

ENVIRONMENTAL MANAGEMENT PLAN FOR OPERATION OF THE EXISTING EWE-RETU KINDERGARTEN PROJECT IN OVINJURU - EPUKIRO CONSTITUENCY, OMAHEKE REGION



Prepared For

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1. INTRODUCTION

1.1 PROJECT RATIONALE

Vision 2030 envisages that all 0 – 6 years old Namibian children should have opportunities for ECD. Equally, Namibia's Integrated Early Childhood Development (IECD) Policy (2007) Promotes a rights-based approach to early childhood development, premised on the principles of equal access, quality, sustainability, flexibility, diversity and inclusion. Nonetheless, ECD participation in Namibia not only exhibits stark regional inequalities (**Figure 1**), but also remains low overall, particularly among children between the ages of 0 and 4.

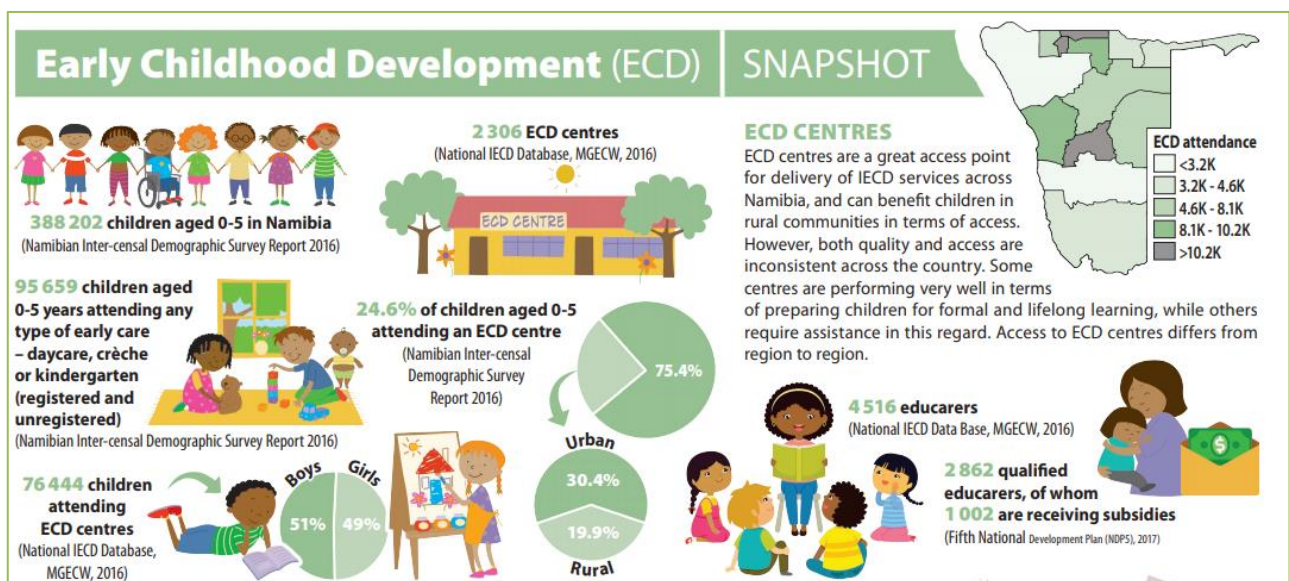


Figure 1: Infographic provides a snapshot of the status quo in regard to early childhood development in Namibia

Namibia therefore, in the NDP 5 identified key strategies to be implemented regarding ECD which include upgrading the curriculum for 0 - 4 years old children and aligning it to the revised pre-primary curriculum. These strategies will ensure that about 40 per cent of 0 - 4 years old children access ECD services.

One of the programs identified and being implemented through structure of the Namibian government is the "Right Start National Campaign" which aims to raise awareness of the importance of nurturing care in the early years of a child's life. The campaign encourages people to change how they act to promote the best development of children. It also aims to increase funding for Integrated Early Childhood Development, to improve how often people speak of it, know about and look at how good it is. The campaign focuses on five important aspects of Integrated Early Childhood Development (Figure 2), namely:

