

Environmental Scoping Report and Environmental Management Plan for Mooring and Houseboat Camping at Kanywamenzi Island, Kasika area, Zambezi Region



February 2024

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Project Information

Project Title	Environmental Scoping Report and Environmental Management Plan for Mooring and Houseboat Camping at Kanywamenzi Island, Kasika area, Zambezi Region	
Review versions	Version	Date
	0	01 March 2024
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Executive Summary

The Zambezi Queen Collection utilizes the Kanywamenzi Island for mooring of three Chobe Princesses houseboats (1, 2 and 3). The significance of these tourism activities to Namibia cannot be undermined, and are more felt in rural areas where there are less alternative livelihood opportunities except conventional subsistence farming of livestock and crops as well as fishing. These operations are conducted under a lease by the Proponent of the island from the rightful land title holders for a period of 30 years since 2005.

Tourism activities as a listed activity has potential to cause environmental degradation but also stir social problems in community if not well approached. Therefore, while these operations have been ongoing since 2005, it has deemed necessary that the sub-activity involving the mooring and houseboat camping on the referred island, comply with the requirements of the Environmental Management Act (No. 7 of 2007). Following on this background, this report consolidates a report on the environmental and social scoping assessment and development of an environmental management plan for the mooring and camping of houseboats on the shoreline of Kanywamenzi island on the Chobe River, in the Kasika area of the Zambezi region. The assessment was undertaken by Namib Consulting Services for the Mr. Ernest Sihope Sikanda.

It is described in this assessment that the scope of the activities involves the mooring and camping of the houseboats on the shoreline for up to four (4) days during leisure cruises. During such cruises, the houseboats are attached to structures prior installed on the island with attached ropes extending to the shoreline where these attaches to the houseboats upon arrival in the area. Once attached, the boats remain stationery for the duration of the days, allowing the crew to view wildlife on the opposite bank of the Chobe, in Botswana's Chobe National Park. No direct activities occur on the island during the days when the houseboats are anchored while serving of basic services continues on the houseboats.

The mooring and camping activities while present positive benefits, these also have potential to inflict environmental degradation and cause for social problems. Subsequently, the assessment identified beneficial as provision of employment to the areas of Kasika, support to the landowning families but also beneficial use of the island. On the other hand, potential adverse impacts were acknowledged as lack of tangible benefits to the direct community of the area, triggering human and wildlife conflicts, alter wildlife behaviour or disturbance in the area and further potential pollution of on and off shore resources. The evaluation of these identified impacts led the identification of prevention and mitigation measures composed in an implementation schedule of the environmental management plan to eliminate or lessen severity whilst enhance the positive impacts.

It is the conclusion of this assessment that the stated activities have been undertaken with care to the environment since their inception, however the developed measure in the environmental management plan shall ensure continuous and consistent approach to environmental protection whilst also further cordial relation with the families and community during lease period of the island for mooring and houseboat camping.

Premised on the developed environmental and social management plan for the issues identified and raised in the assessment process, these provide confidence that if well implemented, the island environment will be preserved and social development delivered to the families and community of the area. Subsequently, it is recommended that this report is considered and an environmental clearance certificate issued for continued operations on the island.

Table of Contents

Executive Summary	1
Abbreviations	1
1. Introduction	2
1.1 Background	2
1.2 Locality Description	2
1.3 Land ownership	3
2. Project Scope and Terms of Reference	3
3. Project Motivation	3
4. Project Description	3
4.1 Houseboat Mooring	3
4.2 Camping	4
4.2.1 Camping	4
5. Biophysical Description	5
5.1 Introduction	5
5.2 Hydrology	5
5.3 Soils	6
5.4 Biodiversity	6
5.4.1 Fauna	6
5.4.2 Flora	7
5.5 Socio-Economics	7
6. Stakeholder Consultation	7
6.1 Introduction	7
6.2 Participation Process	7
6.2.1 BID Preparation	7
6.2.2 Public Notifications	8
6.2.3 Print Media Placement	8
6.2.4 Notice board placements	8
6.2.5 Direct Communication	8
6.2.6 Public Participation Meeting	8
7. Review of Legal Framework	9
8. Impact Assessment	11
8.1 Introduction	11
8.2 Impact Identification	11
8.2.1 Positive Impacts	11
8.2.2 Adverse Impacts	11
8.3 Impacts Evaluation	12
8.3.1 Evaluation Methodology	12
8.3.2 Impact Significance Evaluation	13
9. Environmental Management Plan	14
9.1.1 Identification of Mitigation/Enhancement Measures	14
9.1.2 Re-evaluation of Impacts	15
9.2 Implementation Plan	15
9.3 Reporting	17
10. Conclusion and Recommendations	17
10.1 Conclusions	17
10.2 Recommendations	17
References	18
Appendices	19

Abbreviations

CP	Chobe Princes
CNP	Chobe National Park
ECC	Environmental Clearance Certificate
EIA	Environmental Impacts Assessment
EMP	Environmental Management Plan
IUCN	International Union for Conservation of Nature
KAZA	Kavango Zambezi Transfrontier Conservation
VDC	Village Development Committee

1. Introduction

1.1 Background

Mr. Ernest Sihope Sikanda here on referred in the report as Proponent leases a portion of land here referred as Kanywamenzi Island, that is utilized by Zambezi Queen Collections for mooring of houseboats. The houseboats operate by receiving guests at base station located on the shores of Impalila Island. The boats undertake a route in the Chobe River westwards reaching the shores of Kanywamenzi island where upon are anchored. The boats remain on the shores for some limited days and thereupon return to base station. The anchoring of the boats is part of tourism activities and thus fall in the ambit of those listed under the Environmental Management Act (No. 7 of 2007), and more specific under regulations 6 of the Environmental Assessment Regulations (GN No. 29 of 2012).

