – general and targeted
- ◆ Environmental Toolbox Talks
- ◆ Poster awareness

The following will be done to ensure all employees, contractors, suppliers and visitors receive the appropriate training/awareness:

3.3.1 Environmental Site Induction

All new members of staff receive a Environmental Induction along with the obligatory Health & Safety induction. The induction gives a general overview of the environmental challenges faced by the project, how we are managing them, and general tips for reducing our impact in the workplace.

The main reason for environmental induction is to encourage new staff to be environmentally aware right from the beginning of their employment. This will ensure that environmental initiatives are successful by eliminating bad habits from the start.

Before working on site, all personnel and sub-contractors will undertake a site induction incorporating environmental requirements. The induction will address a range of environmental awareness issues specific to the Irrigation Project.

As a minimum, training shall include:

- ◆ Explanation on the importance of complying with the ESMP and environmental implications should the ESMP not be effectively implemented.
- ◆ Discussion of the potential environmental impacts of operational activities, recognition of environmental risks e.g. oil spill, paint etc. and how to control these risks.
- ◆ The benefits of improved personal performance, understanding of what to do in case of an environmental event or exposure.
- ◆ Employees' roles and responsibilities, including emergency preparedness.
- ◆ Explanation of the mitigation measures that must be implemented when carrying out operational activities.
- ◆ Explanation of the requirements of the ESMP and its specification (no-go areas, etc.)
- ◆ Explanation of the management structure of individuals responsible for matters pertaining to the ESMP.

The training will generally be prepared by the Environmental Manager or delegated responsible party.

3.3.2 Environmental Awareness training

Targeted environmental management training will be provided to individuals or groups of workers with a specific authority or responsibility for environmental management or those undertaking an activity with a high risk of environmental impact. This environmental training will aim to achieve a level of awareness and competence appropriate to their assigned activities. This training will take place monthly i.e., all staff will undergo awareness training at least once a month.

3.3.3 Toolbox talks

‘Toolbox’ talks will assist in communicating relevant information to the workforce and providing feedback on issues of interest or concern. Toolbox talks shall be held on a weekly basis. Environmental topics shall (as far as possible) be sent out to all employees and contractors to be discussed at the toolbox talks.

Environmental work procedures detail the required subjects to be addressed in ‘toolbox’ talks topics may also include:

- ◆ The efficient use of materials.
- ◆ Waste management, minimisation and recycling.
- ◆ Management of hazardous materials.
- ◆ Protection of Biodiversity
- ◆ Management of pollution.
- ◆ Work methods.

Records of toolbox talk topics and persons attending will be retained on site in a register.

3.4 Management and Mitigation Measures

The management and mitigation measures for the proposed irrigation projected are outlined in the table below.

Environmental Issue	Management & Mitigation Measures
Construction phase	
Air quality/Dust	Demarcate/fence off construction activities. No staff or vehicles to be permitted outside of these demarcated areas.

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	<p>Keep construction footprint to a minimum.</p> <p>Ensure all construction equipment is subject to an Inspection & Maintenance programme to ensure proper combustion.</p> <p>Should dust be generated by construction activities or due to cleared land then dust suppression will be carried out.</p>
Noise	<p>Restrict construction activities to daylight hours.</p> <p>Refer to operations phase for general noise management measures.</p>
Waste Management	<p>Refer to operations phase for general waste handling and management requirements.</p> <p>Hazardous waste (including hydrocarbons, chemical bags and containers and contaminated material/soil) will be disposed of at a licensed hazardous waste disposal facility in Windhoek or Walvisbay.</p> <p>Hydrocarbon and chemical contaminated materials (soils, rags, containers, filters etc.) are considered hazardous waste and will be handled and disposed of accordingly.</p> <p>Ablution Facilities with septic tanks should be made available during construction. Personnel may not relieve themselves in the area.</p>
Visual	<p>No litter or waste accumulation will be permitted on site.</p> <p>Clear demarcates sites and signage to ensure adequate waste management response and safety within the project site.</p>
Biodiversity	<p>Environmental awareness for all employees to be included during inductions. Regular awareness training will be carried out</p> <p>The footprint of the area will be minimised as far as is practically possible.</p> <p>Management will implement a zero tolerance policy concerning the killing or collecting of any plants or animals. This applies to people directly employed by Namibia Berries as well as any contractors working on their behalf. Develop a policy that limits independent movements of all workers into the veld that could create suspicion of poaching. Strictly prevent poaching, harvesting or possession of any such wildlife resources without an appropriate permit.</p> <p>Keep removal of protected tree species to a minimum.</p> <p>Optimise the total size of the irrigation area by carefully considering the realistic productive capacity of the soils (use only the area that is needed to produce the target production).</p> <p>Do not clear one contiguous block of vegetation; rather follow the principle of patch dynamics and clear multiple smaller blocks, each divided from the next by a patch of natural bush.</p>
Heritage/Archaeology	<p>In the event that archaeological resources are discovered during construction, a chance find emergency procedure will be implemented which includes the following:</p> <ul style="list-style-type: none"> o All work at the find will be stopped to prevent damage; o An appropriate heritage specialist will be appointed to assess the find and related impacts; and o Permitting applications will be made to the necessary authorities, if required.

