PROPOSED TRANSLOCATION AND RE-WILDING OF AFRICAN SAVANNA ELEPHANTS FROM HOWLETTS WILD ANIMAL PARK, UNITED KINGDOM TO GOLINI MWALUGANJE CONSERVANCY IN KWALE COUNTY, KENYA: ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT STUDY REPORT

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TECHNICAL SUMMARY

The Aspinall Foundation (TAF), in partnership with the government of Kenya, proposes to implement a programme of re-wilding elephants from a captive environment in the United Kingdom, to a free ranging environment in Kenya. The project involves the unique translocation of a herd of 13 African Elephants by air, from Howletts Wild Animal Park in Kent, in the United Kingdom to Kenya and re-wilding them into a natural savannah ecosystem. The Aspinall Foundation will partner with the Kenya Wildlife Service (KWS), the Wildlife Research and Training Institute (WRTI), The Golini Mwaluganje Community Wildlife Conservancy (GMCWC) also referred to as the Mwaluganje Elephant Sanctuary to implement the elephant translocation and re-wilding programme. The project will be supported by the Sheldrick Wildlife Trust.

This project is unique and a first of its kind, where captive elephants from Europe are returned to Africa for re-wilding. The herd of the elephants has been kept as a family in the United Kingdom, hence the need to re-wild the group together, to maintain the family bonds in accordance with social structures of elephants.

Pursuant to section 58 of the Environmental Management and Coordination Act (EMCA), Cap 387, the project requires an Environmental and Social Impact Assessment (ESIA) study to be conducted and approved by the National Environment Management Authority (NEMA) before implementation. In compliance with the EMCA, EIA/EA Regulations, a team of experts drawn from the Wildlife Research and Training Institute, KWS and the Aspinall Foundation have carried out this Environmental and Social Impact Assessment study for the proposed project.

The ESIA study has outlined the project activities which include, but are not limited to the following:

- Construction of transport crates and developing a load plan for a Boeing 777, which is the proposed aircraft to be used for the operation.
- Training of the elephants to walk into the crates to avoid chemical immobilization of the elephants wherever possible, for loading purposes.
- Logistics associated with loading the elephants onto trucks and transporting them to Stan stead Airport in the United Kingdom.
- Customs and loading the elephant onto the plane in the United Kingdom.
- Flight from the United Kingdom to Mombasa Airport.
- Offloading the elephants and customs at Mombasa Airport.
- Transport of the elephants from Mombasa Airport to Mwaluganje Elephant Sanctuary.

- Releasing the elephants into a 1-hectare management enclosure/ boma, within a 20 hectare release enclosure/boma.
- Diet transition.
- Re-wilding and release to natural environment

Due to the complexity of the project, a team of highly skilled professionals have been carefully selected to drive the project. These include specialized vets; elephant capture specialists, logistics experts, load plan specialists and re-wilding specialists.

Stakeholders have been actively engaged with throughout this ESIA process, with focus group meetings taking place with the Golini and Mwaluganje Communities and then also broad stakeholder meetings taking place in Kwale. The inputs received during these meetings in Kwale have been positive with majority of stakeholders supporting the project. Questionnaires were also circulated to a broad range of local residents from the project area of influence for input and the feedback from the questionnaires shows that the community supports the project and would welcome the elephants.

The project has a number of moving parts which need to be implemented concurrently and effectively to ensure the project is a success. The risks and potential impacts of the project have been assessed and mitigation measures put in place wherever possible. With the risks and negative impacts come a host of positive impacts and opportunities for Kenya as a country and specifically for the local communities around the receiving reserve.

The positive impacts and opportunities include but are not limited to the following:

ANTICIPATED IMPACT	**DESCRIPTION**
Enhancement of the elephants welfare	• The veterinary care unit deployed at the facility will greatly reduce response time for animals in need of special care through provision of prompt veterinary diagnostic services for theelephants in the sanctuary and even other animals in the conservancy • Release of the animals to freely range enhances the long-term welfare of the elephants
Enhanced wildlife conservation	• The facility will complement the existing initiatives on promotion of conservation education. • Protection and conservation of the endangered African

ANTICIPATED IMPACT	DESCRIPTION
	Elephant will be a key activity in the project and this will create more awareness to save this species. • Provide an opportunity to undertake research that will enhance conservation of wild living populations and adding to the body of knowledge on re-wilding and eventual release of Elephants from captivity to free ranging
Employment Opportunities	• Enhanced livelihoods through employment opportunities for the local communities from construction works
Promotion of tourism locally and nationally	• The unique nature of the project will contribute to marketing Kenya as a high value responsible and conservation-focused tourism destination. • Contribution to the national tourism numbers and foreign income and investment. • The Kwale County is strategically located in close proximity to Kenya's coastline and there is very good access in terms of tar roads to the area. By bringing these elephants to this area, there is a good chance that local tourism will increase and more tourism infrastructure will be developed
Community empowerment	• Capacity building through knowledge transfer as the locals will be trained as animal keepers and attendants amongst other skills.
Population viability	• The addition of 13 elephants will make a positive contribution to the number of elephants in the Shimba Hills ecosystem in Kenya as part of the cumulative impacts due to enhanced anti-poaching measures that will come with the project. This will in the long run have a net gain in elephant population numbers. • The elephant population within the Shimba Hills ecosystem is relatively small with limited capacity for gene exchange due to current isolation from other wild populations. The addition of unrelated elephants to the population may improve the genetic viability

This ESIA report has outlined the potential negative impacts and their associated mitigation

measures as provided in the below table. It is critical that these risks/impacts be considered along with their mitigation measures.

POTENTIAL IMPACT	MITIGATION
Risks of contracting Diseases and disease epidemic	▪ Implement prescribed disease monitoring, surveillance and rapid response plan. Disease Risk Assessment and Plan is attached to this document. ▪ Implement prescribed tsetse control and eradication programme. ▪ Screen the 13 elephants for diseases before translocation and regularly post translocation before release into the wild. Disease surveillance has already started at the source. ▪ Undertake regular disease surveillance of the elephants and ensure staff are trained to conduct such surveillance measures. ▪ Liaise with Community to restrict livestock grazing inside the sanctuary to minimize contacts that can lead to disease transmission form livestock to the elephants. ▪ Regular screening the animals in the area for trypanosome outbreaks for early detection. ▪ Support vaccination programmes for livestock and rapid disease response in case of an outbreak that is likely to spread to the elephants. ▪ A veterinary team is actively working with the elephants in the United Kingdom and this will be done until such time that the elephants are translocated. ▪ A veterinary team will be on standby to treat the elephants in Kenya should there be any sign of disease. Provision has been made to deploy specialized vets if so required. ▪ Train animal keepers on early detection of sick animals.
Human Wildlife conflict	▪ Rehabilitate and rebuild the 150 kilometer fence around the Shimba Hills Mwaluganje Ecosystem. The Sheldrick Wildlife Trust are currently busy implementing a project to install a new fence around the ecosystem. ▪ Increase security patrols during construction of the perimeter fence. ▪ Ensure fencing workers are accompanied by armed KWS rangers to avoid possible attack by elephants ▪ Sensitize workers on the presence of dangerous animals like the

POTENTIAL IMPACT	MITIGATION
	elephants and buffalo. ▪ Involve community and relevant stakeholders in the entire project cycle. ▪ Establish a rapid response programme utilizing ground crews and aerial support, should the elephants break out of the reserve. ▪ Key members of the elephant group in the United Kingdom will be fitted with tracking collars so that they can be effectively monitored and so that the management team can respond to any fence breaks and any potential human wildlife conflict. This is however not anticipated as the elephants are used to being in a fenced area and the elephants should therefore not test the fences.
Poaching /illegal hunting	▪ Strengthen the security at the temporary holding Release boma and the entire ecosystem. An additional six rangers will be appointed from the community for the project. ▪ Increase walking and road security patrols. ▪ Rehabilitation of the fence and enhanced security surveillance along the fence along the entire perimeter of the ecosystem. ▪ Install sensors along the fence and a monitoring system. ▪ Maintain a robust post release monitoring programme including collaring of the animals for tracking purposes. ▪ Provision of additional vehicles to mobilize teams to monitor the elephants. ▪ Implement aerial surveillance wherever possible. ▪ Engage with communities to ensure they support anti-poaching activities and report potential security threats. ▪ Implement informant system. ▪ Implement Earth Ranger Programme to support anti-poaching operations with critical data.
Vegetation loss particularly during fencing of the ecosystem and the construction of the required infrastructure for the release of the	▪ Restrict perimeter fence construction activities to the existing fence alignment, this would include bush clearing to allow space for the fence and associated access roads. Clearing of a fire break would be acceptable. ▪ Elephant release enclosure to be designed around existing indigenous trees and shrubs to reduce vegetation clearance. ▪ The project site will be enriched through habitat modification with appropriate trees, grass and shrubs after the elephants have been

POTENTIAL IMPACT	MITIGATION
elephants.	released. ▪ The staff camp will be developed on the existing footprint of the previous tourism camp which is no longer operational. This will reduce destruction of vegetation accordingly.
Potential vegetation loss within the release enclosure and also during cutting of vegetation for supplementary feeding of the elephants.	▪ The elephants will be supplemented with pellets and a wide range of natural vegetation from outside of the release enclosure to reduce the demand of the vegetation on the inside of the enclosure. This will have a direct impact on reducing the damage on vegetation within the release enclosure. ▪ Cutting of vegetation for the elephants would be spread across different areas to avoid damage to vegetation in a single specific area. ▪ The reserve ecologist will need to be consulted with to identify areas which the vegetation can be cut. ▪ Elephant specialists from Kenya would need to be consulted with to ensure the correct species of vegetation are cut for the elephants. ▪ The release enclosure will also be expanded on an ongoing by utilizing a temporary three-strand electric fence to provide the elephants with additional space. This will relieve pressure on the vegetation in the initial release enclosure.
Transport from airport and access roads.	▪ Flight timing so that the animals land in Mombasa at Mombasa between 0300hrs-0600hrs when the temperatures are cool for road transportation is recommended ▪ The elephants will need to be flown into Mombasa International Airport as the preferred airport for access to the release site to reduce time on road transit to release site ▪ The preferred route would avoid driving through Mombasa and across the ferries. Although this would be shorter than the alternative route of exiting Mombasa via the road to Nairobi, the risks associated with driving through Mombasa and across the ferries are higher. ▪ The preferred access road will be checked and problem areas identified for management/temporary repairs to ensure there are no delays associated with trucks getting stuck. ▪ The preferred translocation date has been set for the months of June and July, which are the cooler months of the year around Shimba Hills. This is the season when the temperature differences between the donor and release sites are not significantly different.

POTENTIAL IMPACT	MITIGATION
	▪ The proposed release site is identified in very close proximity to the entrance gate of the Mwaluganje Community Wildlife Conservancy and therefore only a very short access road will need to be built to the actual release enclosure. This road will be constructed responsibly and avoiding sensitive vegetation and soils wherever possible. ▪ The police service in Mombasa will be requested to assist with the management of traffic on the day of transport from Mombasa Airport to the release site.
Solid waste generation at the animal keeper and security camp and construction of release enclosure.	▪ Employing waste minimization techniques such as the 3Rs (Reduce , Reuse, Recycle) principle ▪ Daily collection, segregation and disposal of waste at designated areas. ▪ Provide litter bins at the operation base for temporary holding before disposal. ▪ Sensitization and awareness creation amongst workers and visitors. ▪ Involved community service provider to collect waste and dispose of the waste in a responsible manner, at a registered waste facility.
Climate change due to carbon emission	▪ Enhance carbon sinking through the conservancy protection from habitat degradation ▪ Explore carbon trading from the enhanced sinking following institution of appropriate measures ▪ Sale of carbon credit will increase community income and reduce dependency on the natural vegetation and hence enhance more sequestration even outside the conservancy.
Competition for water	▪ Provide alternative water sources for the livestock and wildlife both inside the sanctuary and in the adjacent community. Such include drilling of boreholes, creation of pans for wildlife use and water troughs for livestock. ▪ Employing sustainable use measures that reduce demand on water resources and using the available water conservatively. ▪ Control usage by installation of monitoring metered gauges. ▪ Ensure that the water source provided for the elephants in the release enclosure will be for long term use of wildlife. ▪ The water provided for the elephants during the release period will be sourced from the municipal pipeline which services Mombasa. This