Premised on the above background, the Proponent enlisted the services of Namib Consulting Services CC to undertake the environmental impacts assessment (EIA) process towards an application for an Environmental Clearance Certificate for the purpose of mooring and camping of the houseboats on Kanywamenzi Island. This report therefore consolidates the environmental scoping and draft environmental management plan for the ongoing mooring and camping of houseboats on the referred island.

1.2 Locality Description

Kanywamenzi Island is located on the Chobe River some 40km east of Ngoma and about 15km west of Impalila island in the area of Kasika. The area of the island comprises approximately 4 hectares of land during the dry season and is entirely submerged during the high flood events. Located on the Namibian side, the position of the island provides an invaluable point for tourism related activities offering a good view point for watching wildlife on the island itself and but more across to the Chobe National Park (CNP) Elephant bay in Botswana. See Figure 1:1 for the location of the island.

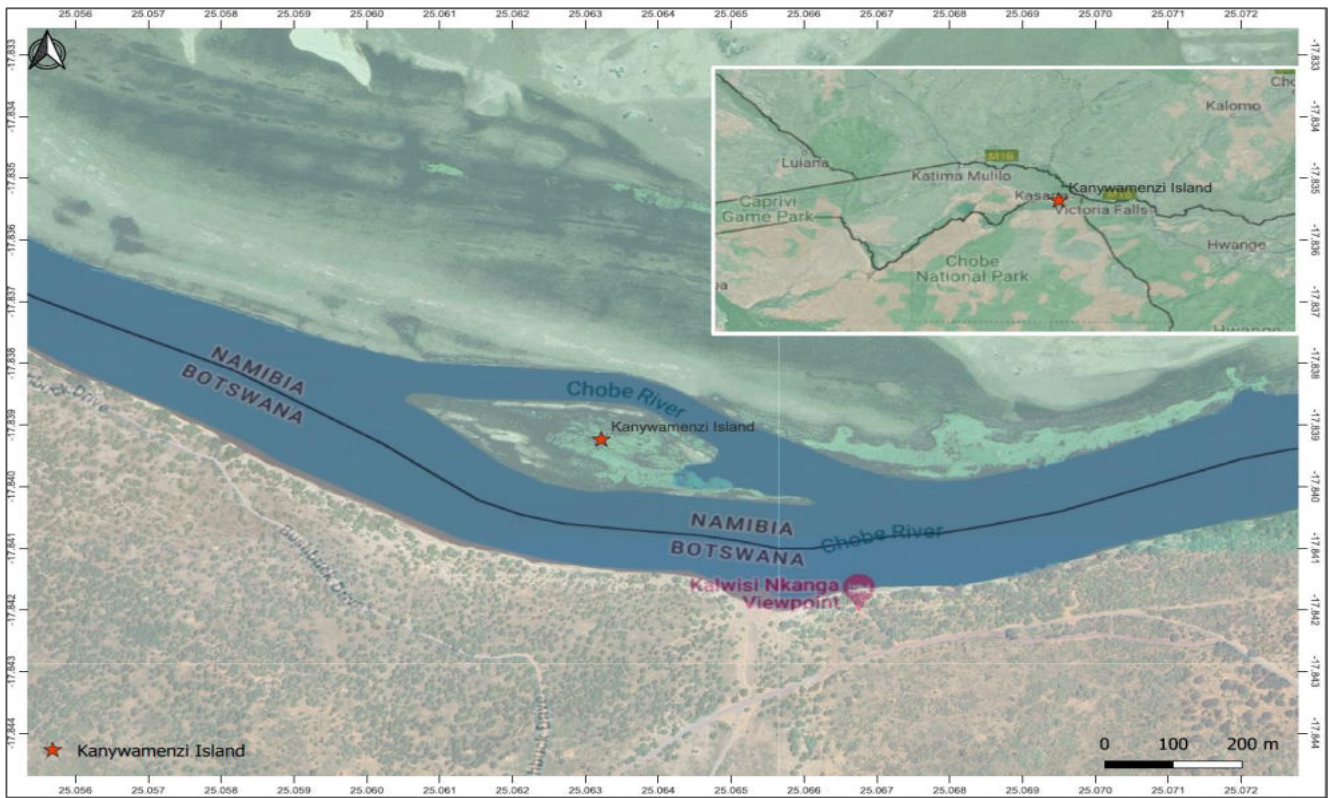


Figure 1:1 locality of Kanywamenzi island on the Chobe River

1.3 Land ownership

The proponent comes a long way in using the island for the stated activities, however had previously aligned such with the requirements of national Legislation in terms of listed activities. The referred island belongs to the clan family of Libuku and thus an agreement in a letter dated 10 October 2009 was produced as tangible agreement of the families of Libuku and Munyemi encompassed under the clan name. Moreover, their decision is affirmed by a letter of the Traditional Authority (the Munitenge Royal Establishment or also known as the Masubia Traditional Authority) formalizing lease to the Proponent for a period of 30 years as per a letter dated 2nd November 2006. This was further supported by the Kasika Conservancy in their letter of October 2008, asserting the decision for use of the island for mooring of houseboats under auspices of tourism activities (See Annexure 1 (a), (b) and (c)).

Premised on these annexures, the Proponent holds existing lease rights for use of the land for the stated purposes of houseboat mooring.

2. Project Scope and Terms of Reference

As per the screening notice issued by the Office of the Environmental Commissioner under the Ministry of Environment and Tourism, the scope of the activities includes the following key steps; preparation of a scoping report, undertaking of stakeholder consultations and drafting of an environmental management plan.

Subsequently, the terms of reference for the Environmental Practitioner are outlined as to prepare and develop key documents (i.e. scoping report, stakeholder participation process and record of minutes and comments and the development of an Environmental management plan), towards providing comprehensive information for the referred authority office to consider and decide on the application for an ECC.