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Health and Safety	Suitable First Aid equipment must be provided for use by qualified first aid personnel.
	Suitable shaded facilities must be provided for employees to use during breaks.
	Clean drinking water must be provided in sufficient quantities at all times.
	Heat stress awareness training must be provided.
	A register must be kept of hazardous substances to be used on site and will include insecticides, hydrocarbon fuels etc.
	Material Safety Data sheets for all chemical substances must be provided and employees must receive training in terms of the safe handling, transport and use thereof.
	An effective emergency response procedure must be in place to be initiated by competent personnel.
Operations phase	
Air quality	Develop and implement a complaints register to record any 3rd party complaints relating to the release of dust from exposed areas. Complaints must be investigated and actions developed.
	Do not disk when average wind speeds exceed 24 km/h.
	Cover piles of fertilizer, compost, or soil.
	Minimize soil-disturbing field operations
	Modify the timing and type of operations based on weather conditions.
	Use cover crops like grasses and legumes where possible to help reduce wind erosion.
	Pay attention to the dust created: use water or dust suppressants when substantial dust is blowing offsite.
Noise	General construction and operational activities, following good engineering practice should be applied including: <ul style="list-style-type: none"> o Regular maintenance of all diesel-powered equipment. o Enclosure of major sources of noise. o Following of good design philosophies for vibrating structures that are known to be noisy.
	Noise-generating activities limited to daytime hours since noise impacts are most significant during the night.
	Minimise individual vehicle engine, transmission and body noise or vibration through the implementation of an equipment maintenance programme and minimise the need for trucks or equipment to reverse.
Groundwater	Soil probes will be utilised to measure soil moisture content and prevent over-irrigation.
	Monitor groundwater levels.
	Apply water efficient irrigation methods and control of volumes of water used for irrigation.
	Have proper storage of chemicals and fertilisers on site in order to prevent spillages and associated groundwater contamination.

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	Comply with EURO GAP standards
	Plant crops that are adapted to the climate and that don't require excessive volumes of pesticides and fertilizers.
	Maintain equipment to prevent leakages of contaminants.
	Dispose of materials properly at a suitable disposal site.
	Implement a groundwater quality monitoring programme at the irrigation site and in areas where groundwater is used downstream, e.g. in production boreholes of communities near the irrigation project.
Surface water	A permit will be obtained from the Department of Water Affairs (Ministry of Agriculture, Water and Land reform) and company shall ensure compliance to all applicable recommendations. All records shall be kept in safe storage on site physically and digitally.
	Minimise the project footprint as far as possible.
	If necessary, implement stormwater control measures that prevent water from pooling on site.
	Maintain natural water channels (particularly the drainage lines)
	Storm water management, construction of infrastructure to contain contact and waters.
	Effective site supervision to ensure no blocking of stormwater infrastructure and efficient storage of contact water.
	Use GAP internationally approved bio-degradable and/or environmentally friendly products.
Water Abstraction	The abstraction of water should be controlled by Regulation (water abstraction and use permit). The regulation requires Water Authorities to: set objectives (abstraction targets), monitor and enforce compliance. Therefore, upon determining the actual water volumes required per year, Namibia Berries should apply for and obtain a water abstraction and use permit from the Department of Water Affairs at Ministry of Agriculture, Water and Land Reform. Upon issuance of the permit, <u>it will be very crucial that the Namibia Berries strictly adheres to the abstraction volumes given in its permit and if necessary use less water than the allocated volume in the water permit.</u>
	Upon issuance of the water use permit, an annual report including water flow and returns should be prepared and submitted to the responsible unit of the Department of Water Affairs at MAWLR. This is used to monitor water use by the project and ensure that the Proponent is adhering to allocated water abstraction volumes.
	As an emphasis to the preceding point, annual reporting will demonstrate commitment from the Proponent, compliance and enables regulatory authorities to make informed decisions that minimise environmental impacts to groundwater and dependent ecological systems.
	Reduction of over irrigated areas. Irrigation should be restricted to actual field footprints only, i.e. watering / irrigation should only be done on water sections of the fields that really require it (water).
	Consider the application / utilisation of water efficient irrigation methods.
	Project workers should be trained on water resources management, quality and conservation awareness
	Voluntary reduction in water use by users. The applicant should, if approved stick to the required and allocated volume of water and try by all means to use water efficiently and re-use,