- Health
- Nutrition
- Early Learning
- Safety and Security
- Responsive Care

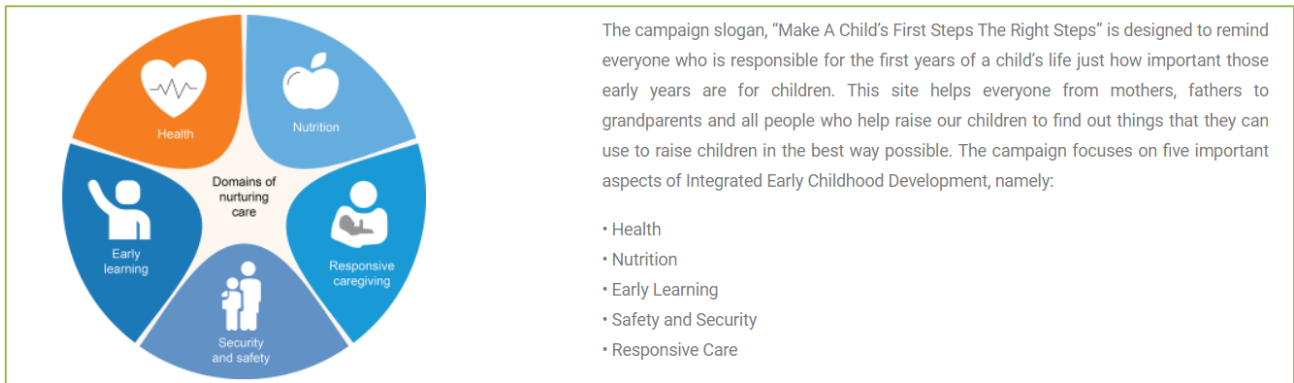


Figure 2: Five important aspects of Integrated Early Childhood Development

The Ewe-Retu kindergarten project henceforth, fully aligned with the national Integrated Early Childhood Development policy, strategic framework and national legislation protecting children's rights and interests. Creating an environment for providing opportunities for rural child to access an early childhood centre is we all make every Namibian child's first steps, the right steps.

1.2 CURRENT PROJECT ACTIVITIES

Ewe-Retu kindergarten, a community-based development, education and social institution based in Ovinjuru, Epukiro Constituency was founded in 2015. The initial objective of its establishment were to creating an environment for providing opportunities for the rural Namibian child to access an early childhood centre. In addition the facility provides space for the hosting of the National Adult Literacy Programme activities during the evening hours when the day-care and pre-school program activities are completed for the day.

Ewe-Retu Kindergarten Project currently accommodates twenty five (25) toddlers in the age categories of 1-3 years for day-care and fifteen (15) 3-5 years pre-primary school activities respectively, and foresee adding classes for the category group 6-8 year (Figure 3). On the other hand, only a maximum target of twenty five (25) trainees are expected for the adult literacy programme.



Figure 3: Colation photos of kids participating in different learning activities

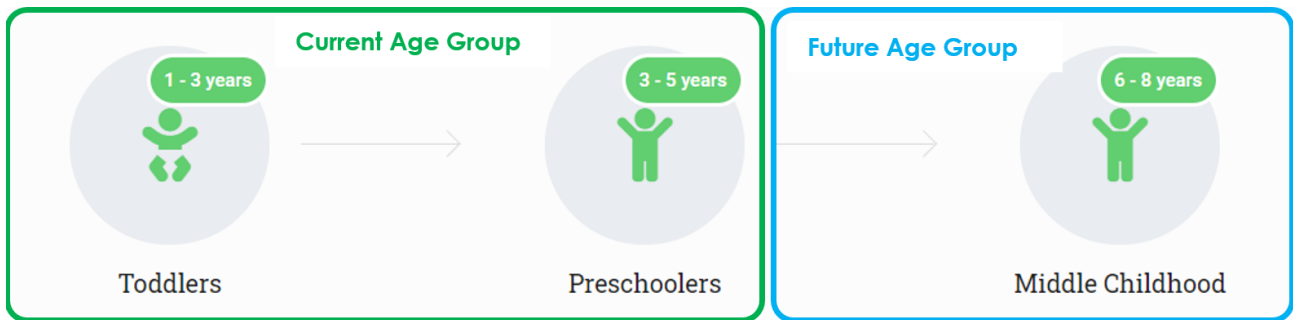


Figure 4: Current and future age group categories accommodated at Ewe-Retu Kindergarten

In terms of the supporting infrastructure, the kindergarten is hosted on a 5 Ha land area which accommodate a church building currently used both for activities on Sunday and as a hall for feeding the toddlers. The building also hosts a large veranda (**Figure 4**) where on occasion the teaching activities are conducted for an outdoor experience.