POTENTIAL IMPACT	MITIGATION
	will therefore mean that the elephants will have access to very fresh water. ▪ The elephants will then slowly be exposed to the natural water system in Mwaluganje. ▪ Water tests will be conducted at both the source and release sites to analyze and determine any significant differences or concerns.
Occupational Health and Safety (OHS)	▪ Employ authorized and competent contractors who comply with relevant regulations ▪ Sensitization of construction workers on safe use of equipment and substances. ▪ Providing construction workers with PPEs and replacing them as necessary. ▪ Notifying neighbors about construction activities to raise awareness and enable them to adjust. ▪ Securing the site and controlling movement in and out during construction. ▪ Controlling movement of workers at the campsite during night hours ▪ Putting the necessary signs to warn or alert people of the eminent risks such as works in progress. ▪ Provide and maintain fire-fighting and first aid equipment.
Operational Phase	
Increased Water consumption	▪ Employing sustainable use measures that reduce demand ▪ Use water tight taps and recycling wherever applicable ▪ Installing monitoring metered gauges to monitor water utilization. ▪ The current pipe servicing the Mwaluganje Elephant Sanctuary is too thin and will need to be upgraded. The intention would be to install a second, thicker pipe from the main water line to the release enclosure. ▪ There will be water troughs available for the elephants. These troughs will be supplied by the municipal water point and there will be a trough which will be supplied by water from the main river in the Mwaluganje Elephant Sanctuary. This will slowly start exposing the elephants to the water from the natural river system, at their own time whilst still providing them with fresh municipal water.
Noise generation	▪ Ensuring noises generated from project activities are within

POTENTIAL IMPACT	MITIGATION
	acceptable limits and ensuring most noisy activities are carried out during the day. ▪ Materials to be supplied in large quantities at once to avoid frequent and unpredictable traffic during camp and enclosure construction. ▪ Prepare and display clear rules and regulations at strategic visitor areas. ▪ Use of buffers between human settlements and animal enclosures ▪ Constructing animal enclosures away from settled areas. ▪ Prepare and display facility rules and regulation against excessive noise that may disturb the animals.
Solid waste generation	▪ Ensuring the movement of waste from source to dumpsite is safe and controlled to prevent spillages and pollution. ▪ Employing waste minimization techniques such as the 3Rs (Reduce ,Reuse, Recycle) principle ▪ Daily collection, segregation and disposal of waste at designated areas ▪ Provide litter bins at the operation camp for temporary holding before disposal ▪ Sensitization and awareness creation amongst the workers ▪ Prepare and display sanctuary rules and regulation against littering. ▪ Adhere to integrated solid waste management regulations.
Waste water	▪ Waste water from the washrooms will be handled through a septic tank. Services of licensed waste handlers will be employed to empty the waste when is necessary.
Predation of the Elephants	▪ There are currently no resident lions within Shimba Hills Ecosystem. This will however be continuously monitored to ensure that the status quo remains. Should free roaming lions decide to reside within Shimba Hills, efforts will be made to remove these lions immediately. ▪ Ensure the perimeter fence is predator proof as far as possible. ▪ Monitor the Release boma for incidences of predator intrusion.
Illegal hunting of the Elephants in the sanctuary	▪ Ensure 24 hrs security surveillance along the fence. ▪ Install sensors along the fence and a monitoring system. ▪ Maintain a robust post release monitoring including collaring of the

POTENTIAL IMPACT	MITIGATION
	animals. ▪ Implement robust anti-poaching strategy, including foot patrols, air patrols and deployment of additional rangers. ▪ Obtain community support in the anti-poaching strategy by ensuring that they report threats to the animals and provide import information to ensure pro-active anti-poaching measures can be put in place. ▪ Earth Ranger Capability will be installed in the project area to provide critical data to the anti-poaching units.
OHS Risks o Human injury and accidents o Fire incidences at the operation camps and Release boma	▪ Workers sensitization and awareness creation on safety and risk management ▪ Routine vaccination of staff and animals to prevent spread of zoonotic diseases as determined by National Strategies and Protocols. ▪ Training of facility workers on safe use of equipment and substances. ▪ Providing workers with adequate and quality PPEs and replacing them as necessary. ▪ Provision of emergency gates in the facility ▪ Ensuring there is adequate security within and around the facility ▪ Putting the necessary signs to warn or alert people of the eminent risks ▪ Ensuring hazardous/flammable chemicals such as detergents and fuels are stored safely and appropriately according to Controlled Substances and Regulations Act ▪ Providing and maintaining fire-fighting and first aid equipment(side buckets, hydrants, fire extinguishers) ▪ Designate and clearly label fire assembly points in the facility. ▪ Regular training of facility workers on emergency preparedness ▪ Maintain a fire break around the sanctuary
Socio-cultural impacts (Cultural erosion, Crime , HIV/AIDs spread)	▪ Awareness creation on HIV and AIDs ▪ HIV/AIDS preventive and management initiatives ▪ Awareness creation on importance and preservation of culture ▪ Employing local content for most of the project activities.
Security of release site and staff camp.	▪ Install fence sensor systems ▪ Prepare a security management plan ▪ Deploy adequate security rangers ▪ Collaborate with KWS, KFS and Conservancy scouts to enhance the security of the sanctuary

POTENTIAL IMPACT	MITIGATION
	▪ Ensure day and night onsite security surveillance Ensure animal enclosures are regularly maintained to avoid escapes ▪ Controlling movement of facility workers during night hours ▪ Ensure main access gates are manned at all times.
Economic Impacts	▪ Although the creation of jobs as an outcome of the project is considered a positive impact, the selection of appropriate people from the local community must be done carefully to avoid conflict between community members. ▪ All existing community channels/structure will be utilized to appoint local people to fill job positions at Mwaluganje. ▪ A memorandum of understanding between the implementing partners spell out benefits and responsibility will be developed before the project commencement
Impact on existing elephant population.	▪ The existing elephant population move between Shimba Hills National Reserve and the Mwaluganje Elephant Sanctuary and it is important that the release enclosure does not significantly impact on these local migration routes. ▪ It is anticipated that the local population will accept the elephants from the United Kingdom without too much concern. ▪ The dynamics between the UK elephant herd and the wild populations will be closely monitored and this will be one of the criteria which will be used to determine the readiness of the elephants to be released into the environment. ▪ The Sheldrick Wildlife Trust (SWT) is already implementing conservation initiatives in the ecosystem. SWT are quite experienced with elephant reintegration, and they will be monitoring the re-wilding process closely.
Management of overpopulation of elephants.	▪ Provide long term relocation support to move elephants to other properties should it be deemed necessary as and when elephant numbers are deemed to grow over the acceptable carrying capacity. Tsavo can absorb a large number of elephants, translocated from Shimba Hills, so this will be considered as a first option. ▪ The current population of elephants in the area is relatively low, well below carrying capacity. ▪ With the growth of the population, the potential of Human Wildlife

POTENTIAL IMPACT	MITIGATION
	Conflict grows as well. This will therefore need to be monitored on an ongoing basis. The improved fence which will be installed and the increased ranger presence will assist in managing this aspect.
Potential inbreeding	▪ Due to the fenced nature of the Shimba Hills Ecosystem, there is no longer a migratory route for elephants between other reserves. This population is therefore isolated. ▪ The UK elephants will be bringing new genetics into the system which will assist in mitigating this impact. ▪ Long term supplementation from local populations will also need to be considered.
Decommissioning of the temporarily holding facility	
OHS	▪ Putting up clear and visible signs around the site to remind workers of risks/dangers. ▪ Ensuring there is adequate security around the site and zoning or cordoning off the site during demolition. ▪ Providing workers involved with quality PPEs ▪ Sensitizing workers on safe handling and use of equipment and materials. ▪ Providing and maintaining firefighting equipment & putting in place an emergency response plan.
Security of the animals	▪ Ensure that all the elephants are either re-wilded or no longer need to visit the release boma. ▪ The water points in the release enclosure will be left in place and will remain in commission to provide long term sustainable water sources for all wildlife in the Shimba Hills Ecosystem.
Management Camp	▪ The management camp will remain in place to support the long-term management activities of the community conservancy. ▪ The camp could also be utilized as a basic tourism facility.

An ESMP has been prepared for implementation to mitigate and avoid some of the impacts. The project is unique in nature and can be tested. The success of the re-wilding captive bred generation of elephants will demonstrate that decreasing insitu populations can be supplemented from exsitu breeding facilities nevertheless there remains some level of uncertainty on the physiological and behavioral response of the elephants after 8 hours flight and over 3 hours on

road transit. This may be aggravated by the drastic change in the climatic conditions.

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ACRONYMS

AfESG	African Elephant Specialist Group
AGM	Annual General Meeting
CBO	Community Based Organization
CCA	Coast Conservation Area
CDE	County Director of Environment
CEC	County Executive Committee
CFAs	Community Forest Associations
CGK	County Government of Kwale
CITES	Convention on International Trade in Endangered species
EA	Environmental Audit
ECD	Early Childhood Development
ECDE	Early Childhood Development Education
EIA	Environmental Impact Assessment
EMCA	Environmental Management and Coordination Act
EMP	Environmental Management Plan
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
GMCWC	Golini Mwaluganje Community Wildlife Conservancy
GOK	Government of Kenya
GPS	Global Positioning System
HEC	Human Elephant Conflicts
HIV/AIDs	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
HVS	Head of Veterinary Services
HWC	Human Wildlife Conflict
IUCN	International Union for Conservation of Nature
IV	Importance Value
KAA	Kenya Airports Authority
KCIDP	Kwale County Integrated Development Plan
KENTTEC	Kenya Tsetse and Trypanosomiasis Eradication Council
KFS	Kenya Forest Service
KSG	Kenya School of Government
KWCA	Kenya Wildlife Conservancies Association
KWS	Kenya wildlife Service
MCA	Member of County Assembly
MDAs	Ministries Departments and Agencies
MES	Mwaluganje Elephant Sanctuary
MIA	Mombasa International Airport
MOA	Memorandum of Agreement

MOU	Memorandum of Understanding
MSDS	Material Safety Data Sheets
MTA	Material Transfer Agreement
NAB	Novel Attractant Blend
NEMA	National Environment Management Authority
NGOs	Non-Governmental Organizations
NP	National Park
NR	National Reserve
OHS	Occupational Health and Safety
OIE	Office International des Epizooties/World Organization for Animal Health
PIC	Project Implementation Committee
POCA	Propylphenol + Actenol + P-Cresol + Acetone
PPEs	Personal Protective Equipment
RVF	Rift Valley Fever
SAD	Senior Assistant Director
SEA	Strategic Environmental Assessment
SIRC	Species Introduction and Reintroduction Committee
SSC	Species Survival Commission
SW	Senior Warden
SWT	Sheldrick Wildlife Trust
TAF	The Aspinall Foundation
TUM	Technical University of Mombasa
UK	United Kingdom
VHF	Very High Frequency
WCMA	Wildlife Conservation and Management Act
WRA	Water Resources Authority
WRTI	Wildlife Research and Training Institute

1.0 INTRODUCTION

1.1 Project Background

The proposed project involves the unique translocation and re-wilding of a herd of African Elephants from the United Kingdom back to Africa.. The project is part of a programme that The Aspinall Foundation (TAF) is currently implementing whereby they are actively re-wilding animals from two Wild Animal Parks in the United Kingdom with an end objective of closing the parks in the next 20 to 25 years, setting an example for other zoos and captive facilities globally, to do the same. Although capture, transportation and release of elephants from one part of their range into another commonly referred to as translocation is a common conservation practice in Kenya, there has not been a translocation of zoo bred elephants to a natural environment system for purposes of re-wilding. This is a specialized reintroduction where the recipient area(Shimba Hills ecosystem Kwale County) is part of the elephant range with resident population and therefore makes the project a pilot and one of its own kind.

This would be the first time that a herd of elephants has ever been rewilded anywhere in the world and no elephant re-wilding project of this scale has ever been attempted before. The Aspinall Foundation will work with Kenya Wildlife Service, Wildlife Research and Training Institute and the Golini Mwaluganje Community Conservancy to rewild an entire breeding herd of 13 African elephants, including 3 calves. The project will be supported by The Sheldrick Wildlife Trust.

The elephants are currently located in an 8-acre enclosure at Howletts Wild Animal Park in Kent. The Howletts' elephant herd is one of the most successful breeding herds of elephants in Europe. They comprise two inter-related families but the intention is to rewild them as one larger herd. Although they are receiving the best care possible, The Aspinall Foundation believes that these animals belong in the wild, and that no elephants belong in captivity. Kenya’s conservation philosophy supports this sentiment and also believes that elephants do not belong in captivity.

There will be some new risks that the elephants did not face in captivity, but the experience of Kenya Wildlife Service, Wildlife Research and Training Institute and The Sheldrick Wildlife Trust will help guide the animals’ transition and manage these risks as best as possible. The intention of the project is also to provide as many opportunities and benefits as possible to the local communities who will be receiving the elephants. The two specific communities include the Golini Community and the Mwaluganje Community, who both support the project in its totality.

The partners in the project also hope that this re-wilding project will stimulate a positive effect in the zoo industry by discouraging the trade in elephants globally, and strengthening commitments

to return animals back to the wild, wherever possible.

1.2 Project rationale

In March 2021, the International Union for Conservation of Nature (IUCN) announced that the African savanna elephant is endangered, and the African forest elephant is critically endangered. They have been driven to extinction in three African countries: Burundi, Mauritania, and Gambia (IUCN 2020). The success of the project will demonstrate that captive bred African elephants can be reintroduced within their range states and rewilded to enhance decreased populations or even restock conservation areas where they have been driven to extinction. Kenya believes in the philosophy of insitu conservation especially for mega herbivores. Elephants will derive their best comfort with in a free ranging environment in their natural habitat. It has been observed that ensuring high welfare standards of elephants in captivity is a major challenge for the international zoo community (Veasey 2006) and re-wilding captive elephants will demonstrate that elephant lives matter at a global level.