3. Project Motivation

The significance of the tourism industry to Namibia cannot be overstated, and this is felt more in rural areas where alternative livelihood opportunities are limited from conventional subsistence farming of livestock and crops as well as fishing. However, conservation and associated tourism activities has ascended as a significant alternative. This is true for communities of Impalila and Kasika where the operation of several land based tourism facilities as well as shore-based activities provides opportunity for employment. Moreover, some families survive from leasing of unutilized portions of land towards tourism or other activities to gain income in lease fees towards support for their livelihoods.

Despite these positive outcomes from tourism activities, it is obligatory that listed activities under the Environmental Management Act (No. 7 of 2007) and its regulations comply in their operations. Therefore, this project responds to the obligation to comply with provision of the EMA and its regulations whilst ensure social and environmental sustainability.

4. Project Description

The envisaged activities involve mooring and houseboat camping on shoreline of the Kanywamenzi Island on the Chobe River.

4.1 Houseboat Mooring

The Zambezi Queen Collections operates four houseboats on the Chobe River, namely Zambezi Queen, Chobe Princes One (CP-1), Chobe Princes Two (CP-2) and Chobe Princess Three (CP-3). The three Chobe Princesses operate similar routes although each has its own mooring point on the shoreline of Kanywamenzi island. The three houseboat routes are operated different from the immense Zambezi Queen and thus the latter is not covered in this assessment.

The resting or base station of the houseboats is on the shoreline of Impalila island, whereupon receiving guests, the CPs individually travel on the Chobe westward towards the island, a journey of a few hours.

Since 2003, three anchors with attaching ropes had been erected on the Kanywamenzi island to secure boats on arrival on the shoreline. The erected anchoring structure had consisted of dug up hole of up to 1.5 meters, inserted a spiked metal and cementing with concrete. These structures are invisible on the surfaces except the attached anchoring ropes. The attaching ropes are constantly maintained by replacement over years without much works to the buried subsurface anchor (See Figure 4:1).



Figure 4:1 Anchoring ropes for Houseboats

Each houseboat on its cruise route attaches to these ropes on its own mooring point on arrival on the shoreline.

4.2 Camping

4.2.1 Camping

Once the houseboats are anchored on the shoreline, these remain on these points for up to a maximum of four (4) days, referred as camping on the shoreline of the island (see Figure 4:2). While camped on the shoreline, the houseboats provide a spectacular point to view wildlife on the banks of the adjacent Chobe National Park of Botswana, although minimal wildlife activities may also be found on the island itself.

Houseboats guests are restricted from disembarking and movement on the island and to this, Zambezi Queen Collections offers walking routes on the main shores in the area of Kasika and Impalila upon completion of the houseboat camping at Kanywamenzi.

Upon end of the camping, the arriving ropes are loosened and the houseboats undertakes a route back to base at Impalila island.



Figure 4:2 Houseboat camping on the shoreline of Island

While camped, the houseboats provide basic services such as meals to onboard guests for the duration of the days. Waste in forms of solid and wastewater are collected and stored onboard the houseboats. There is minimal interaction with the island except anchoring to the end of the camping and travel back to base.

5. Biophysical Description

5.1 Introduction

Kasika is located on the extensive floodplain of the Zambezi-Chobe system. The area borders Kasikili (Sedudu) Island and Chobe National Park in Botswana. This features make this area of significance both environmentally and socio-economically. Considered together as similar environment to the Impalila Island the biophysical setting of the area is described below.

5.2 Hydrology

The drainage of the far eastern parts of the Zambezi region is characterized by an extensive floodplain, with approximately 30% of the eastern parts of the region at risk of flooding in any given year (Mendelson and Roberts, 1997). The Chobe swamp and River joins the Zambezi River on the border with Botswana and Zimbabwe (IWRM Plan for Namibia Report, 2010). The Kasika area is located 10 km southwest of Impalila Island entirely in the extensive floodplain of the Chobe. The Chobe River like the Zambezi River that it merges into are slow flowing with large floodplains and small, vegetated islands, with the only rapids being at Katima Mulilo and Impalila Island (WWF, 2007).

The Chobe River is a complex system forming a meandering border between Botswana and Namibia and it consisting of the main channel, flood plains, back waters and side channels and many islands depending on the season of the year. Kanwyamenzi Island is one of the islands found on the Chobe river just a few kilometers from Kasikili island and adjacent to the CNP. The river is narrower southwest near Ngoma but develops into a wider and deeper from Kasika in a northeast direction., The mainstream has a low gradient and water velocity is low. The direction of the water flow changes seasonally depending on the floods. During high floods when the Zambezi is over flowing, the water may be pushed back up southwesterly to Lake Liambezi and however the filling of Lake Liambezi creates a reverse flow that joins Zambezi river.

Rivers are critical to the survival of important wetlands providing clean water if unpolluted and support resources such as fish populations. Water quality of the Zambezi and Chobe River is less extensively studied, thus limited published literature exists. However, negligible available literature echoes declining water quality over many years of human settlement along the river. While the Zambezi River may appear less impacted due to its perennial nature, this is less so for the Chobe system which in drier month of the year is fragmented reducing its water quality to a muddy appearance and hugely maintained by a reverse flow fed by the Zambezi River. However, experiencing different levels of flooding on a year to year basis, the water quality of the extensive Zambezi-Chobe River system can be said to be fairly of good quality and many rural communities along the river draw and consume without much treatment. This is echoed in the IWRM Plan for Namibia Report (2010) highlighting that the northern perennial river of Namibia and associated wetlands have yet been polluted extensively, with their exceptional diversity of fauna, these systems continue to retain their natural cleansing processes and cycles such that water is classed as excellent and flood cycles largely unregulated.