Figure 5: Church building with the veranda protruding to the foreground

Other infrastructures includes, a community gardening project from which the produce is used occasionally to feed-in to the soup kitchen activity, two pit latrine toilet facilities,

water supplied by a solar borehole. Future expansion may include, a stand alone the age group 6-8 year olds learners, and staff accommodation facility.

In accordance with the provisions of the Environmental Impact Assessment (EIA) Regulations No. 30 of 2012 gazetted under the Environmental Management Act, (EMA), 2007, (Act No. 7 of 2007), a component of the Ewe-Retu Kindergarten activities relating to the construction and operation are Listed Activities and may not be undertaken without an Environmental Clearance Certificate (see **Table 1**).

Table 1: List of activities identified in the EIA Regulations (GG. 4878 R.29 of 2012) which apply to Ewe-Retu Kindergaten activities in Namibia

EMA 2007 Legislation	Description of activity	Relevance to Ewe-Retu Activities
Activity 2 Waste Management, Treatment, Handling And Disposal Activities	2.2 The import, processing, use and recycling, temporary storage, transit or export of waste.	The Ewe-Retu activities may result in the generation of domestic solid waste, which may temporarily stored on-site.
Activity 9 Waste Management, Treatment, Handling And Disposal Activities	9.2 Any process or activity which requires a permit, licence or other form of authorisation, or the modification of or changes to existing facilities for any process or activity which requires an amendment of an existing permit, licence or authorisation or which requires a new permit, licence or authorisation in terms of a law governing the generation or release of emissions, pollution, effluent or waste.	The Ewe-Retu activities may in future require an effluent discharge and water abstraction permits to be obtained in respect to a septic tank facility should they transition to a flush toilet system.

1.3 PROJECT LOCATION

Ewe-Retu Kindergarden Project is located at Ovinjuru village in the Epukiro (**Figure 2** Location of the site and **Table 2**, GPS coordinates), Epukiro is an electoral constituency in Omaheke Region. It has the smallest population of 6,106 inhabitants in the region according the 2011 Housing Census report.

Table 2: GPS coordinates of the Ewe-Retu Kindergarden Project

GPS POINTS	LATITUDE	LONGITUDE
Ewe-Retu Kinder	-21.52255° S	19.67381° E
	-21.52618° S	19.67272° E
	-21.52686° S	19.67498° E
	-21.52387° S	19.67649° E

The constituency has a very young population with a median age estimate of 19 years. Like most of the constituencies, Epukiro Constituency depends largely on farming and earnings from pensions. Farming conditions in this constituency are very harsh and predominantly characterized by unfriendly climatic conditions, such as erratic rainfall, and poor soils. It is heavily populated by invader bush-species that have replaced the grass species browsed by livestock, subsequently limiting the carrying capacity of the farm land. The infrastructure and services available in Epukiro for support of the Constituency development efforts range from Energy, Information and Water and Sanitation, to Housing and Transportation.



Figure 6: Locality Map of the Ewe-Retu Kindergarten in Ovinjuru, Epukiro Constituency

2. ENVIRONMENTAL LAWS AND POLICIES

This section draws information from the legal sources in Namibia. The Republic of Namibia has five tiers of law and a number of policies relevant to uranium quarrying and these include:

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

Key policies currently in force include:

- Namibia's Environmental Assessment (EIA) Policy for Sustainable Development and Environmental Conservation (1995).
- The Minerals Policy of Namibia (2002).

As the main source of legislation, the Namibian constitution 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 to mitigate against adverse environmental impacts.

Namibia's policies provide the framework to the applicable legislation. Whilst policies do not often carry the same legal recognition as official statutes, policies can be and are used in providing support to legal interpretation when deciding cases.

2.1 APPLICABLE LAWS AND POLICIES

In the context of uranium quarrying and related infrastructure in Namibia, there are several laws and policies currently applicable. Each of these is discussed in detail below.

2.1.1 The Constitution of the Republic of Namibia, 1990: Article 95 of Namibia's constitution provides that:

“The State shall actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at the following:

(l) Management of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future; in particular the Government shall provide measures against the dumping or recycling of foreign nuclear and toxic waste on Namibian territory.”

This article recommends that a relatively high level of environmental protection is called for in respect of natural resources utilization, management, pollution control and waste management.