This project will be the first ever to have returned African elephants from Europe back to Africa, and the spin-off effect will hopefully lead to more zoos repatriating their elephants back to their original locations to undergo re-wilding program.

The programme will be implemented within the framework of a comprehensive elephant conservation strategy in Kenya envisaged to inspire all levels of society, from rural communities to national and county governments including international partnerships, to act on issues related to elephant conservation, illegal wildlife trade, and wildlife corridors.

Kenya was selected as the destination of choice for the 13 elephants for of the following reasons:

- The Kenya Wildlife Service and Sheldrick's Wildlife Trust are well experienced partners in the conservation industry in captive elephant reintegration with wild population and management.
- Kenya has a very progressive outlook on conservation and the Kenya Wildlife Service has always advocated insitu wildlife conservation and thus supports re-wilding of elephants from captivity.
- The elephant population in Kenya was historically decimated through poaching but the population has been gradually growing due to the government conservation efforts through Kenya Wildlife Services and partners and this population can still be supplemented on a pilot basis. The success of the programme will lead to enhanced elephant conservation in the longterm.
- The proposed release site offer the elephant's appropriate habitat and water, giving them the a good habitat within which to thrive. Golini –Mwaluganje Community Wildlife

Conservancy was among the first elephant sanctuary in Kenya and the land owners have been deriving benefits from tourism activities its connectivity with Shimba hills forest reserve provides a good habitat mix of open savanna shrubland and a coastal forest.

- Kenya has the required road and air transport infrastructure to facilitate a translocation of this scale. In addition Kenya has good expertise on elephant management.

1.3 Objectives of the project

The translocation and rewilding project will:

- Stimulate a positive effect in the zoo industry by discouraging the trade in live elephants globally
- Strengthen commitments in the zoo industry to return animals back to the wild, wherever possible
- Improve the welfare of elephants from zoos

1.4 The Scope of the ESIA Study

The ESIA study has assessed and identified the potential positive and negative impacts of the elephant translocation and re-wilding project. This will lead to the development of appropriate mitigation measures for predictable adverse impacts and integrating relevant stakeholder concerns in the implementation process.

This translocation, re-wilding and reinforcement programme is an exsitu to insitu movement and also from temperate to a tropical climate making it significantly different from the routine *insitu* to *insitu* translocations. This makes the project unique and one of its own kind having not been undertaken anywhere else in the world. Flying the elephants to Kenya and then by road to Mwaluganje places the project under the high risk category under section 2(2)(d) of the Legal Notice No. 31 and hence the requirement for a full ESIA study report as specified in EMCA (EIA/EA) Regulations (Amendment 2019). (High Risk projects require preparation of ESIA full study Report.

Analysis of the ecological sensitivity and impact assessment of the project implementation and operation activities has been undertaken to determine their potential impacts on the translocated families and its interaction with resident families and the new re-wilding ecological and social environment.

In this regard the Environmental and Social Impact Assessment (ESIA)study report has covered the following

(i) Description of the project unique nature and observable features of *ex situ* to *in situ* conservation
(ii) Description of the international and national policy and legislative regulatory framework that need to be considered and where applicable complied with before the project is executed
(iii) Provided baseline information of the biophysical characteristics of the project
(iv) Description of the translocation technology to be used from loading and transportation in UK to loading and transportation in Kenya
(v) Containers to be used in transportation and the safety measures in place
(vi) A description of the re-wilding infrastructure required on site including holding and temporary feed supplementation areas, herding and herders requirement before eventual release to the wild
(vii) A description of the release sites affected ecological, social, cultural and community aspects,
(viii) Anticipated environmental and social effects associated with the project implementation and operations including, direct, indirect, cumulative, irreversible, short-term and long-term effects,
(ix) Analysis of project alternatives, re-wilding sites and reasons for selecting the proposed site based on feasibility
(x) Identification impacts and formulation appropriate mitigation measures
(xi) An environmental and social management plan (ESMP) proposing measures to eliminate, minimize or mitigate adverse environmental impacts including cost of such measures
(xii) A risk assessment for prevention of accidents and hazardous activities during movement and re-wilding operations,

The Environment and Social Impact Assessment (ESIA) took into account the requirements of the Kenyan Environmental Management and Coordination Act (EMCA) cap 387 as well as relevant applicable best international practice, including IUCN/SSC the Guidelines for Species reintroductions and other conservation purposes and IUCN/SSC/AfESG Guidelines for the insitu translocation of the African elephant for conservation purposes among others.

1.5 ESIA Activities

Study approach comprised of desktop research, field visits, environmental sampling, focused group discussions, Stakeholder's consultations, impact identification & analysis and report writing workshops.

1.5.1. Desktop research

A detailed review of national and international policy and legal framework relevant to the *Ex situ* to *in situ* translocation nature of the project was undertaken. Further review of available

information on the elephants from the UK and also the elephant status in Mwaluganje Elephant Sanctuary and the general environmental setting of the donor and recipient site has been included.

1.5.2 Field work

A site visit to Mwaluganje was conducted. The activities included identification of temporary holding boma sites and evaluation of existing and required infrastructure within Mwaluganje community conservancy. This provided information on the present environmental setting before installation of the project activities from which impacts can be identified.

1.5.3 Stakeholder and public consultations

Stakeholder engagement is a requirement under the Kenyan Law and provides opportunities for communities and other stakeholders to participate in the project decision making process by raising issues, concerns and contributing local knowledge for the project improvement.

Consultation and public participation involved both virtual and physical meetings conducted in adherence with Covid-19 protocols. The stakeholders and the public within the project area were engaged in terms of basic knowledge of the project locality as well as giving opinions and suggestions on improving social integration and enhancing ownership and co-existence. In order to ensure smooth studies and subsequent implementation of the ESMP recommendations, it was found necessary to hold focused consultation with community representatives, County and national government administrators at the re-wilding sites.

1.5.4 Impact identification and evaluation

Assessment of impacts was carried out through a multiple-stage process, including assessment of options based on site surveys and feasibility study that has been undertaken. Status of release site habitats sensitivity, assessment of the vulnerability of the elephants to predation, diseases and poaching identification of significant environmental aspects to consider during the elephant's movement, pre and post lease monitoring. A multidisciplinary expertise borrowed from the UK and Kenya will provide professional judgments on the potential impacts and appropriate mitigation measures through focused group discussions and interviews.

Appropriate project specific mitigation measures to reduce or offset adverse environmental effects or maximize environmental benefits have been proposed.

1.5.5 Impact categorization and rating

Potential impacts identified were rated in terms of a range of impact using the following criteria:

Positive or negative impact:

- Positive impacts: Impacts that are beneficial to the environment and the elephants welfare
- Negative impacts: Impacts that are detrimental to the environment
- Direct impacts: Impacts caused by a Project action and which occur at the same time and location as the activity.
- Indirect impacts: Impacts caused by a Project action, but which occur later in time or are farther removed in distance but can be reasonably foreseen. Indirect impacts may include impacts related to induced changes in the pattern of use of the marine area, or related effects on air and water and other natural systems, including ecosystems.

Impact duration:

- Short-term (temporary): (impacts of less than one-year duration).
- Medium-term: (impacts between 1 to 10 years duration).
- Long-term (permanent): (impacts of more than 10 years duration).

Impact reversibility:

- Reversible: when there is a possibility that the affected environmental factor will return to conditions similar to those it had before the impact occurred.
- Irreversible: when the possibility of the affected environmental factor returning to conditions similar to those it presented before the impact of the impact does not exist or is negligible.

Cumulative impacts:

- Cumulative impacts: The additive impacts resulting from the impacts associated with the Project, when considered in combination with any other development activity proposed within the anticipated area of impact, at the same time.

1.5.6 Impact Magnitude

The magnitude of a predicted impact is defined as the extent of change which may be expected and is likely to be as a result of a range of factors including:

- the anticipated geographic area that may be affected;
- the duration and frequency of an impact; and

- the degree of environmental or socio-economic change and/or level of community concern.

Table 1 below sets out indicative guidance for the consideration of potential impact magnitude using indicative criteria

Table 1: Impact Magnitude Criteria

Definition	Indicative description of impact*
No effect	No measurable change from background levels (ecosystem, population, natural resources). Imperceptible or negligible. Social, economic or cultural impact is 'imperceptible' or unlikely to be noticed.
Slight	Small change but none-the-less measurable relative to background levels. Highly localized to immediate vicinity of (e.g. within an order of 500m). Short term. Not expected to contribute to cumulative effects.
Minor	Measurable change relative to background levels. Changes might be noticeable but fall within the range of normal variation. Impacts felt at local level and/or a group of individuals of a population at a localized area and/or over a short period (one generation or less). Short term. Impact is not expected to contribute to cumulative effects. Changes in social, economic or cultural dynamics with minor and temporary effect on any given sector performance and/or population wellbeing. Limited impact to archaeological, cultural or natural resources. Unlikely to result in concerns being raised by governmental bodies or stakeholders. Can be positive or negative. Mitigation measures for negative impacts, if required, can be readily implemented.
Medium	Large change relative to background levels (ecosystem, population, natural resources), and likely to contribute to cumulative effect. Changes exceed the range of natural variation. Impacts may be felt at regional level and/or affect a portion of the population or species over one or more generations but does not change the integrity of the population as a whole. Impacts may be medium to long term. Changes in social, economic or cultural dynamics with moderate and noticeable adverse effect on any given sector performance and/or population wellbeing. Involved damage to archaeological, cultural or natural resources of local importance. Such impact may result in concerns being raised by governmental bodies or stakeholders. Can be positive or negative. Negative impact can be minimized or avoided by

	application of specific mitigation measures. After mitigation, residual impacts may require monitoring.
High	Substantial change to the baseline and long term (>5 years) changes in an ecosystem. Changes are well outside the range of natural variation and assisted rehabilitation might be required. May affect the whole population or species causing a change in abundance and/or distribution, or the size of genetic pool such that natural recruitment would not return to that population or any population of species dependent upon it. Impacts may be widespread. Impact may be a major contributor to cumulative effects. Changes in social, economic or cultural dynamics with major adverse effect on any given sector performance and/or population wellbeing. Involves damage or permanent loss to archaeological, cultural or natural resources of international/national importance. Such impacts may result in immediate intervention by governmental bodies and stakeholders. Can be positive or negative. Negative impact may be difficult to mitigate and/or irreversible.
NB: Only indicative Professional judgment may be applied in specific circumstances	

1.5.7 Receptor Value/Sensitivity

Receptor sensitivity criteria (**Table 2**) will be applied taking account of key factors including:

- Relevant legislative or policy standards or guidelines;

- The relative value or importance of the receptor at local, national, or international level. Importance of a receptor may relate to biodiversity, ecosystem services, cultural or economic significance; and

- The vulnerability of a receptor, its capacity to absorb change; and its ability to recover from an impact.

Table 2: Receptor Value/Sensitivity indicative criteria

Definition	**Indicative description***
Not sensitive	Resilient to project activities. The receptor is resistant to change or is of little environmental or social value.
Low	Receptors with limited value or importance attached to them, even at local level. Easily

	adaptable to change, or likely to recover immediately (within days/weeks).
Medium	Receptors of importance at a local/island level. The receptor has moderate capacity to absorb change without significantly altering its present character. And/or recovery likely within 1-2 years of cessation of activities or highly localized medium-term recovery (2-5 years).
High	Receptors of importance at island level. The receptor has low capacity to absorb change without fundamentally altering its present character, is of high environmental or social value. Species of potential conservation significance. and/or recovery likely 5-10 years following cessation of activity, or that cannot easily be recovered.
Very high	Receptors of importance at an international level. The receptor has little or no capacity to absorb change without fundamentally altering its present character, is of very high environmental or social value. Species of potential conservation significance and/or Recovery likely only over an extended period (over 10 years) following cessation of activity and/or a permanent deleterious effect.

1.5.8 Impact Significance

Magnitude of impact and sensitivity of receptor will be combined to determine the predicted significance of any impacts, as shown in Table 3 below.

Table 3 Impact Significance Matrix

		Sensitivity			
		Not sensitive	Low	Medium	High
Magnitude	Negligible	Negligible	Minor	Minor	Minor
	Minor	Minor	Minor	Moderate	Moderate
	Medium	Minor	Moderate	Moderate	Major
	High	Moderate	Moderate	Major	Major

All major adverse impacts identified will be subjected to further consultations with experts to provide measures to avoid, reduce, restore and offset residuals in accordance with the mitigation hierarchy.

2.0 PROJECT DESCRIPTION

The implementation programme will be consultative and will follow a systematic approach. Some activities may run parallel so that the project may be delivered within the timeframe of this year when the elephant age structure is in alignment with the sizes of crates designed for them. The activity flow process is as outlined in figure1 below.