5.3 Soils

As part of the extensive Kalahari basin that formed over 130 to 180 million years, much of the soils of the region characterized by sand shaped into dunes. To a great extent the soil texture determines the classification of the soil, with much of the flood-prone areas characterized by high clayish to sand content, and those westward of the region more sand content (Mendelson and Roberts, 1997).

5.4 Biodiversity

Locally the Kasika falls within the registered Kasika Conservancy, while regionally under the extensive Kavango Zambezi Transfrontier Conservation (KAZA) area, evidence of the biodiversity value of the area. Closer assessment of the biodiversity of the area is provided below.

5.4.1 Fauna

(a) Mammals

The Kasika conservancy lists among large mammals found in their conservation area the following species Elephant, buffalo, hippo, lechwe, sitatunga, waterbuck (NACSO, 2012). Much of these mammals are listed as specially protected or protected species under the Nature Conservation Ordinance (No 4 of 1975) however, of the list of these mammals, the Hippo is the only listed among threatened species on the IUCN Red List Reptiles.

(b) Amphibians

Without limitation to the Zambezi –Chobe, but an extensive connected system including the Kwando-Linyanti when flooded is pronounced as having three-quarter of all known frogs found in Namibia. According to AWF (2004), no amphibian species from the “four Corners area” appear on the 2002 IUCN Red List of Threatened Species.

(c) Birds

The water channel along confluence of the Zambezi/Chobe River provide habitat for many federally threatened bird species. The area is renowned for its high diversity of wetland birds. More than 44 species belonging to 17 different families has been recorded within the limits of its borders making it a great birding destination for tourism. Avitourism is one of the faster growing subsectors of ecotourism, recognized for its economic value. Birdwatchers are a diverse group, some of whom competitively seek vagrant birds (i.e., birds outside their normal geographic range). Notable bird's species around the Zambezi/Chobe area includes the little egret, squacco heron, black heron, cormorants, African darter, Blacksmith lap-winged plover, African skimmer, different geese species and the Pied king fisher. Birdlife is especially rich where permanent water is present. There are many fish eagles on the river, and their call is one of the most iconic sounds of Africa. Potential species includes skimmers along the sand banks, making a sighting particularly exciting for southern Africa bird watchers. Most wetland bird's dwells on small fish, making wetlands ecologically and biologically important. In addition to food source, wetlands of the Zambezi/Chobe Rivers are idyllic breeding sites and pass ways for migratory birds such as the heron, skimmers and the yellow billed storks. As a result, wetlands within the marginal border of the Zambezi/Chobe River must be viewed as important sites for future conservation of migratory birds.

(d) Fishery

The Chobe Rivers is rich in fish species diversity with more than 80 species identified from the Namibian section of the system. The annual flood cycle is the main stimulant for fish production and any changes to the hydrology will seriously influence the fish stocks. Similarly, any artificial changes to the habitats may negatively impact on the fish population. Species diversity and species composition differ between areas as well as during the different flood periods along the Chobe river due to habitat differences, breeding and migration behavior of the different species. (Hay et al 2009). Cyprinids, Cichlids, Characins, Mochokidae, Claridae, Mormyridae and Schilbe dominate the fish fauna. The most common species consists mainly of cichlids: *Oreochromis andersonii*, *Oreochromis macrochir*, *Coptodon rendalli*, *Serranochromis spp*, *Clarias gariepinus* and *C. ngamensis*, smaller species such as *Schilbe intermedius*, *Marcusenius altisambesi*, *Synodontis spp*, *Brycinus lateralis*, small *Barbus*. *Hydrocynus vittatus*, *Oreochromis andersonii*, catfish, Nembwe and dusk breams are the target recreational species for tourists who practice catch and release. The Chobe river is also home to the voracious and fierce Tigerfish known for its sport and recreational fishing.

5.4.2 Flora

The vegetation of the area of Kasika is categorised by Mendelson and Roberts (1997) as Chobe wetland extending from Ngoma towards Impalila Island. The authors describe this group of vegetation as mainly dominated by various aquatic grasses and reeds, with the species *Cyperus papyrus* forming large floating mats. Woody species are rare to find but only on well-developed river banks. The

5.5 Socio-Economics

Kasika comprises an area of approx. 147 square kilometers and part of the Kabbe South Constituency of the Zambezi region. It has a population estimated at 1100 people with majority of the people surviving through a diversity of subsistence activities including crop production, fishing, livestock keeping and selling of thatching grass and reeds (NACSO, 2012). Employment opportunities are less available but mostly in tourism and remote located public services such as Education and Health sector.

6. Stakeholder Consultation

6.1 Introduction

Stakeholder consultation provides an opportunity for interested and affected parties (I& APs) to get detailed information about a proposed activity and therefrom serve an opportunity to submit comments and views. While consultations are a critical step in the planning stage of a new development, the value of the process can still be harnessed even for projects already in operating stage of the project to ensure that concerns raised by I&APs are addressed.

6.2 Participation Process

The following process was undertaken in the public participation process;

- (a) Background Information Document (BID) Preparations
- (b) Public notifications
- (c) Public Participation Meeting

6.2.1 BID Preparation

A BID was prepared to provide a brief summary of the available information of the proposed activity requiring upon which an application will be made to the Office of the Environmental Commissioner (see Appendix 1).

6.2.2 Public Notifications

Notification to I&APs took several forms, including; print media placements, placement on notice boards, and direct communications.

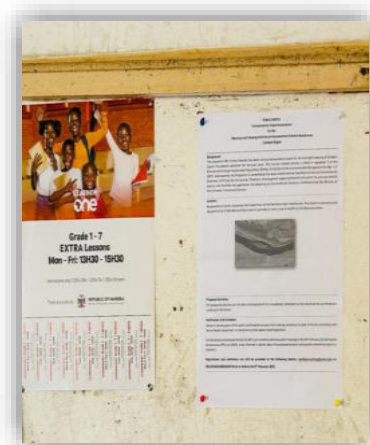
6.2.3 Print Media Placement

The notifications were placed in the following nationally circulated print media. See Annexure 2 for these placements.