2.1.2 Namibia's Environmental Impact Assessment (EIA) Policy of 1995

This policy promotes accountability and informed decision making through the requirement of EIAs for listed programs and projects.

2.1.3 Environmental Management Act No. 7 of 2007

To enforce the policy on EIAs, the Environmental Management Act (EMA) (7 of 2007) has been compiled, but is yet to practically come into force because the required regulations are still in draft form. The EMA is expected to improve the management of impact assessments in Namibia through the establishment of an environmental commissioner, who will approve environmental plans and through requiring government agencies to work as a cohesive decision-making agents to ensure long term sustainable resource use.

2.1.4 The Environmental Investment Fund of Namibia No. 13 of 2001

The Environmental Investment Fund of Namibia Act (13 of 2001) provides for the creation of a fund that will be used to support sustainable environmental and natural resource management. The source of the funds will include penalties/fines paid and/or property forfeited in terms of non-compliance and/or crimes as set out in EMA.

2.1.5 The Water Act No. 54 of 1956

The Act "consolidate and amend the laws relating to the control, conservation and use of water for domestic, agricultural, urban and industrial purposes; to make provision for the control, in certain respects, of the use of sea water for certain purposes; for the control of certain activities on or in water in certain areas; for the control of activities which may alter the natural occurrence of certain types of atmospheric precipitation; for the control, in certain respects, of the establishment or the extension of townships in certain areas; and for incidental matters."

It additionally controls the disposal of effluent and makes it a criminal offence to:

"Pollute fresh or sea water in a way that makes the water less fit for any purpose for which it is or could be used by people, including use for the propagation of fish or other aquatic life, or use for recreational or other legitimate purpose."

2.1.6 The Forest Act No. 12 of 2001

The Forest Act (12 of 2001) allows for the declaration of protected areas in terms of soils, water resources, plants and other elements of biodiversity. This includes the proclamation of protected species of plants and the conditions under which these plants can be disturbed, conserved, or cultivated.

2.1.7 Nature Conservation Ordinance No. 4 of 1975

The Nature Conservation Ordinance (4 of 1975) provides for the declaration of protected areas and protected species.

2.1.8 Labor Act No. 11 of 2007

Construction safety is regulated under the Health and Safety Regulations under the Labour Act. The health and safety framework in Namibia regulates the following aspects:

- Construction safety;
- Electrical safety;
- Machinery safety;
- Hazardous substances;
- Physical hazards and general provisions;
- Medical examinations and emergency arrangements;
- Rights and duties of employees.

2.1.9 Water Resources Management Act (No. 24 of 2004) (Not implemented yet)

The purpose of this Act is to broadly control the use and conservation of water for domestic, agricultural, urban and industrial purposes; to control, in certain respects, the use of sea water; to control certain activities on or in water in certain areas; and to control activities which may alter the natural occurrence of certain types of atmospheric precipitation.

2.1.10 Pollution Control and Waste Management Bill (guideline only)

Part 7 states that any person who sells, stores, transports or uses any hazardous substances or products containing hazardous substances shall notify the competent authority, in accordance with sub-section (2), of the presence and quantity of those substances.

The competent authority for the purposes of section 74 shall maintain a register of substances notified in accordance with that section and the register shall be maintained in accordance with the provisions. Part 8 provides for emergency preparedness by the person handling hazardous substances, through emergency response plans.

2.1.11 Public Health Act No. 36 of 1919

Section 111 it is the duty of every local authority to take all lawful, necessary and reasonably practical measures for preventing the pollution so as to endanger health of any supply of water within its district and to take measures against any person so polluting any such supply.

Section 119 states that no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.

Section 132 empowers the Minister to make regulations regarding, inter alia, the drainage of land or premises, the disposal of liquids and the removal and disposal of rubbish, refuse, manure and waste matters as well as regarding the establishment and carrying on of factories or trade premises which are liable to cause offensive smells or effluvia or to discharge liquid or other material liable to cause such smells or effluvia or to pollute streams and prohibiting the establishment or carrying on of such factories in unsuitable localities.

2.1.12 Water Resources Management Act (No. 24 of 2004) (Not implemented yet)

The purpose of this Act is to broadly control the use and conservation of water for domestic, agricultural, urban and industrial purposes; to control, in certain respects, the use of sea water; to control certain activities on or in water in certain areas; and to control activities which may alter the natural occurrence of certain types of atmospheric precipitation.

3. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

3.1 OVERALL OBJECTIVES OF THE EMP

The following overall environmental objectives have been set for the Ewe-Retu Kindergarden education development project:

- To comply with national legislation and standards for the protection of the environment.
- To limit potential impacts on biodiversity through the minimisation of the footprint (as far as practically possible) and the conservation of residual habitat within the mine area.
- To keep surrounding communities informed of farming activities through the implementation of forums for communication and constructive dialogue.
- To ensure the legal and appropriate management and disposal of general and hazardous waste, through the implementation of a strategy for the minimisation, recycling, management, temporary storage and removal of waste.
- To develop, implement and manage monitoring systems to ensure good environmental performance in respect of the following: ground and surface water, air quality, noise and vibration, biodiversity and rehabilitation.

3.2 METHODS OF IMPACT SCOPING / ASSESSMENT

As part of the Scoping and EMP processes for the marble quarry, environmental aspects and potential environmental impacts associated with the activities and facilities were identified. Detailed mining claim's activities associated with the operation shall be described in section of this EMP. Table 4 provides a description of the environmental aspects that are associated with the marble quarry operations and how they impact the biophysical and human environments, respectively.

Both the criteria used to assess the impacts and the method of determining the significance of the impacts is outlined in **Table 3**. This method complies with the method provided in the Namibian EIA Policy document and the draft EIA regulations. Part A provides the approach for determining impact consequence (combining severity, spatial scale and duration) and impact significance (the overall rating of the impact). Impact consequence and significance are determined from Part B and C. The interpretation of the impact significance is given in Part D. Both mitigated and unmitigated scenarios are considered for each impact.

Table 3: Criteria for Assessing Impacts

PART A: DEFINITION AND CRITERIA		
Definition of SIGNIFICANCE		Significance = consequence x probability
Definition of CONSEQUENCE		Consequence is a function of severity, spatial extent and duration
Criteria for ranking the SEVERITY/NATURE of environmental impacts	H	Substantial deterioration (death, illness or injury). Recommended level will often be violated. Vigorous community action. Irreplaceable loss of resources.
	M	Moderate/ measurable deterioration (discomfort). Recommended level will occasionally be violated. Widespread complaints. Noticeable loss of resources.
	L	Minor deterioration (nuisance or minor deterioration). Change not measurable/ will remain in the current range. Recommended level will never be violated. Sporadic complaints. Limited loss of resources.
	L+	Minor improvement. Change not measurable/ will remain in the current range. Recommended level will never be violated. Sporadic complaints.
	M+	Moderate improvement. Will be within or better than the recommended level. No observed reaction.
	H+	Substantial improvement. Will be within or better than the recommended level. Favorable publicity.
Criteria for ranking the DURATION of impacts	L	Quickly reversible. Less than the project life. Short term
	M	Reversible over time. Life of the project. Medium term
	H	Permanent. Beyond closure. Long term.
Criteria for ranking the SPATIAL SCALE of Impacts	L	Localized - Within the site boundary.
	M	Fairly widespread – Beyond the site boundary. Local
	H	Widespread – Far beyond site boundary. Regional/ national

PART B: DETERMINING CONSEQUENCE						
SEVERITY = L						
DURATION	Long term	H	Medium	Medium	Medium	Medium
	Medium term	M	Low	Low	Medium	Medium
	Short term	L	Low	Low	Medium	Medium
SEVERITY = M						
DURATION	Long term	H	Medium	High	High	High
	Medium term	M	Medium	Medium	High	High
	Short term	L	Low	Medium	Medium	Medium
SEVERITY = H						
DURATION	Long term	H	High	High	High	High
	Medium term	M	Medium	Medium	High	High
	Short term	L	Medium	Medium	High	High
			L	M	H	H
			Localized Within site boundary Site	Fairly widespread Beyond site boundary Local	Widespread beyond boundary Regional/ national	Far beyond site
SPATIAL SCALE						

PART C: DETERMINING SIGNIFICANCE						
PROBABILITY (of exposure to impacts)	Definite/ Continuous	H	Medium	Medium	High	High
	Possible/ frequent	M	Medium	Medium	High	High
	Unlikely/ seldom	L	Low	Low	Medium	Medium
			L	M	H	H
CONSEQUENCE						

PART D: INTERPRETATION OF SIGNIFICANCE	
Significance	Decision guideline
High	It would influence the decision regardless of any possible mitigation.
Medium	It should have an influence on the decision unless it is mitigated.
Low	It will not have an influence on the decision.