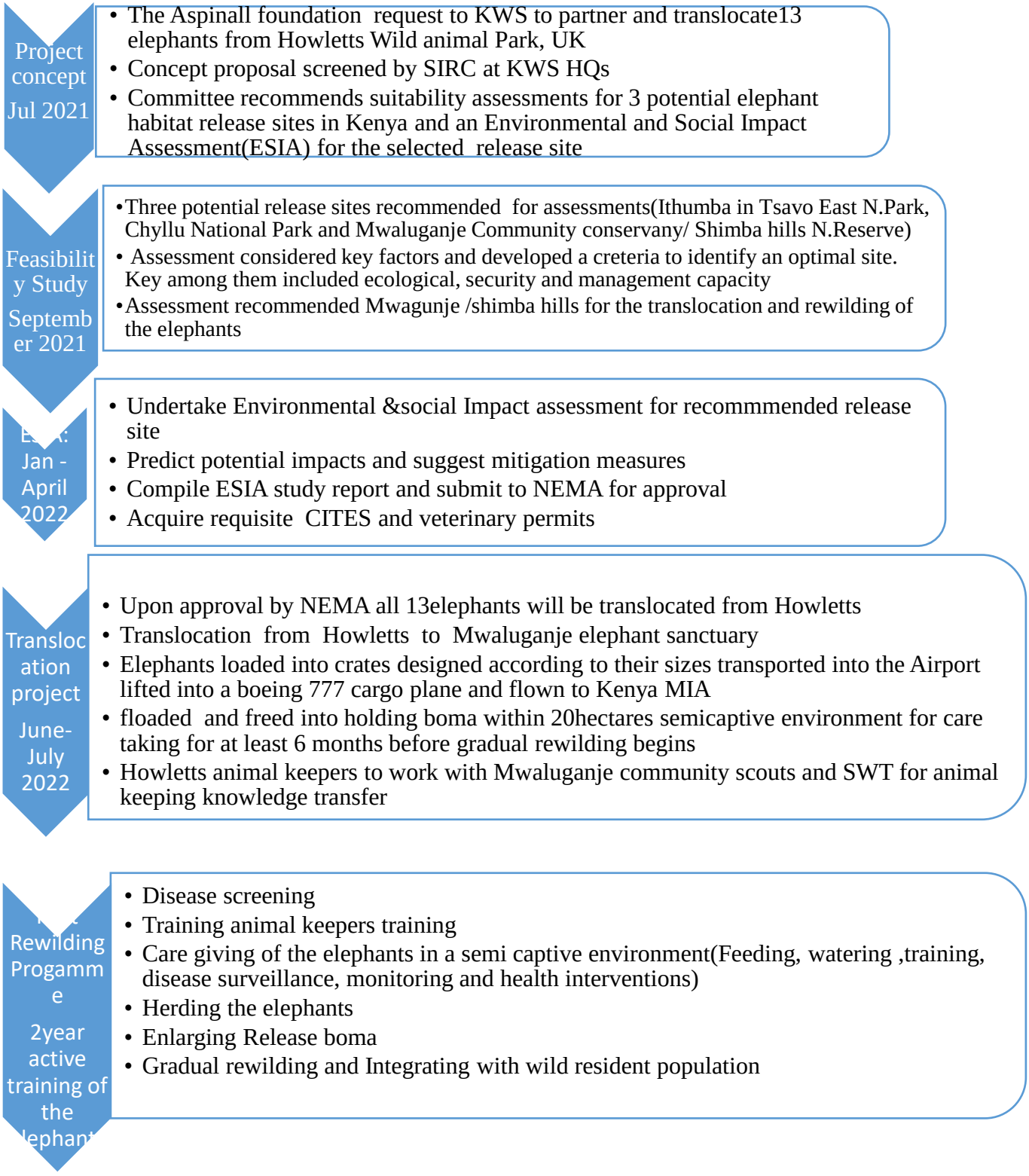

Figure 1. Overview of the translocation and re-wilding workflow

2.2 Project Location

The Elephant recipient site is located in Shimba Hills Ecosystem (SHE) of Kwale County, about 40Km southwest of Mombasa town. It lies within longitudes 39^0 17'and 39^0 30'East, and latitudes 4^0 09' and 4^0 21'South. The ecosystem covers approximately 25,905ha, including 19,250hafor Shimba Hills National Reserve (SHNR), Mkongani north forest reserve 1110ha, Mkongani west forest reserve 1,360ha, Mwalunganje forest reserve 1,715ha Mwaluganje elephant sanctuary 2,470ha and the 5km buffer area (Figure 2).

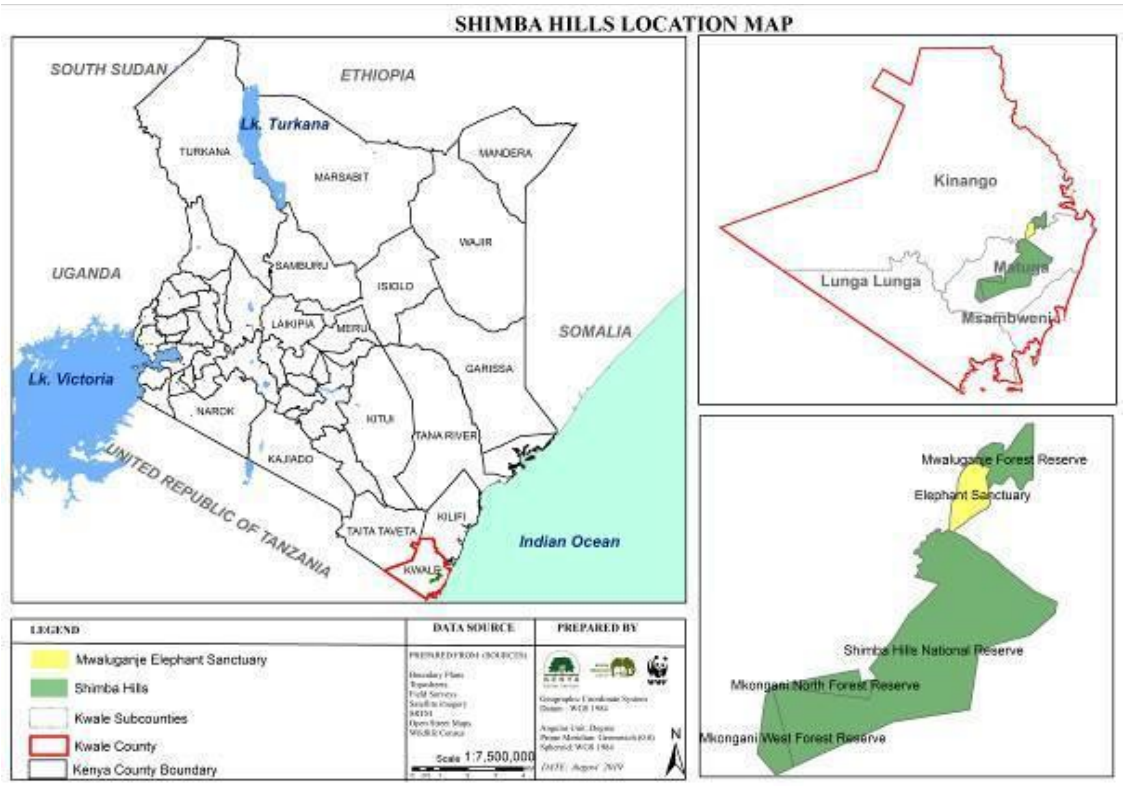

Figure 22: Location of Shimba Hills Ecosystem

The SHE components are as shown in Table 4

Table 4: SHE components and proportion of the areas

SHE Components	Area (ha)	Proportion (%age)
Shimba Hills National Reserve	19,250	74.3
Mkongani North Forest Reserve	1,110	4.3
Mkongani West Forest Reserve	1,360	5.3
Mwaluganje Forest Reserve	1,715	6.6
Mwaluganje Elephant Sanctuary	2,470	9.5
Total Area	25,905	100.0

Shimba Hills was first gazetted as a National Forest in 1903 and in 1967, the area of about 241km2 was gazetted as a National Reserve. The National Reserve is co-managed by KWS and The elephant holding enclosure/boma and the release enclosure will be located at the Mwaluganje elephant sanctuary GPS coordinates 39°25'43.857"E 4°8'33.89"S . It is at the holding boma that the animals will receive care and intensive management before they are released into the bigger ecosystem.

Figure1 below shows the Shimba Hills Ecosystem(SHE) and the distinct conservation areas of Mwaluganje elephant sanctuary, Shimba hills N. Reserve and the forest reserves.

2.3 THE TARGET ELEPHANTS

The project will undertake translocation and re-wilding of 13 African Savannah Elephants from the Howletts Wild Animal Park in Kent, United Kingdom (UK) to Mwaluganje Community Wildlife Conservancy which is part of the Shimba hills ecosystem in Kenya. The herd consists of 8 females and 5 males, the oldest and youngest being 34.1 and 1.2 years respectively. The 13 elephants were born in captivity in Europe and are descended from founders originating from Tanzania (26.9%)), Zimbabwe (53.9%) and South Africa (19.2%) of the current group composition.

Figure 3 Elephants in stockade at Howletts

The table 5 below provides a description of the elephants' age and sex structure.

Table 5. Status of the 13 Elephants in Howlett's Wild Animal Park 2021

s.no	Name	Sex	Weight	Year of birth	Generation
1	Tammi	F	3.6	Apr 1987	F1
2	Jara	F	3	Apr 2005	F2
3	Jama	F	3	Jul 2006	F1
4	Etana	F	2	Dec 2008	F1
5	Uzuri	F	2.2	Feb 2008	F2
6	Manzi	F	1.4	May 2010	F3
7	Mirembe	F	1.4	June 2014	F2
8	Juluka	M	1.5	Feb 2011	F2
9	Mchumba	M	1.7	Dec 2010	F1
10	Impi	M	2	June 2011	F2
11	Nusu	M	0.75	2018	F2
12	Oku	M	0.5	Nov 2019	F3
13	Nguvu	M	0.5	Mar 2020	F3

The elephants are reportedly in good health condition (profile of the elephants with photographs of individual elephants is annexed for reference.

2.4 Project Activities

2.4.1 Elephants Training at Howletts wild animal Park,UK

The elephants are undergoing training at Howletts wild Animal Park in preparation for loading in to crates during actual translocation.

2.4.2 Translocation of the elephants

The elephants will be loaded into specially made crates of hhigh quality steel structures that are custom designed and fitted per the size of each elephant. The crates have hatches and ladders to access elephants during travel, lower hatches are used to put water in crates. The crates have ventilation slots in the bottom corners of the crates and on the top side panels. Additional ventilation are also provided on the mid side panels. They are designed with dark interiors to assist in keeping elephants calm and floor plating to ensure elephants do not slip during transport.

Figure 4. Elephant on training session in Howletts

Figure 5. Custom made crates for transporting the elephants

The crates will be fitted with removable bars that will be used to feed the elephants into the crate during loading so that they don't need to be immobilised. Crate training process is making significant use of this method. Crates have been designed in flat pack format so that they can be disassembled and reused for other operations in Kenya or abroad.

They will then be loaded on trucks and transported to the airport in the UK where the animals will be moved from the trucks to a boeing777 cargo aircraft. All 13 crates are able to fit into the Boeing 777, with space at the back for food/water and the calves have been positioned as close as possible to their mothers. As shown by lines on the layout.

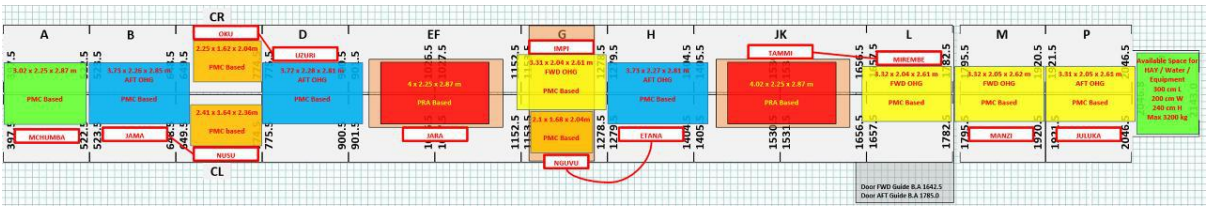

Figure 6 Load plan of the crates in the aircraft

The Journey from Howletts to the airport may take 2 hours and the flight to Mombasa International airport will take about 8 hours. Upon arrival at Mombasa airport the animals will be loaded on trucks and transported to Mwaluganje taking at least another 2 hours.

2.4.3 Re-wilding programme

Phase 1: Holding/Management Boma (1ha): The elephants will be placed in the holding boma when they arrive at Mwaluganje. This will enable the team to monitor them intensively and provide any required treatments. The elephants will always be fed in the management boma during the re-wilding process to ensure that they are able to be moved from the larger re-wilding area to the boma on a routine basis.

There will also be a crush facility which the elephants will need to walk through from the management boma to the larger re-wilding area. The crush will be used to treat elephants as and when required. The management boma will have shade, water and other requirements for the elephants. The fence of the management boma will be built according to the same specification as the perimeter fence of the reserve so that the elephants can learn about the perimeter fence from day 1.