Media	First Week Date	Second Week Date
New Era Publication	22 January 2024	29 January 2024
Windhoek Observer	22 January 2024	29 January 2024

6.2.4 Notice board placements

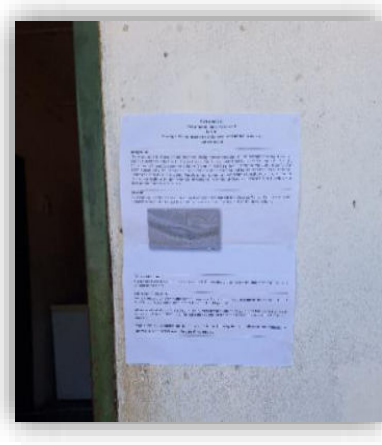
information posters were placed at several places as notification to communities of the area of Kasika and surroundings areas. These notifications are provided figure X below.



Kasika Primary School Notice Board



Impalila Immigration Notice Boards



Kasika Conservancy Office

Figure 6:1 Public notice board placements

6.2.5 Direct Communication

Communicating was made with the traditional authority as well as the conservancy office of Kasika of the planned consultation meeting on the use of Kanywamenzi Island.

6.2.6 Public Participation Meeting

A stakeholder consultation meeting was held on the 8th of February 2024 to engage the communities in information sharing and to express their opinions on the envisaged project (See Figure 6:2).

The comments received from the are included in Table 6:1 below and Appendix 3.

Table 6:1 Summary of public comments and feedback

Comment/Concerns	Feedback
<ul style="list-style-type: none"> i. The community indicated that there was need that the proponent be in the meeting to provide better clarifications where the community may need. ii. There is need for the proponent to revert to the landlords and have consensus on the operation 	<p><u>Proponent presence</u>: although it can be beneficial, it is not a requirement for the proponent to be present. The consultants are independent and need to conduct consultation in an independent process on a platform that provide for open expression without fear. Issues raised by</p>

<p>going forward given that there may be family concerns that need be heard and discussed to find way forward on how to operate. There is reservation on transparency in terms of the leases.</p> <p>iii. There is indication of camping on the island that is in the BID, which seems to be a new activity, that wasn't agreed upon with the family that leases the land. If this is the case, then it is really necessary that the proponent reverts to the owners.</p> <p>iv. There is grave concern on the benefits which are not tangible to the community of Kasika. There are none from the area that work on those boats from youth to able elders. This is matter that needs urgent attention if any allowances can be made under current use without any new activity considered.</p>	<p>the community will be submitted to the proponent to consider and address as necessary.</p> <p><u>Proponent engagement of the landowners:</u> the advice of the proponent engaging the landlord families will be submitted to the proponent. We as consultants only work on project after assurance of secure land rights are presented. The proponents submitted letters that we can provide that indicate lease; from the Bukalo Khuta and supporting letter from Kasika conservancy. Without these assurances we do not accept to work on projects.</p> <p><u>Camping on the island:</u> this is an activity that is not possible and the proponent has been advised, despite it being in the BID. However, we will get clarity on what sort of camping is being referred.</p> <p><u>Community beneficiation:</u> this concern is well received and will be submitted with seriousness to the proponent to act upon.</p>
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Figure 6:2 Public meeting at Kasika Conservancy Office

7. Review of Legal Framework

The following instruments have been considered of relevance to the activity and thus their applicability evaluated in table

Figure 7:1 Relevant legislations

Legislative Instrument	Requirement	Applicability
Namibian Constitution (1990)	Article 95 on maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources in a sustainable way for the benefit of all Namibians, both present and future.	A relatively high level of environmental protection is called for in respect of pollution control and waste management and protection of natural resources
Environmental Management Act No. 7 Of 2007 And	Aims to promote the sustainable management of the environment and the use of natural resources. further	As listed activity this project is to align with the requirements

Environmental Impact Assessment Regulations GN of 2012 and	provides for a process of assessment and control of activities which may have significant effects on the environment. The Act and its regulations prescribe the requirements for obtaining an ECC for listed activities.	to conduct an EIA process and the application for ECC, and important to the process is the prescription on the public consultation process.
Environmental Assessment Policy	Prescribes the steps in the environmental impact assessment process.	The process of EIA to align in accordance with the prescribes steps
Inland Fisheries Resources Act 1 of 2003	Provides for the conservation and protection of aquatic ecosystems and the sustainable development of inland fisheries resources; to provide for the control and regulation of inland fishing; and to provide for related matters.	Management, protection and conservation measures of the fisheries
Water Act No. 54 Of 1956 (The Water Resources Management Act No 11 of 2013)	Institutions responsible for an activity with potential for pollution to take necessary steps to prevent occurrence. Handling and treatment of effluent requires a permit.	Take all necessary efforts to prevent the pollution of the water source.
Labor Act Of 2007	The objectives of the Act are to ensure the health, safety and welfare of employees but also outlines the rights and obligation of employers.	The health and safety of workers throughout the waste management chain need to be assured.
Soil Conservation Act 76 of 1969	Intends to combat and prevent soil erosion, and for the conservation, protection and improvement of the soil, vegetation and the sources and resources of the water supplies. Under section 4 the Minister may by means of a direction order the owner of land to construct the soil conservation works.	Ensure project designs consider soil stability to prevent erosion processes.
National policy on human-wildlife conflict management, 2009	To provide the framework for addressing human-wildlife conflict efficiently and effectively in order to promote both biodiversity conservation as well as human development.	Organizations, companies, State agencies including regional councils and parastatals and local development partners engaged in, planning or supporting land uses that might be affected by HWC must carry out appropriate measures to assess the likely extent of such conflict and to put in place appropriate mitigating measures.
Communal Land Reform Act 5 of 2002 (section 30)	To provide for the allocation of rights in respect of communal land; to establish Communal Land Boards; to provide for the powers of Chiefs and Traditional Authorities and boards in relation to communal land; and to make provision for incidental matters.	Granting to a person a right of leasehold in respect of a portion of communal land
Public and Environmental Health Act (No.1 Of 2015)	Provides a framework for a structured uniform public and environmental health system in Namibia	All waste disposal, sanitation, supply of foods by commercial entities must be in accordance requirements of the act. More, so the act provides for the local authority to carry out the activities of waste collection, and disposal including recycling and operating a waste site.
National Solid Waste Management Strategy	The strategy aims to strengthen institutional and legal framework for management of solid waste serving as a	Consider the principles of waste management in setting