*H = high, M= medium and L= low and + denotes a positive impact.

3.3 STAKEHOLDER MANAGEMENT AND MITIGATION

It is important that channels of communication are maintained over the life of the project for surrounding landowners, the general public members, as well as the local and traditional authorities, table 4 shows the stakeholders communication Management and Mitigation Plan.

Table 4: Actions relating to stakeholder communication

Issue	Management commitment	Phase
Understanding who the stakeholders are	Maintain and update the claim holders stakeholder register, including stakeholders' needs and expectations. Ensure that all relevant stakeholder groups are included.	All
	A representative database would include government, employees, service providers, contractors, indigenous populations, local communities, traditional authorities, NGOs, shareholders, customers, the investment sector, community-based organizations, suppliers and the media.	All
	Ensure that marginalized and vulnerable groups are also considered in the stakeholder communication process.	All
	Record partnerships as well as their roles, responsibilities, capacity and contribution to development.	All
Liaising with interested and affected parties at all phases in the mine life	Devise and implement a stakeholder communication and engagement strategy.	All
Responsibility	The Proponent (Ewe-Reu Kindergarden)	

4. SUMMARY OF ENVIRONMENTAL IMPACTS AND THE MANAGEMENT PLAN

No bio-physical environment will be negatively affected by the Ewe-Retu Kindergarten project, as major of the construction activity has been completed and the site is with an already disturbed in environment. Part of the land area used for the project activities was previous use for church services, thus partly developed. Hence, overall the only impacts associated with the project will be mainly socio-economic positive impacts..

Table 5: Summary of potential cumulative impacts associated with the proposed project

Section	Potential impact	Significance of the impact (the ratings are negative unless otherwise specified)	
		Unmitigated	Mitigated
Soils and land capability	Loss of soil resources from pollution	L	L
	Loss of soil resources from physical disturbance	M	L
Biodiversity	Physical destruction of biodiversity from clearing land and placing infrastructure	L	L
	Loss of biodiversity from the loss of subsurface water resources	M	L
	General disturbance of biodiversity	L	L
Water resources	Pollution of surface and groundwater	L	L
Air quality	Air pollution from dust and use of diesel generator	L	L
Socio-economic impacts	Injury to third parties, risk of HIV/AIDS and Gender issues	M	L

5. ENVIRONMENTAL IMPACTS MITIGATION AND MANAGEMENT PLAN

5.1 TOPOGRAPHY MANAGEMENT AND MITIGATION

5.2.1 ISSUE: SECURITY AND SAFETY IMPACT

Impacts relating to the welfare, health and safety of the local communities may arise as a result of traffic, noise, air quality, pollution issues, etc. However, this activity has minimum construction activities and mainly conducted manually with no heavy earth-moving machinaries.

In the construction and decommissioning phases, the hazardous excavation and equipment are usually temporary in nature, usually existing for a few weeks to a few months. The operational phase will present more long-term safe infrastructure providing shelter and comfort to the puples. It is essential that safety and security measures are defined and implemented to adequately protect the mine site from being accessed by unauthorized people.

Table 6: Security and Safety Impact - linked to the operational phase of the proposed activities

Issue	Management commitment	Phase
Hazardous excavations	All staff will be trained to attend to third parties and animals so as to avoid situations where people and animals can enter safety risk areas.	All
Safety and Security Risks	At closure, permanent warning signs will be in place at appropriate intervals, in appropriate languages with danger pictures to warn people of any potential dangerous farm areas / equipment	All
Access to the site by unauthorized persons to the Operation site	Any person entering the mining / exploration and other operation areas (fields and packaging) will only be allowed after formal approval.	All
Emergency	Develop and implement an emergency response plan for third parties falling into or off hazardous excavations and causing injury.	Operational
Responsibility	The Proponent (Ewe-Retu Kindergarten)	

5.2 BIODIVERSITY MANAGEMENT AND MITIGATION

5.2.1 ISSUE: GENERAL PHYSICAL DISTURBANCE OF BIODIVERSITY

The section is a high level assessment of biodiversity impacts in line with the content of the baseline description (Section 4), and the content of this EMP. The assessment covers the following broad topics: physical destruction of biodiversity and related functions, impacts on surface water resources as an ecological driver, and general disturbances to biodiversity.