Phase 2: Re-wilding enclosure – A 50 acres/20 hectare re-wilding enclosure will be constructed. Once ready and the vets have determined that the elephants are healthy after the translocation has taken place, the elephants will be allowed to leave the management boma and move into the re-wilding enclosure. They will be exposed to a variety of habitats on the enclosure and they will start to get used the natural vegetation. They will also start interacting with wild elephants at this stage. Most species rely heavily on individual experience and learning as juveniles for their survival and the elephants should be given the opportunity to acquire the necessary information to enable survival in the wild, through training in the holding boma and re-wilding enclosure. The captive bred individual's probability of survival should approximate that of a wild counterpart.

They will still be fed in the management boma and their water will be provided in the management boma to ensure that they need to go through the crush, into the management boma on a daily basis in the event that they need to be treated. This will assist in intensively monitoring the elephants. There will be mud hollows in the re-wilding enclosure to ensure that

they can get a real experience of what the larger reserve will be like. The intention is to include an interaction zone, where large poles will planted in series to replace a portion of the perimeter fence. This will allow the wild elephants to smell and touch the elephants in the boma. This will ensure that there is a controlled introduction to the wild herd.

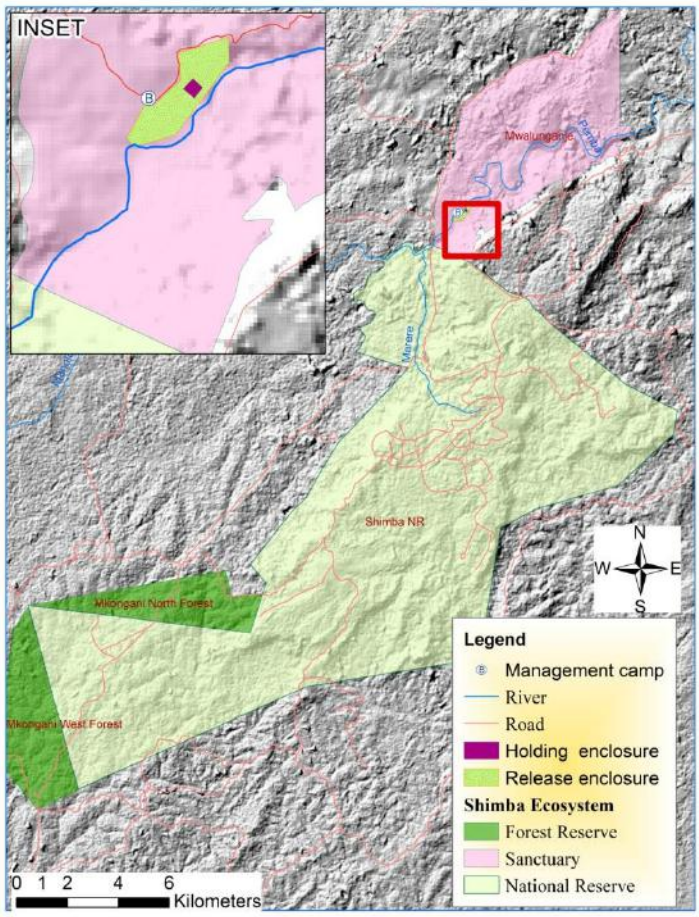

Figure 7. Map of the project site showing location of holding and release enclosures

Phase 3: Release into larger reserve – Once the team feels that the elephants are ready, they will be allowed to leave the re-wilding enclosure but to be allowed to come back whenever they feel necessary. They may enjoy the safety of the re-wilding enclosure in the beginning and may want to return as and when necessary. The matriarch and the younger bulls will be fitted with satellite collars to ensure they can be tracked once they are released.

The estimated cost of the project is GBP 950,000.00 translating to about Ksh. 145million.

3.0 POLICY AND REGULATORY FRAMEWORK

Every project or programme is governed within a range of shared system of rules and there is need to understand the policy and legal framework upon which a development proposal is anchored. This enables the implementation actors to leverage on compliance and inclusive and effective governance arrangements for environmental sustainability of the project.

3.1 Policy Review

3.1.1 The Constitution of Kenya

Article 42 of the Bill of Rights of the Kenyan Constitution provides that 'every Kenyan has the right to a clean and healthy environment, which includes the right to have the environment protected for the benefit of present and future generations through legislative and other measures. Part 2 of Chapter 5 of the constitution is dedicated to Environment and Natural Resources. Article 69 in Part 2 provides for among others sustainable utilization and exploitation of natural resources, public participation on matter affecting the environment, establish environmental assessments and monitoring systems.

Development Projects should ensure compliance with the constitution in so far as equitable sharing of the resources, between the stakeholders. Further, the projects should ensure the sustainability of livelihoods and biological resources within the project areas are protected. Any development proposals should also be cognizant of the increased powers under the Constitution given to communities and individuals to enforce their rights through legal redress. In compliance with the constitution the partners in the proposed project will need to involve stakeholders and the recipient community at various stages of the project implementation. During the ESIA consultation and public participation process was undertaken as prescribed in chapter 5 of this report.

3.1.2 Kenya's Wildlife Policy

The key relevant elements of the project is embodied in Kenya's Wildlife Policy, Sessional Paper No. 3 of 1975 which includes optimization of returns from wildlife through aesthetic, cultural, scientific and economic gains. It also points of the need to identify and implement compatible land uses and fair distribution of benefits derived from wildlife including from both non-consumptive and consumptive uses of wildlife. In addition, the policy seeks to conserve and manage wildlife resources as a national endowment for sustainable development, wealth creation and employment and recommends application of *ex-situ* conservation for species where this option is deemed necessary.

3.1.3 The National Wildlife Strategy

The National Wildlife Strategy (2018) outlines a transformative vision for Kenyans' active participation and equitable benefit sharing. It is anchored on clear targets and a collaborative implementation framework in response to the chronic and emerging challenges facing wildlife. It calls on all Kenyans to recognize and embrace their role as individuals and communities who conserve our rich natural heritage, essential ecosystem services and natural resources upon which our collective development depends. Pillar 2 highlights the need to engage all Kenyans in recognizing the value of wildlife and embracing their role in its conservation through appropriate collaborative initiatives. This includes outreach and awareness activities, conservation education and curriculum development, and incentive programmes that enhance access to benefits and promote participation by all Kenyans. The 4th pillar calls for sustainability and governance. This includes development of an effective governance structure involving communities, counties, the national government, a conservation fund and innovative funding opportunities based on a comprehensive understanding of the value of wildlife to Kenya's sustainable development.

3.1.4 Natural resources development and management policy

The natural resources development and management policy of 2012, seeks to defend and protect the existing natural resources, exploit, harvest and utilize the resources for the sake and enjoyment of both present and future generations. The sixth schedule of the wildlife Act 2013 lists the threatened and protected species in Section 49 of the Act and provides for the development and implementation of species recovery plans, conservation and management of all the species listed under the Sixth Schedule.

3.1.5 Animal welfare policy guidelines

As regards animal welfare policy guidelines, emphasis is given on handling and caring of both domestic and wild animals held in captivity or under the care of humans for whatever reason. The world organization for animal health (OIE) defines animal welfare as how an animal is coping with the conditions in which it lives. An animal is considered as in good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well nourished, safe able to express innate behavior, and if it is not suffering from unpleasant states such as pain, fear and distress. Good animal welfare requires disease prevention and veterinary treatment, appropriate shelter, management, nutrition, humane handling and humane slaughter or killing. Animal welfare also refers to the state of the animal; the treatment that the animal receives such as animal care, animal husbandry and humane treatment. Animal welfare is said to be compromised if the animal fails to benefit from the five fundamental rights including the following: 1) freedom from thirst and hunger: by providing ready access to fresh water and diet so as to maintain full health and vigour, 2) freedom from discomfort- by providing an appropriate environment

including shelter and a comfortable resting area, 3) freedom from pain injury and disease- by preventing or rapid diagnosis and treatment, 4) freedom to express normal behaviour-by providing sufficient space, proper facilities and company of the animals own kind, and 5) freedom from fear and distress – by ensuring conditions and treatment which avoid mental suffering. In Kenya this fundamental rights are safeguarded in the Prevention of Cruelty to Animals Act (CAP 360) and in the Veterinary Surgeons and Veterinary Para-Professionals Act, 2011. The translocation and re-wilding programme will need to be anchored on the law and good international practice.

3.1.6 Convention on International Trade in Endangered species, CITES

According to CITES, the Convention does not require repatriation of listed animals to the country of export be considered as an option for disposal neither does it require animals be returned to the wild in that country. The convention options of disposal falls into three(3) categories; i) maintenance of the individuals in captivity ii) returning the individuals in question to some form of life in the wild iii) euthanasia. For endangered or threatened species, particular effort is directed towards evaluating how these animals might contribute to conservation programme for the species. The decision made depends on various legal, social, economic and biological factors. However, the guidelines suggest that return to the wild would be a desirable option in a very small number of instances and under very specific circumstances. The country returning an animal to its country of origin for release must ensure that the management authority in the country of origin is aware of the return.

Before return to the wild is considered, the following concerns and benefits are evaluated: i) welfare of the animals. There must be humane treatment of the animals when attempting to return to the wild, ii) Conservation value. Repatriation should not threaten existing populations of wild animals or the ecological integrity of the area. The conservation of the species as a whole and other animals already living free must take precedence, iii) The cost of returning animals to the wild can be prohibitive if outweighing the benefits. Poorly planned or executed re-introduction programme is equivalent to dumping animals in the wild and should be vigorously opposed on both conservation and humane grounds, iv) Origin of individuals. Supplementation without knowledge of the source of the individuals may lead to inadvertent pollution of distinct genetic races or sub-species. If particular local races or sub-species show specific adaptations to the local environment, mixing in animals from other races or sub-species may be damaging to the local population. Introducing an animal into the wrong habitat type may also doom it to death. CITES v) Diseases: animals held in captivity or transported may be exposed to pathogens and release of these animals into the wild may result into introduction of diseases to unrelated species with potentially catastrophic effects. Potential effects of introduced diseases on the wild populations are so great that this often preclude returning captive animals into the wild. Disease screening and appropriate quarantine is essential to ensure that they are free from diseases.

Introduced diseases can also be dangerous to captive facilities where infection across different species in a collection is a serious threat hence the need for quarantine. Animals held in captivity are frequently exposed to diseases not usually encountered in natural habitats.

CITES leaves open the possibility for the management authority to obtain the advice of a scientific authority or of the secretariat. However, CITES is concerned about the risks of releasing confiscated specimens into the wild such as the introduction of pathogens and parasites, genetic pollution and negative effects on the local fauna considering that, the release to the wild may not always be in the interest of the conservation of species, especially one not in danger of extinction and recalling that, IUCN has developed guidelines for the disposal of confiscated animals and guidelines for re-introductions and convinced that, the ultimate objective of the convention is the continued existence of wild populations in their natural habitat.

Disposal of captive animals is not a simple process and only on rare occasions will such disposal be straightforward or result in an action with conservation value. Options for disposal of such animals are influenced by the perception that returning animals to the wild is the optimal solution in terms of both animals' welfare and conservation. A growing body of scientific study of reintroduction of captive animals suggests that such actions may be among the least appropriate options for many reasons. This recognition requires that the options available for disposal of the animals be carefully reviewed.

Addition of individuals to an existing population of the same taxon is a powerful conservation tool when natural populations are diminished by a process which can be reversed. The added animals are then used to supplement depleted wild populations. Reinforced animals have very grave risk similar to individuals held in captivity e.g. are potential vectors for disease back into a wild population. Because of inherent disease risks, reinforcement should only be employed in instances where there are direct and measurable benefits -demographically and genetically.

3.1.7 IUCN guidelines for re-introduction

These policy guidelines by the Re-introduction Specialist Group of the IUCN's Species Survival Commission were developed to help ensure re-introductions of species achieve their intended conservation benefit. Section 5 of the IUCN guidelines sets out important planning, preparation and release stages of reintroduction of species. Some of these include:-

- Approval of relevant government agencies and land owners, and coordination with national and international conservation organizations.
- Construction of a multidisciplinary team with access to expert technical advice for all phases of the programme.

- Identification of short- and long-term success indicators and prediction of programme duration, in context of agreed aims and objectives.
- Securing adequate funding for all programme phases.
- Design of pre- and post- release monitoring programme so that each re-introduction is a carefully designed experiment, with the capability to test methodology with scientifically collected data. Monitoring the health of individuals, as well as the survival, is important; intervention may be necessary if the situation proves unforeseeably favourable.
- Appropriate health and genetic screening of release stock, including stock that is a gift between governments. Health screening of closely related species in the re-introduction area.
- If release stock is wild-caught, care must be taken to ensure that: a) the stock is free from infectious or contagious pathogens and parasites before shipment and b) the stock will not be exposed to vectors of disease agents which may be present at the release site (and absent at the source site) and to which it may have no acquired immunity.
- If vaccination prior to release, against local endemic or epidemic diseases of wild stock or domestic livestock at the release site, is deemed appropriate, this must be carried out during the "Preparation Stage" so as to allow sufficient time for the development of the required immunity.
- Appropriate veterinary or horticultural measures as required to ensure health of released stock throughout the programme. This is to include adequate quarantine arrangements, especially where founder stock travels far or crosses international boundaries to the release site.
- Development of transport plans for delivery of stock to the country and site of reintroduction, with special emphasis on ways to minimize stress on the individuals during transport.
- Determination of release strategy (acclimatization of release stock to release area; behavioural training - including hunting and feeding; group composition, number, release patterns and techniques; timing).
- Establishment of policies on interventions (see below).
- Development of conservation education for long-term support; professional training of individuals involved in the long-term programme; public relations through the mass media and in local community; involvement where possible of local people in the programme.
- The welfare of animals for release is of paramount concern through all these

stages.