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	<p>where necessary.</p> <p>Regular review of an existing abstraction management plan to ensure that it can adapt to changing circumstances (given Namibia's ever changing climate) and publicly reporting on the plan's implementation.</p> <p>Water recycling where possible should be encouraged to minimise waste.</p>
Biodiversity	<p>Environmental awareness for all employees to be included during inductions. Regular awareness training will be carried out.</p> <p>Namibia Berries will implement a zero-tolerance policy with regards to the killing or collecting of any biodiversity. This applies to people directly employed by Namibia Berries as well as any contractors working on its behalf.</p> <p>Follow international standards of best practice in the use of pesticides, fungicides and herbicides in agriculture (e.g. http://www.ext.colostate.edu/pubs/crops/xcm177.pdf). This will include:</p> <ul style="list-style-type: none"> • Select chemicals with low toxicity outside target groups (i.e. highly specific), short half-lives and high levels of adsorption (this will prevent leaching); • Use optimal, not maximal doses; • Apply for as short periods as possible and select days that are not windy; • Ensure that there is no overspray that drifts into the adjacent indigenous habitats or into areas of human habitation; • Given that most of the chemicals will be applied through the irrigation system, using an optimal water management approach based on measured soil moisture levels will also mean that leaching and runoff will be limited <p>Confirm the ecotoxicity of each chemical using an independent database such as the Pesticide Action Network (PAN) Pesticide Database</p> <p>Monitoring must be carried out in accordance with the requirements indicated in Section 8.4.</p> <p>All handling of fertilizers and chemicals will be done in accordance with EURO GAP.</p> <p>Herbicides are used widely, but there is little information on their effects on the plants of African savannas. It is best to adopt a precautionary approach here and assume that there will be negative effects on native plant species and that a very strictly controlled and directed application regime should be followed.</p> <p>Integrated pest management (IPM) is the control strategy of choice. IPM is an approach to pest management that blends all available management techniques - nonchemical and chemical - into one strategy: Monitor pest problems, use nonchemical pest control, and resort to pesticides only when pest damage exceeds an economic or aesthetic threshold.</p> <p>The commitment to best environmental practice in the use of chemicals in agriculture should be an explicit statement in the company's higher-level commitments.</p> <p>Staff that administer the chemicals, or have to decide on application protocols or changes in cocktails should only be allowed to do so if they have received training in the management of chemicals and in their different environmental toxicities.</p> <p>Follow international best environmental practice in the application of all fertilisers. This should include:</p>

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	<ul style="list-style-type: none"> • Base dosage rates of N and P on their soil levels – high levels in the soil should be a trigger to scale back on application; • Use forms of fertiliser that are readily and quickly taken up by plants.
	Monitor the occurrence of tracks of animals around the boundary fence, with particular attention being paid to evidence of the interruption of linear movements.
Waste and Sewerage Management	Ensure proper removal of general waste from site and disposal at licensed disposal site. Obtain records of safe disposal.
	Hazardous waste will be separated from non-hazardous waste and will be stored and disposed of separately.
	Recycling will be promoted on site.
	Bins with labels according to waste type, and with lids in order to prevent wind-blown litter, will be provided at strategic locations through the site and will be emptied regularly in order to ensure no overflows.
	No litter will be permitted on site.
	No waste will be disposed of on site. Waste will be transferred to the nearest approved landfill site.
	Hydrocarbon contaminated materials (soils, rags, containers, filters etc.) are considered hazardous waste and will be handled and disposed of accordingly.
	Hazardous waste (including hydrocarbon contaminated material/soil) will be disposed of at a licenced hazardous waste disposal facility.
	Sewerage from ablution facilities in training academy and nurseries should be installed with septic tanks connected to french drains and to Divundu's sewerage system.
Visual	Carry out regular maintenance in order to maintain visual integrity of the site.
	No litter or waste accumulation will be permitted on site.
	Ensure immediate clean-up of all spills/leakages
Social and Economic	Local people must be preferentially selected for te training academy to encourage social growth and development.
	Management should work closely with the Village Council to manage in-migration, and the effects thereof.
	Namibia Berries should fence the entire irrigation site.
	The entrance gates will be locked and controlled by security personnel.
	All persons entering and exiting will be recorded.
	Namibia Berries should employ security personnel to work on rotation, 24 hours per day.
	Operate and publicise among all site workers and visitors a detailed safety and security plan for the project.
	A compensation framework will be followed, including a resettlement action plan. The approach will include engagement and contractual agreements with all key stakeholders to comply to the National Guidelines Compensation Policy adopted by Cabinet in 2009.

	Furthermore, the IFC Performance Standard 5 (attached) should apply.
EMP implementation	A person must be appointed to be responsible for environmental management and compliance.
	All staff must be made aware of, and familiar with, site operations during operations, the key environmental issues and consequences of non-compliance to the EMP.
	All personnel must undergo induction on environmental issues and EMP specifications. The induction must include awareness of activities and issues that could impact neighbours. Emergency procedures also need to be included in the training
	Ensure ongoing awareness and compliance.

3.5 Monitoring

3.5.1 Biodiversity monitoring

The following biodiversity monitoring will take place:

- Monitor levels of indicator chemicals in the groundwater around the site.
- Monitor levels of indicator chemicals in open water bodies, especially ephemeral pans.
- Monitor for the presence of dead birds in transects away from the crop fields, and if found determine levels of indicator toxins in their bodies.
- Monitoring frequencies for levels of chemicals will depend on spray programme but should not be less than once a year.
- Monitor soil P and N and use this information to tailor-make the application programme and dosage levels of fertilisers.