Table 7: Physical disruption of biodiversity - linked to all phases the proposed activities

Issue	Management commitment	Phase
Physical disruption to biodiversity by Staff	The Principle of zero tolerance to killing and collecting of biodiversity i.e. no poaching (including collection firewood) will be allowed and poaching offenders will be prosecuted.	All
Physical disruption to biodiversity by infrastructures	Upon completing construction, initiate restoration of all infrastructure including roads areas that were only impacted during construction and will not be required for farming operation	Operation, decommissioning and closure
Emergency	Certain instances of injury to animals may be considered emergency situations. These will be managed in accordance with the Ewe-Retu emergency response procedure.	All
Responsibility	The Proponent (Ewe-Retu Kindergarden)	

5.3 WATER RESOURCES MANAGEMENT AND MITIGATION

5.3.1 ISSUE: POTENTIAL CONTAMINATION OF GROUNDWATER

Water supply to the project site is by borehole drilled to the Ministry of Agriculture, Water and Land Reform Standards, and currently stored in 5000 liter tanks. The borehole and the watercourse it situated is about a kilometer away from the kindergarden site and thus no direct potential impact of contamination.

Further, none of the activities undertaken at the kindergarden present any risk of pollution as no hazardous substances are stored or handled at the facility. Power to the kindergarden is provided through a pre-paid connection to the national NamPower grid, hence there are no use of fuel-powered generators or storage of hydrocarbons onsite.

Table 8: potential groundwater contamination – linked to operational phases of the proposed activities

Issue	Management commitment	Phase
Use of hydrocarbons or fertilizer that may contaminate groundwater	Do not place service infrastructure in ecologically sensitive areas, or where soils are prone to pollution which may result in groundwater contamination	Operation
Natural flow of storm water (clean and dirty)	Design all storm water interventions in such a way that storm water can bypass the major structures.	Operation
	Ensure that these facilities are designed, constructed and operated that flood protection is provided.	Operation
Responsibility	The Proponent (Ewe-Retu Kindergarden)	

5.4 AIR AND NOISE MANAGEMENT AND MITIGATION

5.4.1 ISSUE: AIR AND NOISE POLLUTION

Although the kindergarden host a small vegetable garden, the scale of the garden and nature of gardening activities undertaken is so small that no dust or noise from heavy machineries shall be generated. Therefore under both the unmitigated and mitigated scenarios the impacts on sensitive noise dust receptors are very low in nature, extent and magnitude.

Table 9: Air and Noise pollution – linked to all phases of the proposed activities

Issue	Management commitment	Phase
Air pollution impact to nearby Human community	Maintain seasonal cultivation of large crop field with mechanized implements, otherwise all gardening activities shall be conducted manually to reduce dust generation	All
Impact of noise on the environment/ sensitive receptors	Document and investigate all registered complaints and make efforts to address the area of concern where possible. Noise levels generated by the kids playing are generally low.	All
Responsibility	The Proponent (Ewe-Retu Kindergarden)	

5.5 SOCIO-ECONOMIC MANAGEMENT AND MITIGATION

5.5.1 ISSUE: ECONOMIC IMPACTS ON LOCAL NON-FARMING LIVELIHOODS

The activities associated with the Ewe-Retu Kindergarden project have mainly positive socio-economic in all phases of the project. These impacts related to amongst others employment/job creation, local and regional economies, land use and surrounding landowners and community safety and security. During the construction phase Ewe-Retu Kindergarden may at a minimal provide job opportunities to the local community. This EMP aims to provide measures to enhance the positive impacts and limit the negatives impacts.

Table 10: Health and safety – linked to all phases of the proposed activities

Issue	Management commitment	Phase
Impacts on livelihood resettlement	Engage with the affected communities through a process of informed consultation and participation to reach consensus on any activities that affect them.	All
	Provide affected people with necessary transitional support (such as short-term employment, subsistence support, or salary maintenance).	All
Impacts on Health	Preparation of a health and safety plan for workers and impacted communities addressing issues including education on measures to prevent the spread of disease outbreaks through awareness campaigns, provision of safety equipment for the staff and temporary workers, child labor prohibited	All
Responsibility	The Proponent (Ewe-Retu Kindergarden)	