	guide to institutions such as local authorities on sound waste management practices.	up measures for management of solid waste.
Nature Conservation Ordinance (No. 4 Of 1975) and It Amendment Act of 1996	List wildlife species under protection and activities allowed and not allowed when in area with wildlife.	Where wild animals exist in the area, the requirements of the act to be adhered relating to handling such wildlife.
Convention on Biological Diversity (CBD)	Namibia is obliged under international law to conserve its biodiversity.	Projects should consider actions where the envisaged activity may cause damage to biodiversity.

8. Impact Assessment

8.1 Introduction

Impacts of the existing operations were identified through a process involving;

- A public consultation meeting
- Site inspections visits
- Academic knowledge and professional experience in the field

Subsequently, the impacts are identified in the section that follows.

8.2 Impact Identification

Premised on the above presented techniques the following positive and adverse impacts are identified on the activities associated with the activities.

8.2.1 Positive Impacts

(a) Employment creation

The operation of the CP houseboats serves to provide employment that is much needed in the rural areas where opportunities are limited. Each of the CPs employs five crew member aboard from the local community. The crew staff include a captain, a chef, two guides and a housekeeper.

(b) Provide Support to landlords

The mooring of CPs on the Kanywamenzi island is on basis of lease to the families that holds land ownership rights. Such therefore is on basis of support both in kind and financially to the families.

(c) Support to community and conservancy

The community and conservancy of Kasika has potential to benefit from the use of the islands shoreline for mooring.

(d) Beneficial Utilization of idle land

The nature of the referred island in that it is submerged in wet season, and sometimes entirely in times of high floods, and only appears in dry seasons makes it unsuitable for any other human uses but suitable for current activities. It is therefore that the present use provides the most suitable use of land that would otherwise be idle or unusable for any other uses.

8.2.2 Adverse Impacts

(a) Disturbance to wildlife in the area

The presence of the houseboats anchored on the houseboats may potentially present a disturbance to the wildlife in the area and thus a nuisance.

(b) Human wildlife conflicts

The presence of the houseboats on the island has potential to trigger incidences for human wildlife conflicts as animals may be incensed.

(c) Potential pollution of the shoreline and island

The presence of the houseboats on the shoreline could found as convenience to offload or discharge waste from the houseboats onto the island either accidentally or intentionally. Moreover, the may be leaks of wastewater from the boats while stationery into the water.

(d) Blockage to movement of wildlife

The stationery location of the houseboats on the shoreline of the island can be a cause for blockage of the movement of wildlife relative to the case where such are not in the area.

(e) Lack of employment benefits of the Kasika communities in employment

Despite the operations employing local persons in the houseboats, the community of Kasika strongly emphasized that these are mostly from the Impalila areas, as such there is no benefits they receive from the operations and this is not acceptable.

8.3 Impacts Evaluation

8.3.1 Evaluation Methodology

A common tool applied in the evaluation of impacts of proposed developments activities are matrices. These present a set of measurement standards or parameters upon which to determine if a certain impact has significance that is of positive or negative nature. Parameters utilized in the evaluation may include the following; nature of the impact, the extent, duration, intensity, the probability, and significance of a potential impact or risk on the environment, society and economics and whether such effects are positive (beneficial) or negative (detrimental). This section focuses on evaluation of impacts and risks identified.

Each of the parameters (Extent, Intensity, Probability and Significance) are explained in the Table 8:1, while Table 8:2 provides the significance level measurement.

Table 8:1 Description of impact evaluation parameters

Criteria	Rating	Description Of Impact Level
Nature	+Ve	Impact has advantages to the project or receptor
	-Ve	Impact has disadvantageous to the project or receptor
	=	Impact is neither beneficial or adverse to the project or receptor
Extent	4	National to international. Activity has impact of national interest and potential for international
	3	Regional to national Scale: The impacts scale has regional interest with potential for more neighbouring regions
	2	Local Scale: the impact scale is beyond a locality and up to radius of 5km away from site.
	1	The impacts are restricted to a specific site/locality/point
Duration	4	Permanent: The impacts are longer terms lasting beyond human lifetime or in such a time span that the impact cannot be considered transient.
	3	Long-term: The impact will continue/last for the entire operational life of the development or implemented concept but has potential to change should the development cease either by direct human action or by natural processes thereafter.
	2	Medium-term: The impact will last for the period of project implementation, however will be negated upon cessation of project activities.
	1	Short-term: The impacts are negligible and disappear with mitigation or will be mitigated through natural process in a shorter span, or the impact timeframe may be unmeasurable.