Policy guidelines on the Management of Introduction, Re-introduction and Donation of Wildlife Species, re-introduction "means movement of a species from within or outside the country to an area where it was previously extirpated or to supplement an existing population while repatriation" implies taking wildlife specimens that were seized/confiscated and or rescued or their progeny back to the country of origin or export. Section 5 of the guidelines outline the purposes and conditions for introductions and donations with subsection 5.1 giving general provisions under which this can happen.

These includes wildlife introductions into the country being subject to approval by the wildlife management authorities of the respective countries, introduced/donated species being fully certified and ascertained to be free from diseases and pests (parasites), being subject to EMCA, 2015 and IUCN guidelines on introduction and supplementation of wildlife, being subject to Memorandum of Agreement (MOA/MAT), Material Transfer Agreement (MTA) and other relevant protocols. The proponents are also supposed to abide by all the provisions of the Wildlife Conservation and Management Act, 2013 and other relevant laws of Kenya and international conservation related protocols. The precautionary principle also applies in all proposals for introductions while Subsection 5.4 provides details on how requests on rescue, rehabilitation and repatriation are to be made. Where a species range State request Kenya or vice versa to offer refuge or repatriate wildlife, a government to government agreement is entered into. Requests from private entities seeking refuge for- or repatriation of wildlife are submitted through the host governments of their facilities and the intended recipient. The captive Wildlife management and welfare guidelines apply for rescue and rehabilitation of wildlife within the country.

Subsection 6.3 provides details on the circumstances in which donation and repatriation of indigenous species into Kenya can be undertaken. The Government may request another State for donation of species indigenous to Kenya for purposes of re- introduction, genetic augmentation and supplementation of the local populations. Where a State hosts a population of indigenous species originally sourced from Kenya, the Government may request such State on mutually agreed terms for repatriation of individuals for re- introduction, genetic augmentation and supplementation of the local populations. The repatriated species from captive facilities are then held in controlled environment for gradual release in to the wild where they are free released in the wild among their con-specifics.

3.1.8 Conservation and management strategy for the elephant in Kenya 2010-2021

The long term vision for the strategy was a secure future for elephants and their habitats, based on peaceful and beneficial co-existence with people, now and for generations yet to come. While the overall goal was to maintain and expand elephant distribution and numbers in suitable areas,

enhance security to elephants, reduce human-elephant conflict and increase value of elephants to people and habitat. The strategy considers initiating elephant projects in targeted protected areas for tourism stimulation. The proposed project is envisaged to stimulate tourism in the in MES and the multiplier effects of the project activities will contribute to the vision.

3.1.9 The Land Policy

Environmental management principles: To restore the environmental integrity the government shall introduce incentives and encourage use of technology and scientific methods for soil conservation. Fragile ecosystems shall be managed and protected by developing a comprehensive land use policy bearing in mind the needs of the surrounding communities.

The sustainable management of land based natural resources depends largely on the governance system that defines the relationships between people, and between people and resources. To achieve an integrated approach to management of land based natural resources, all policies, regulations and laws dealing with these resources shall be harmonized with the framework established by the Environmental Management and Coordination Act (EMCA),1999 and EMCA (Amendment 2015).

3.1.10 National Environmental Policy, 2013

The National Environment Policy aims to provide a holistic framework to guide the Management of the environment and natural resources in Kenya. It further ensures that the linkage between the environment and poverty reduction is integrated in all government processes and institutions in order to facilitate and realize sustainable development at all levels. This is done in the context of green economy enhancing social inclusion, improving human welfare and creating opportunities for employment and maintaining the healthy functioning of ecosystem.

The main goal of this Policy is “A better quality of life for present and future generations through sustainable management of the environment and natural resources” Finally, the main objectives of the National Environmental Policy are:

(i) Promote and support the use of innovative environmental management tools – such as incentives, disincentives, total economic valuation, indicators of sustainable development, SEA, EIA, Environmental Audit, and payment of environmental services – in environmental management;

(ii) Promote and enhance cooperation, collaboration, synergy, partnerships and participation in the protection, conservation, better management of the environment by all the stakeholders;

3.2 Regulatory Provisions

Provisions of the national regulations on environmental management and conservation implies that the project proponent will need to comply with the established environment management regulations and should not compromise on the environmental health and safety requirements for the elephants and the people involved in the project implementation. This position enhances the importance of this ESIA and subsequent implementation of the ESMP developed there from. The key national laws that govern the management of environmental resources in the country will also be integrated throughout the construction and subsequent operations. Note that wherever any of the laws contradict each other, the Environmental Management and Coordination Act 1999 prevails.

3.2.1 Wildlife Conservation and Management Act (WCMA) 2013

This is an Act of Parliament to provide for the protection, conservation, sustainable use and management of wildlife resource in Kenya and for connected purposes. Part VI has provisions for the conservation, protection and management of wildlife. Based on this Act, Kenya Wildlife Service is the principle lead agency in all matters pertaining to conservation and management of wildlife within Kenya. Under the Wildlife Conservation and Management (Amendment) Act 2013, Part (1) under general principles provides for the devolution of wildlife conservation and management as much as possible and formulation of a wildlife conservation and management strategy with clear principles, objectives, standards, indicators, procedure and incentives with which wildlife resources shall be protected, conserved, managed and regulated.

Under the Act, where any person suffers any bodily injury or is killed by any wildlife listed under the Third Schedule, the person injured, or in the case of a deceased person, the personal representative or successor or assign, may launch a claim to the County Wildlife Conservation and Compensation Committee within the jurisdiction established under this Act.

Section 26 (1) states that the provisions of this Act with respect to conservation, protection and management of the environment shall be in conformity with the provisions of the Environmental Management and Coordination Act. Under section 27 (2), a user or other related right shall not be granted under this Act where the requirement for a strategic environmental, cultural, economic and social impact assessment license under the Environmental Management and Coordination Act, 1999 has not been complied with. In addition, the Act,

(i) Applies to all wildlife resources on public, community and private land, and Kenya territorial waters, and recognizes conservation of wildlife on community and as a land use.
(ii) Recognizes wildlife conservancies and sanctuaries, wildlife scouts, community wildlife associations.

(iii) Promotes ecosystem based planning and effective participation of the public in wildlife management.
(iv) Encourages equitable sharing of benefits from wildlife to offset costs and devolution of wildlife conservation to those owners and managers of land where wildlife occurs.

The elephant release site though adjacent to Shimba hills National reserve is on privately owned land that is communally managed for conservation and forms an important dispersal area for the resident elephants and other species which therefore triggers the requirement to ensure the wildlife on site is protected and conserved during and after the project implementation.

3.2.2 The Land Act, 2012

This is an Act of parliament that apply to all land declared as public land under article 62 of the constitution, private land under article 64 and community land under article 63 of the constitution. In the discharge of their functions and exercise their powers under this Act, the land commission and any state officer or public officer shall be guided by the following values and principles among others,

(i) Equitable access to land
(ii) Security of land rights
(iii) Sustainable and productive management of land resources
(iv) Conservation and protection of ecologically sensitive areas
(v) Technical and financial sustainability
(vi) Affording equal opportunities to members of all ethnic groups
(vii) Non-discrimination and protection of the marginalized and
(viii) Democracy, inclusiveness and participation of the people.

The above values need be considered during the elephant translocation and the longterm re-wilding programme. Public participation and consultation was undertaken to make sure that the affected and interested stakeholders participated in the project development and will continue to be actively involved in the operation phase of the project.

3.2.3 The Land Registration Act

This Act seeks to revise, consolidate and rationalize the registration of titles to land, to give effect to the principles of and objects of devolved government in land registration. Subject to section 4, this Act shall apply to:

(i) Registration of interests in all public land as declared by Article 62 of the Constitution
(ii) Registration of interest in all private land as declared by article 64 of the constitution

(iii) Registration and recording of community interests in land as declared by Article 63 of the constitution.

Some parcels of land on which the elephant Re-wilding enclosure and holding boma will be constructed is registered under Mwaluganje Conservancy company name wile other parcels are privately owned but the owners have surrendered it for conservation to constitute their shareholding in the company. This need to be addressed in the MoU for sustainability of the project despite the fact that the Release boma will be for temporary holding of the elephants before they are released.

3.2.4 Environmental Management and Coordination Act, 1999 (Amendment 2015)

The Environmental Management and Coordination Act (EMCA) 1999 being the principle law shall be read alongside the Environmental Management and Coordination (Amendment) Act 2015. The latter provides amendments to the Principle Act on section by section basis.

Part II of the Environment Management and Coordination Act, 1999 states that every person in Kenya is entitled to a clean and healthy environment in accordance with the Constitution and relevant laws and has the duty to safeguard and enhance the environment. Section 3 of the Act also states that every person shall cooperate with the State Organs to protect and conserve the environment and ensure sustainable development and use of natural resources. In order to partly ensure this is achieved, Part VI under Section 58 of the Act directs that any proponent for any project to undertake and submit to NEMA an Integrated Environment Impact Assessment (unless exempted by NEMA), who in turn may issue a license as appropriate.

EMCA, 1999 has created Regulations governing various environmental areas including the following;

3.2.4.1 EMC (EIA and EA) Regulations, 2003 (Amendment 2019)

The EIA and Audit Regulations state in Regulation 3 that "the regulations should apply to all policies, plans, programmes, projects and activities specified in Part IV, Part V and the Second Schedule of the Environment Management and Coordination Act 1999 (Amendment, 2015). Part II of the Regulations indicates the procedures to be taken during preparation, submission and approval of the ESIA Project Report. EMC (EIA and EA) Regulations (Amendments 2019) places establishment of nature reserves under high risk projects to be assessed at full study level.

3.2.4.2 EMC (Waste Management) Regulations, 2006

The regulations are formed under sections 92 and 147 of the Environmental Management and

Coordination Act, 1999. Under the regulations, a waste generator is defined as any person whose activities produces waste while waste management is the administration or operation used in handling, packaging, treatment, conditioning, storage and disposal of waste. The regulations require a waste generator to collect, segregate and dispose each category of waste in such manners and facilities as provided by relevant local authorities. Regarding transportation, licensed persons shall operate transportation vehicles approved by NEMA and will collect waste from designated areas and deliver to designated disposal sites. Appropriate management measures would be necessary throughout the project phases.

3.2.4.3 EMC (Water Quality Management) Regulations 2006

These regulations were drawn under section 147 of the Environmental Management and Coordination Act 1999. In accordance with the regulations, every person shall refrain from acts that could directly or indirectly cause immediate or subsequent water pollution and no one should throw or cause to flow into water resources any materials such as to contaminate the water. The regulation also provides for protection of springs, streams and other water sources from pollution. There are potential linkages during construction and use though mainly internal.

3.2.4.4 EMC (Conservation Of Biological Diversity And Resources, And Access To Genetic Resources And Benefits Sharing) Regulations, 2006.

The regulations were developed to protect biological diversity and resources. These Regulations apply to access to genetic resources or parts of genetic resources, whether naturally occurring or naturalised, including genetic resources bred for or intended for commercial purposes within Kenya or for export, whether in in-situ conditions or ex-situ conditions. They do not apply to the exchange of genetic resources where the exchange is done by a local community among themselves and for their own consumption; or where the exchange is certified to be purely for food or other consumptive purposes as prescribed by the relevant laws. Any person who intends to access genetic resources in Kenya needs an Access permit for genetic resources in Kenya with a certificate from National Council for Science and Technology. The process of accessing a permit involves a multi-agency engagement and a Prior Informed Consent as may be applicable.

Section 4 of the regulation stipulates that a person shall not engage in any activity that may-
(a) have an adverse impact on any ecosystem;
(b) lead to the introduction of any exotic species;
(c) lead to unsustainable use of natural resources,
without an Environmental Impact Assessment Licence issued by NEMA..

Section 9 of the regulation states that any person who intends to access genetic resources in Kenya shall apply to for an access permit and the application shall be accompanied by evidence of Prior Informed Consent from interested persons and relevant lead agencies, and a research

clearance certificate from the National Council for Science and Technology. This regulation may not be applicable to this project because the is no direct access to the genetic resources instead it is introduction of genetic resource into the ecosystem

3.2.5 Occupational Safety and Health Act No. 15 of 2007

This is an Act of parliament to provide for the safety, health and welfare of all workers and all persons lawfully present at workplaces, to provide for the establishment of the National Council for Occupational Safety and Health and for connected purposes. It applies to all workplaces where any person is at work, whether temporarily or permanently. The Act provides that before any premises are occupied, or used as a workplace, a certificate of registration must be obtained from the Director of Occupational Safety and Health Services. The Act provides for the health, safety and welfare for employees at workplaces. This shall be considered at the construction, implementation and decommissioning phases of the project.