Intensity	+3	Major positive benefit. The change becomes part of natural, cultural, and social functions and processes permanently.
	+2	Significant improvement in status quo. the change to natural, social and cultural systems to the extent that they are temporarily altered, and remain reversible if not maintained.
	+1	Improvement in status quo. the impacts have negligible change to social, cultural and environmental systems.
	0	No change in status quo. May be not applicable or measureable
	-1	Negative change to status quo. The impacts have negligible negative change to social, cultural and natural systems.
	-2	Significant negative disadvantage or change. The impacts have considerable change to social, cultural and environmental systems.
	-3	Major disadvantage or change. Natural, cultural, and social functions and processes are altered to extent that they permanently cease or change is harmful.
Probability	4	Definite - Impact will certainly occur
	3	Highly Probable - Most likely that the impact will occur
	2	Possible - The impact may occur
	1	Likelihood of the impact materializing is none existent
Significance	<p>Significance Formula: The calculation of significance first takes to accumulative the scale of Extent and Duration of the impacts and multiply these by intensity of the expected change thus the cumulative Magnitude of the impacts. The accumulated Magnitude is further multiplied by the probability of the impact taking place to determine the Significance of the impacts from a specific activity as below:</p> <p>Cumulative Magnitude [(Extent + Duration) x Intensity]</p> <p>Significance = Cumulative Magnitude X Probability</p> <p>The Significance is rated on scale to determine its level and thus determination of the level of attention through prevention/Reduce/mitigate or other necessary for negative impacts, while on the other hand finds ways to elevate less significant positive impacts.</p>	

Table 8:2 Impact significance evaluation

Scale	Significance level	Description
+79 to +96	Extreme Positive Impact	Activity/Impact is critical towards attainment of the overall developmental objectives.
+ 53 to + 78	High Positive Significance	Activity/Impact is very important to achievement of the project objectives.
+ 26 to + 52	Medium Positive significance	Activity/Impact requires no enhancement measures however may be advantageous to achieve project success
+1 to +25	Low Positive significance	Activity/Impact requires some enhancement to ascertain impact towards delivery of project objectives.
0	Neutral	Activity/Impact is indifferent to the outcomes
-1 to -25	Low Negative Significance	Activity/Impact requires no proactive intervention, however may be advantageous where identified.
- 26 to -52	Medium Negative Significance	Activity/Impact requires a minimum of ongoing monitoring to dispel any potential elevation of risks.
- 53 to - 78	High Negative Significance	Activity/Impacts requires mitigation/prevention, or avoidance measures
-79 to -96	Extreme Negative Significance	The activity requires review for redesign prior the implementation. Any activity which results in a "Extreme Negative impact" is likely to be a fatal flaw.

8.3.2 Impact Significance Evaluation

Premised on the methodology of Tables 8:1 and 8:2, Table 8:3 further evaluates the significance of the identified impacts and risks.

No	Impact/Risk	Impact Nature	Extent	Duration	Intensity	Probability	Significance
1	Employment creation	+Ve	3	3	+3	3	+54
2	Support to land tenancy		2	3	+3	3	+45
3	Support to community and conservancy		2	3	+3	3	+45
4	Beneficial Utilization of idle land		1	3	+2	3	+24
5	Disturbance to wildlife in the area	-Ve	1	3	-1	4	-16
6	Generate human wildlife conflicts		2	3	-3	2	-30
7	Potential pollution of the shoreline and island		4	3	-3	2	-42
8	Blockage to movement of the wildlife		1	3	-2	2	-16
9	Lack of employment benefits of the Kasika communities in employment		2	3	-3	4	+60

9. Environmental Management Plan

9.1.1 Identification of Mitigation/Enhancement Measures

In table 9;1 below, measures are identified for enhancement of the positive impacts whilst further identified to mitigate the identified adverse impacts. The identification considers feasibility both cost wise and tangibility of the measures to alleviate the impacts.

Figure 9:1 Identification of impacts mitigations and enhancement measures

No	Impact/Risk	Impact/Risk Type	Identification of Mitigations/enhancement measures
1	Employment creation	Social and Economic	Tenancy arrangements are revived and agreed with the landlords for continued operation and thus provide for creation of employment and thus alleviate this problem in the region.
2	Support to land tenancy	Social and Economic	Guarantees are arrived with the landlord on fair beneficitation from the lease of the island for the remaining term.
3	Support to community and conservancy	Social and Economic	The Proponent engages the conservancy to build a trusting relationship and indicate where the operations can support their conservation efforts.
4	Beneficial Utilization of idle land	Social and Economic	Tenancy arrangements are revived and agreed with the landlords for continued operation.
5	Disturbance to wildlife in the area	Environment	No loud noises are to be made when the houseboats are mooring on the island.
			The use of bright lights to be minimised at night
			No camping on the island is allowed except in the docked boats.
6	Generate human wildlife conflicts	Social and Environmental	No unnecessary disembarking onto the island should be allowed at all times, except for a limited time when no wildlife occupies the island.
			An experienced guide must be on-board at all times to guide conduct of the crew.
7	Potential pollution of the shoreline and island	Social and Environmental	No waste of any sort shall be discharged onto the island or shoreline.
8	Blockage to movement of the wildlife.	Environmental	An experienced guide must be on-board at all times to guide conduct of the crew and the boat.
9	Lack of employment and other benefits of the Kasika communities	Social and Economic	A minimum of one crew member per boat to be reserved and filled by the community of Kasika on the CP houseboats.
			All future available positions related to the operations of the

			houseboats to be communicated to the landlords, conservancy and traditional authority representative for selection of possible candidates and possible appointment taking level of competence required.
			Redundant goods and material from houseboats be availed to the community for disposal sale at times these are available.
			Initiate annual support program to the Kasika Community as part of Corporate Social Responsibility (e.g. support to the area sports team, school activities or learners etc.)

9.1.2 Re-evaluation of Impacts

Based on assumptions of implementing the measures in Table 9:1, the significance level of level of impacts is re-evaluated in Table 9: 2. It is clear that the identified measures are if applied can adequately prevent or reduce the impacts significance to manageable levels.