Every premise shall be provided with maintenance, readily accessible means for extinguishing fire and person trained in the correct use of such means shall be present during all working periods. Regular individual examination or surveys of health conditions of industrial medicine and hygiene must be performed and the cost will be met by the employer. This will ensure that the examination can take place without any loss of earning for the employees and if possible, within normal working hours. The Occupational Safety and Health Act provides for development and maintenance of an effective programme of collection, compilation and analysis of occupational safety. This will ensure that health statistics, which shall cover injuries and illness including disabling during working hours, are adhered.

The Act has subsidiary legislations that are applicable to aviation industry that are outlined in the following sub-sections.

3.2.5.1 Safety and Health Committee Rules, 2004 Legal Notice No. 31

These rules are described in Legal Notice No. 31 of the Kenya Gazette Supplement No. 25 of 2004. The rules apply to all places work that have twenty or more employees. The Legal Notice provides for formation of safety committees and describes the functions and duties of the committees, the purpose and the roles of the office bearers. This Subsidiary Legislation will be applicable at the camp where the animal keepers and conservancy rangers congregate and form a safety committee to oversee safety of animal keeping activities.

3.2.5.2 Fire Risk Reduction Rules, 2007 Legal Notice No. 59

Every operator of a workplace employer is required to maintain good ventilation to allow exit of flammable fumes in case of fire, maintain good housekeeping, maintain good electrical fittings,

provide and maintain fire exits, form and train firefighting teams, conduct fire drills yearly, designate an assembly points, provide and maintain first aid facilities, post fire safety notices, install fire detectors, provide and maintain firefighting appliances, conduct an annual fire safety audit and formulate a fire safety policy. This will be applicable in the operation camps of the animal keepers and security rangers.

3.2.5.3 Hazardous Substances Rules, 2007 Legal Notice No. 60

The rules require that where hazardous substances are handled, protection be provided. Employees handling electronic devices have to be protected against electromagnetic radiation, other forms of radiation by way of personal protective equipment and medical examination. Material Safety Data Sheets (MSDS) must be availed in respect of all chemicals handled. Correct disposal of hazardous substances must be done and containers of such hazardous substances be labeled. Substances in form of detergents and fumigants are used in cleaning and sanitation. The rules will help the KAA to ensure safety and health of workers with regards to chemical and electronic substances as may be applicable.

3.2.5.4 First Aid Rules, 1977 Legal Notice No. 160

These rules outline first-aid requirements with respect to every workplace and under whose charge the first-aid box should be placed. In all workplaces, provision of first aid is a requirement and the rules will be useful in this regard in catering for injuries sustained. The rules will apply in all KAA workplaces including offices, stores, installations, etc.

3.2.5.5 Electric Power (Special) Rules, 1979 Legal Notice No. 340

The rules were developed to provide for electrical safety with regards to electrical power installations, use and handling. These rules apply to generation, transformation, conversion, switching, controlling, regulating, distribution and use of electricity. The rules will be applied to ensure electrical safety at the offices, energizer houses and electric fence installations. This will rules will be applied to ensure safety at the offices and in the electric fence.

3.2.6 The Water Act 2016

Section 22 and sub-sections and 2 of the Act allows the Water Resources Authority the responsibility to take any lawful action that will protect established water catchment and the water resources thereof. Section 36 of the Act outlines requirements to be met for abstraction and use of water while Section 40 provides procedures of obtaining a water abstraction permit including undertaking Environment Impact Assessment study for the target abstraction point as well as appropriate consultations with the relevant stakeholders in accordance with the environmental impact assessment as per the Environmental Management and Coordination Act,

1999. Part of the water abstraction conditions are listed under Section 43 of the Act while groundwater abstraction is guided by the Fourth Schedule of the Act.
Under Part IV, Section 107 of the Water Act 2016, it is required that a Licensee will undertake necessary measures to intercept wastewater emanating from the water use or traversing their jurisdiction by constructing and maintaining appropriate drainage and/or sewer systems and other structures. The Licensee will also obtain necessary approvals from other Agencies whose service lines interacts with the drains, sewers or other structures for control of pollution. Section 108 of the Act provides for regulations of discharge of trade effluents with potential to harm environment or human health into drains or sewers. Part VIII and Section 143 prohibits any person to throw, convey rubbish, dirt, refuse, effluent, trade effluent or other offensive matter into water resources and likely to cause pollution of the water. The proponent shall take reasonable measures to ensure the management camp does not in any way pollute any surface water resource particularly River Marere. Water abstraction permit shall be obtained from WRA before sinking new borehole or abstracting water from the River for the purposes of the project.

3.2.6.1 Water Management Rules 2007

One of the outcomes of the water sector reforms has been improved regulatory framework for water resource management and use. In addition to the Water Act 2002, the main document outlining the regulations is the Water Resource Management Rules 2007. The rules set out the procedures for obtaining water use permits and the conditions placed on permit holders. Sections 54 to 69 of the Water Resources Management Rules 2007 impose certain statutory requirements on dam owners and users in regard.

Other sections within the rules imply that WRA can impose water quality sampling requirements on and impacts to the water sources downstream the project locations. Section 16 of the Water Rules requires approval from the Water Resources Authority (WRA) for a variety of activities that affect the water resources, including the storage of water in dams and pans. Approval by WRA is conferred through a Water Permit. A permit is valid for five years and must be renewed.

Section 104 of the Water Resource Management Rules requires certain water permit holders to pay water use charges. The intention of the water use charges was to raise revenue for water resource management, raise revenue for catchment conservation activities, improve efficiency of water resource abstraction and provide a system of data collection on water resource usage.

3.2.7 Public Health Act (Cap. 242)

Section 115 of the Act states that no person/institution shall cause nuisance or condition liable to be injurious or dangerous to human health. Section 116 requires Local Authorities to take all lawful, necessary and reasonably practicable measures to maintain their jurisdiction clean and sanitary to prevent occurrence of nuisance or condition liable for injurious or dangerous to

human health. Such nuisance or conditions are defined under section 118 as waste pipes, sewers, drains or refuse pits in such a state, situated or constructed as in the opinion of the medical officer of health to be offensive or injurious to health. Any noxious matter or wastewater flowing or discharged from any premises into a public street or into the gutter or side channel or watercourse.

Other nuisances are accumulation of materials or refuse which in the opinion of the medical officer of health is likely to harbour rats or other vermin. On the responsibility of local authorities, Section 129 of the Act states in part "It shall be the duty of every local authority to take all lawful, necessary and reasonably practicable measures for preventing any pollution dangerous to health of any supply of water which the public within its district has a right to use and does use for drinking or domestic purposes…". Section 136 states that all collections of water, sewage, rubbish, refuse and other fluids which permits or facilitate the breeding or multiplication of pests shall be deemed nuisances and are liable to be dealt with in the manner provided by this Act.

3.2.8 Physical Planning Act 2019

Section 24 of the Physical Planning Act gives provision for the development of local physical development plan for guiding and coordinating development of infrastructure facilities and services within the area of authority of County, municipal and town council and for specific control of the use and development of land. The plan shows the manner in which the land in the area may be used. Section 29 of the physical Planning Act gives the county councils power to prohibit and control the use of land, building, and subdivision of land, in the interest of proper and orderly development of its area. The same section also allows them to approve all development applications and grant development permissions as well as to ensure the proper execution and implications of approved physical development plans. On zoning, the act empowers them to formulate by-laws in respect of use and density of development.

3.2.9 The HIV and AIDS Prevention and Control Act

This Act commenced in March of 2009. It is an Act of Parliament to provide measures for the prevention, management and control of HIV and AIDS, to provide for the protection and promotion of public health and for the appropriate treatment, counselling, support and care of persons infected or at risk of HIV and AIDS infection and for connected purposes. The provisions of the Act should be integrated into the project implementation plan. Every new project attracts new people in an area and social interactions. Sustained education and Awareness is important particularly among the local community to control and minimize potential spread of HIV and Aids.

3.2.10 Work Injury Compensation Benefit Act 2007

This act provides for compensation for employees on work related injuries and diseases contacted in the course of employment and for connected purposes. The act includes compulsory insurance for employees. The act defines an employee as any worker on contract of service with employer will be relevant during construction phase while operations will be blended with the normal airport procedures.

Part II of the Act requires Employers to obtain and maintain insurance policy for their employees while Part III Section 10 provides for compensation of employees who gets involved in accidents resulting in disablement or death and is entitled to benefits unless it is a result of mis-conduct of the employee. Under Section 34, in the event of death arising from the occupational accident, the compensation shall be paid to the dependents of the employee in accordance. Part VII section 45 requires that an employer provide and maintain appliance and services for rendering first aid to his employees. Section 48 instructs that an Employer shall defray any expenses reasonably incurred by an employee as a result of an accident arising out of and in the course of the employment.

The Contractor shall be prevailed upon to ensure prevention measures but where injuries occur, the law shall be applied accordingly. The same shall apply to the facility operator upon commissioning.

3.2.11 Tourism Act, No 14 of 2011

Section (5) gives the CS mandates to formulate and publish a national tourism strategy which prescribes the principles, objectives, standards, indicators, procedures and incentives for the development, management and marketing of sustainable tourism. This plan shall therefore be implemented to implement the following subsections:

(c) measures to facilitate and enhance domestic and regional tourism taking cognizance of the county governments;

(g) national tourism research and monitoring priorities and information systems,

(h) measures necessary to ensure equitable sharing of benefits in the tourism sector;

The Act also stipulates one of the functions of the Tourism Regulatory Authority which will of concern to this plan; (a) formulate guidelines and prescribe measures for sustainable tourism throughout the country; and The Tourism Board which;

(c) identify tourism market needs and trends and advise tourism stakeholders accordingly;

(d) determine, in consultation with lead agencies, the carrying capacities of the various tourism destinations and conservation needs and priorities;

(f) research on sustainable tourism and other emerging areas;

(h) organize symposia, conferences, workshops and other meetings to promote the exchange of views on issues relating to tourism research and analysis;
(i) publish, annually, research findings and communicate recommendations to the relevant lead agencies, institutions and other stakeholders in the tourism sector;
Part (iv) 61 establishes Tourism data-base through The Institute which in consultation with relevant lead agencies and stakeholders, ensure that data is collected in accordance with any harmonized national standards that may be prescribed under this Act or regulations made hereunder. It also stipulates that the Institute shall, in respect of the data and information that it holds, progressively make the data and information available and accessible, through any means, to all the stakeholders and the general public.

3.2.12 ICAO Environmental Guidelines

The Chicago Convention is a source of international air law and the constitution of ICAO. The Convention on International Civil Aviation, drafted in 1944 by 54 nations, was established to promote cooperation and “create and preserve friendship and understanding among the nations and peoples of the world. “Known more commonly today as the ‘Chicago Convention’, this landmark agreement established the core principles permitting international transport by air, and led to the creation of the specialized agency which has overseen it ever since – the International Civil Aviation Organization (ICAO).

Standards And Recommended Practices (SARPs) are technical specifications adopted by the Council of ICAO in accordance with Article 37 of the Convention on International Civil Aviation in order to achieve "the highest practicable degree of uniformity in regulations, standards, procedures and organization in relation to aircraft, personnel, airways and auxiliary services in all matters in which such uniformity will facilitate and improve air navigation". SARPs are published by ICAO in the form of Annexes to Chicago Convention.

4.0 ENVIRONMENTAL BASELINE CONDITIONS

4.1 Environmental setting

The ESIA Study process will focus on the key aspects relevant to the release site of the elephants(Shimba hills –Mwaluganje Conservancy Ecosystem), namely the ecological and social linkages. These aspects are briefly outlined in this section. Where necessary the conditions will compare with the donor site where the elephants are currently held.

4.2 Physiographic conditions

Shimba hills ecosystem is dissected plateaus that ascend steeply from the coastal plains. The surrounding escarpment rises from around 120m to 300m across the bulk of the plateau and as high as 450m at Marare and Pengo Hills. Small Rivers, some of which are seasonal, flow within sharply dissected valleys. The permanent rivers supply fresh water to Mombasa and the Diani and Ukunda area. The plateau is entirely covered with sedimentary materials. The underlying rocks are the Triassic Shimba Grits, which mainly yields coarse grained ferratic acrisols. The Pliocene Magarini sands occur at the north central part near Kwale town. The sand are medium grained and have a higher cation exchange capacity.

4.3 Climatic conditions

Due to high altitude, the climate of Shimba Hills is hot and moist. However, it is cooler than other areas at the coast due to strong sea breezes and frequent mist and cloud in early morning. The mean annual temperature is about 24^0C (Reuling *et al.*, 1992). The hottest months are January and February while the coldest months are July and August. The area experiences bimodal rain with long rains between April and July and short rains between October and December. The average annual rainfall is approximately 1,150mm (Omondi *et al.*, 1994). Due to suitable rains that support crop farming, the areas around the reserve and sanctuary were settled by farming communities from early 1960s.