Figure 9:2 Impacts re-evaluation

No	Impact/Risk	Impact Nature	Pre-mitigation Significance	Extent	Duration	Intensity	Probability	Post-mitigation Significance
1	Employment creation	+Ve	+54	3	3	+3	4	+54
2	Support to land tenancy		+45	2	3	+3	4	+60
3	Support to community and conservancy		+45	2	3	+3	3	+45
4	Beneficial Utilization of idle land		+24	1	3	+2	4	+32
5	Disturbance to wildlife in the area	-Ve	-16	1	1	-1	2	-4
6	Generate human wildlife conflicts		-30	1	1	-1	2	-4
7	Potential pollution of the shoreline and island		-42	1	1	-1	1	-2
8	Blockage to movement of the wildlife		-16	1	1	-1	1	-2
9	Lack of employment benefits of the Kasika communities in employment		+60	1	1	+2	3	+12

9.2 Implementation Plan

Implementation of this EMP rests on the Proponent in liaison with Zambezi Queen Collections, while the former retains all the responsibilities herein contained. These shall include the following;

- Reporting as required by competent authority
- Obtaining of all required permits as outlined in this EMP
- Review and update of this EMP document as required by competent authority.

The Implementation Plan for the Environmental Management Plan is outlined in Table 9:3 below.

Figure 9:3 EMP Implementation Plan

No	Impact/Risk	Impact/Risk Type	Identification of Mitigations/enhancement measures	Duration/Frequency	Entity/Position Responsible
1	Employment creation	Social and Economic	The operation continue to ensure creation of employment in the area	Ungently-Once-off	Proponent
2	Support to landlord	Social and Economic	Landlord families are engaged to discuss and reach consensus on the remaining lease term. This shall seek to pave way forward in managing relation and interactions going forward.	Ungently-Once-off	Proponent
3	Support to community and conservancy	Social and Economic	The Proponent engages the conservancy to build a trusting relationship and indicate where the tourism operations can support their conservation efforts.	Bi-annual	Proponent
4	Beneficial Utilization of idle land	Social and Economic	Tenancy arrangements are revived and agreed with the landlords for continued operation.	As needed	Proponent
5	Disturbance to wildlife in the area	Environment	No excessive noises are to be made when the houseboats are mooring on the island.	Continuously	Proponent
			Minimise the use of bright light at night	Continuously	Proponent
			No camping on the island is allowed except in the docked houseboats.	Continuously	Proponent
6	Generate human wildlife conflicts	Social and Environmental	No unnecessary disembarking onto the island should be allowed at all times, except for a limited time when no wildlife occupies the island.	Continuously	Proponent
			An experienced guide must be on-board at all times to guide conduct of the crew.	Continuously	Proponent
7	Potential pollution of the shoreline and island	Social and Environmental	No waste of any sort shall be discharged onto the island or shoreline.	Continuously	Proponent
8	Blockage to movement of the wildlife.	Environmental	An experienced guide must be on-board at all times to guide conduct of the crew and the boat.	Continuously	Proponent
9	Lack of employment and other benefits of the Kasika communities	Social and Economic	A minimum of one crew member per boat to be reserved and filled by the community of Kasika on the CP houseboats.	As per Operations	Proponent
			All future available positions related to the operations of the houseboats to be communicated to the landlords, conservancy and traditional authority representative for selection of possible candidates and possible appointment taking level of competence required.	As may be available	Proponent
			Redundant goods and material from houseboats be availed to the community for disposal sale at times as these become available.	As may be available	Proponent
			Initiate annual support program to the Kasika Community as part of Corporate Social Responsibility (e.g. support to the area sports team, school activities or leaners etc.)	Annual	Proponent

9.3 Reporting

To ensure successful implementation of the EMP, all employees are required to report incidents relating to environment, health and safety. All environmental, health and safety incidents or observation to be recorded and actions taken to address these incidents and ensure close-outs.

10. Conclusion and Recommendations

10.1 Conclusions

This assessment provides that Zambezi Queen Collections through the Proponent, has been utilizing Kanywamenzi Island since 2003 for mooring of houseboats. The undertaken proposes seeks to formalize the activity of mooring and camping on the shoreline of island to meet national legislative requirement of the Environmental Management Act and its regulations. Subsequently, the process took to describe the activities involved, leading the identification of impacts and risks. The activity presents potential benefits to the communities in the rural settings and thus overall seen in positive light over many years. Further to that, adverse impacts were identified and evaluated and those of significance are addressed through best practice feasible mitigations measures. In terms of adverse social impacts, the public participation highlighted concerns that exist and associated with the use of the island shoreline for tourism activities, and thus the need for effective mitigation.

The public consultation meeting revealed a lack of cordial transparent relationship and communication between the proponent and the community. This can only be addressed through engagement and transparency that can be created through a meeting. There is a need to make a commitment to establishing a transparent relation through inviting a committee that may include representatives from the following institutions around the area of Kasika; the traditional authority of the area (i.e. Induna of the sub-khuta), land owners, the Kasika conservancy, the Village Development Committee (VDC), and ordinary members of the community.

In regard to the disagreement over tenure of the proponent, the proponent was advised to engage the concerned families to seek consensus on the operation over the remaining term of the operations and benefits for the landowners and the entire Kasika community. It is important to note that apart from the mooring of houseboats there are minimal alternative activities that may suit the use of the island due to its locality and the risks of flooding for greater duration of the year.

10.2 Recommendations

Premised on the implementation plan that amalgamates mitigations of potential impacts as outlined in this report, it is recommended to the Environmental Commissioner to consider this scoping report and the environmental management plan as adequate information and plan to manage the risks associated with the described activities, towards issuance of an environmental clearance certificate.

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Appendices

Appendix 1: Background Information Document

Appendix 2: Print Media Notifications

Appendix 3: Minutes of the Meeting

Appendix 4: Locality Map

Appendix 5: Stakeholder Meeting Register