4.3.1 Climatic conditions of the donor and release site

The climatic conditions of the donor site and the release site are quite different noting that Europe has temperate climate while most of Africa is tropical climate. This not withstanding animals from Africa have been exported to temperate climate in zoos and found to adapt overtime but mostly under captive care. Similarly it is believed that the elephants from Europe having African origin will easily adapt to the tropical climate.

In Kent, UK, the weather averages show summers as short, warm, dry and partly cloudy and the winters are very cold, wet and mostly cloudy. Temperatures vary over the year from 38^0F

(3.3^{0}C) to 79^{0}F(26.1^{0}C) and rarely below 28^{o}F(-2.2^{0}C) and above 89^{0}F(31.7^{0}C). In Mwaluganje Shimba Hills ecosystem temperatures vary over the year from 26^{0}C to 31^{0}C and rarely below 20^{0}C .

Table 5. Average monthly minimum and maximum temperatures and rainfall for Kent and mwaluganje shimba hills

Month	**KENT, UK**			**Mwalugaje, Shimba hills**		
	Min o^{0}C	Max o^{0}C	Rainfall. (mm)	Min o^{0}C	Max o^{0}C	Rainfall (mm)
Jan	4	7	103.4	22	31	22.8
Feb	3	7	72.3	22	31	13.2
Mar	6	10	51.2	23	31	50.1
Apr	8	12	49.8	22	30	154.9
May	12	16	55.5	21	28	256.8
Jun	15	18	45.5	20	27	91.8
Jul	17	21	52.2	19	26	69.8
Aug	17	21	72	19	26	62.2
Sep	14	18	46.3	19	27	53.6
Oct	10	14	87.7	20	28	120.4
Nov	6	10	98.4	21	29	89.2
Dec	4	8	93.6	22	30	49.9
Total			827.9			1034.7

Minimum Temperatures

From minimum average temperatures taken at night the highest minimum temperatures in Kent, UK are observed between May and September (12-17^{0}C) with a peak in July-August (Figure 8). Comparatively Mwalugaje conservancy is relatively warmer at night than Kent, UK.

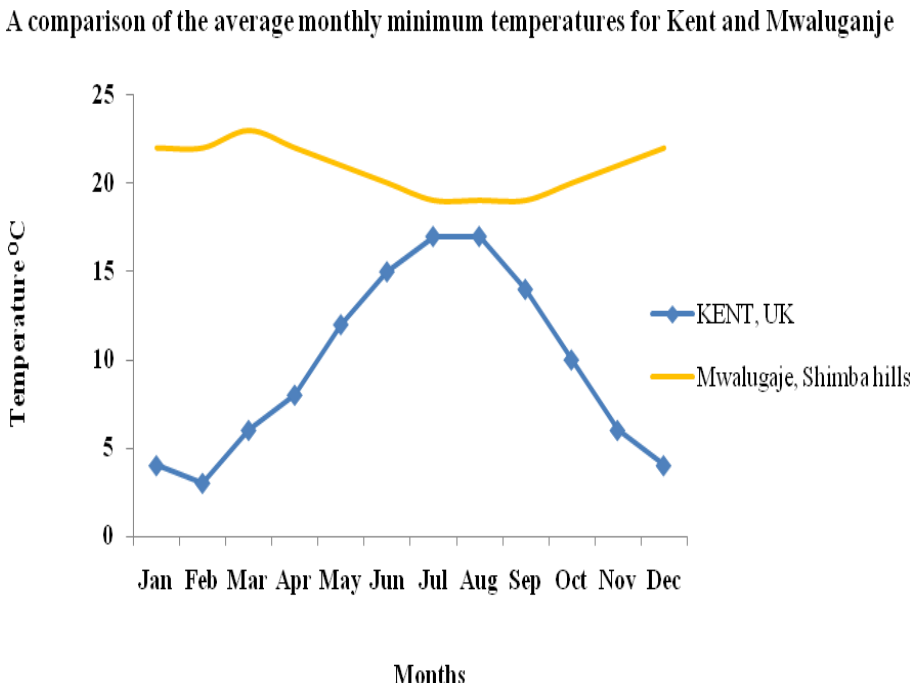

*Figure 8**:** A comparison of the average monthly minimum temperatures for Kent and Mwaluganje*

Maximum Temperatures

In Kent, UK November to February records the lowest maximum temperatures (7-10^{0}C) while the highest maximum temperature are observed between May and October (16-21^{0}C) with a peak in July-August (21^{0}C). The highest maximum temperatures in Kent (21^{0}C). On the other hand the lowest temperature in Mwaluganje is between the months of May to September. This could be the best time for translocation of the elephants when the temperature differences between the source and recipient site is minimal (Figure 7).

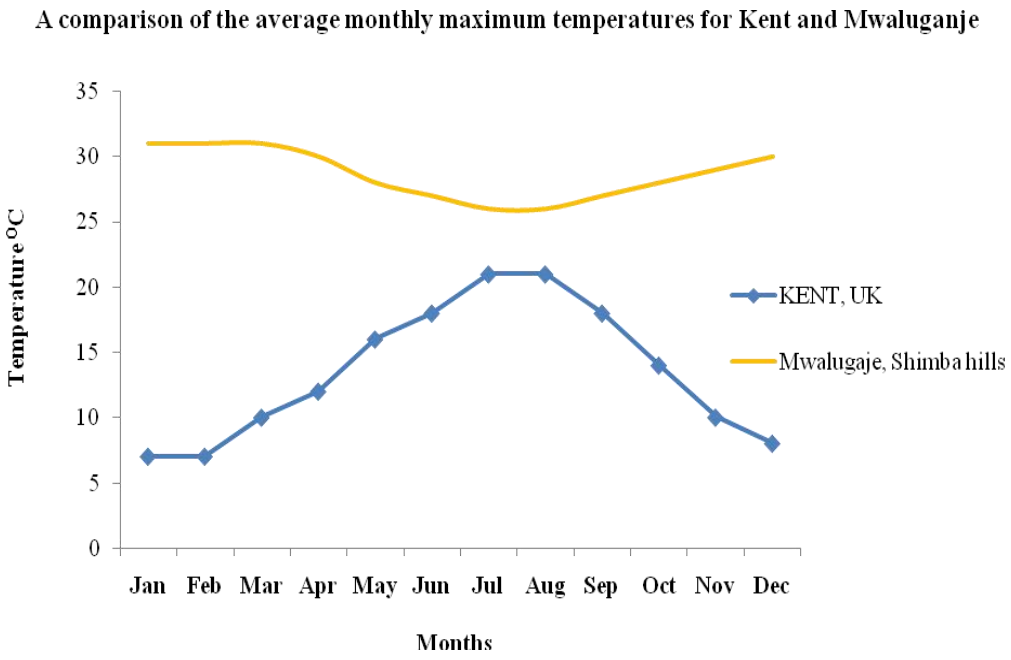

Figure 9: A comparison of the average monthly maximum temperatures for Kent and Mwaluganje in Kenya

Rainfall pattern

The average monthly rainfall for Mwaluganje range between 50mm to 100mm contrasting with rainfall in Kent with monthly average ranging between 10mm and 250mm . Average monthly rainfall in the donor site however compares well with the recipient site in the months of July to September again making this the best season for the translocation of the elephants.
(Figure 10).

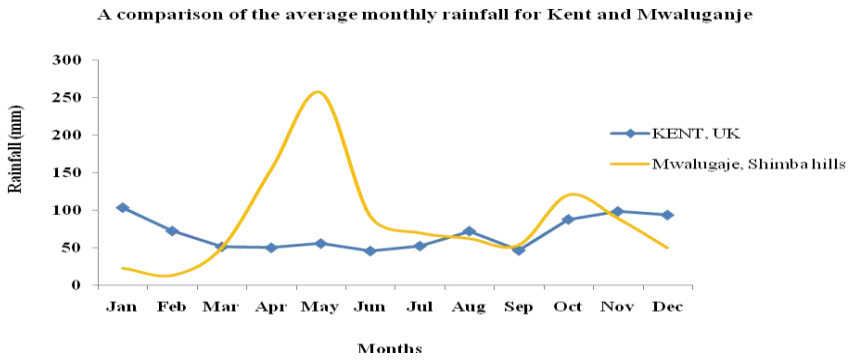

Figure 10: A comparison of the average monthly rainfall for Kent and Mwaluganje in Kenya

4.4 Elephants in Shimba Hills and Mwaluganje

4.4.1 Population density and distribution

Over the years, there has been a fluctuation in elephant numbers for the Shimba - Mwalughanje elephant population, where for instance, the 2021 aerial survey counted 75 elephants (Waweru *et al.* (2021) as compared to 35 elephants counted in 2017. The population monitoring in Shimba hills has be done following two main methods namely aerial count and dung count. Recent elephant population survey in the conservation area recorded 75 individuals (WRTI and KWS, 2021). According to the report, most of the elephants were distributed in Mwaluganje Elephant Sanctuary (Figure 11). However, Ngene et *al*. (2012) estimated elephant population in the Shimba hills conservation areas at about 274 animals, representing a density of 1.0 animal per square kilometer. Whilst there was a translocation from Shimba hills to Tsavo ecosystem between 2005 and 2006, the fluctuation is thought to be due to connectivity between the Shimba hills and the Tsavo landscapes among other factors.

[2].

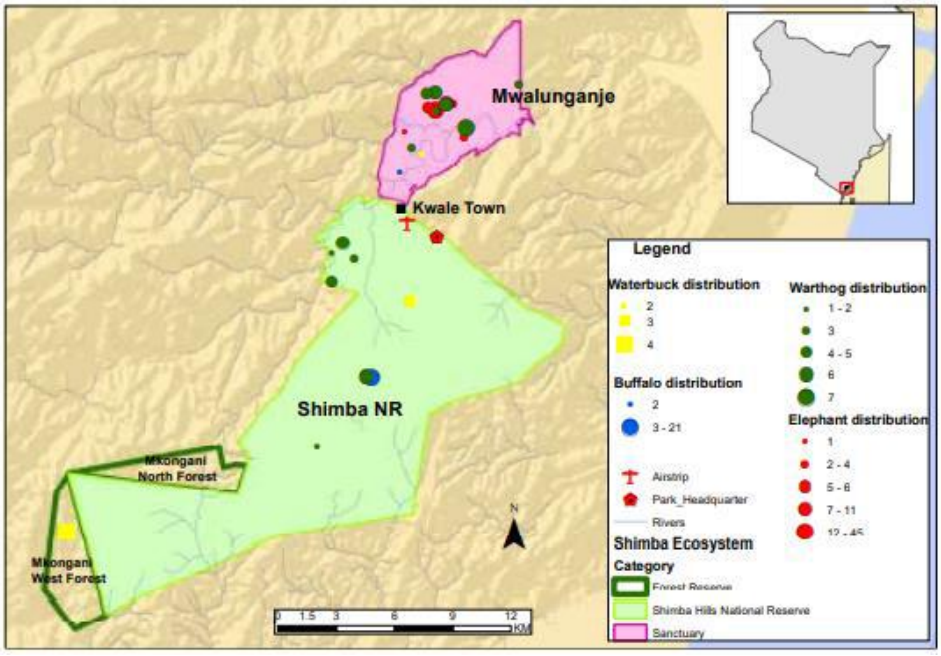

Figure 11: The distribution of Elephants and other species in Shimba Hills and Mwaluganje Conservation Areas (Source: WRTI and KWS, 2021).

During the 2012 aerial census, 39 elephant sightings (26 sightings: n = 159 in block 1; and, 13 sightings: n = 115 in block 2) were made during the census. Larger elephant herds were counted in block two than in block 1. Table 3 below summarizes herd sizes of elephants sighted during

the aerial census. Block 1 represents the sightings in the forest reserves while block2 represents sightings in the Mwaluganje Elephant sanctuary. At Mwalunganje, the elephants occurred within the central and southern parts of the sanctuary whereas in Shimba Hills, they occurred in the north, central, eastern, south eastern and south western parts of the reserve (Figure 12). In Mkongani Forest Reserve, the elephants were sighted on the north and south of the reserve (Figure 12). Kernel density analysis of the population in 2012 census shows that the highest elephant density (≥ 0.70) was recorded in central to southern parts of Mwaluganje Elephant Sanctuary and a small portion at the north of Shimba Hills National Reserve (Figure 13).

Table 6 Different sightings of elephant herds in the Shimba Hills Conservation Areas (Source: Ngene et al., 2012)

Sightings	Block 1: Forest Reserve No of elephants in the group	Block 2: Mwaluganje No of elephants in the group
1	2	7
2	3	15
3	2	2
4	8	20
5	4	2
6	1	5
7	5	15
8	3	50
9	5	9
10	3	6
11	4	2
12	6	14
13	5	12
14	2	0
15	11	0
16	4	0
17	1	0
18	10	0
19	1	0
20	3	0
21	2	0
22	2	0
23	19	0

24	2	0
25	1	0
26	6	0
Total	**115**	**159**
Density	**0.5 elephants km^{-2}**	**4.3 elephants km^{-2}**

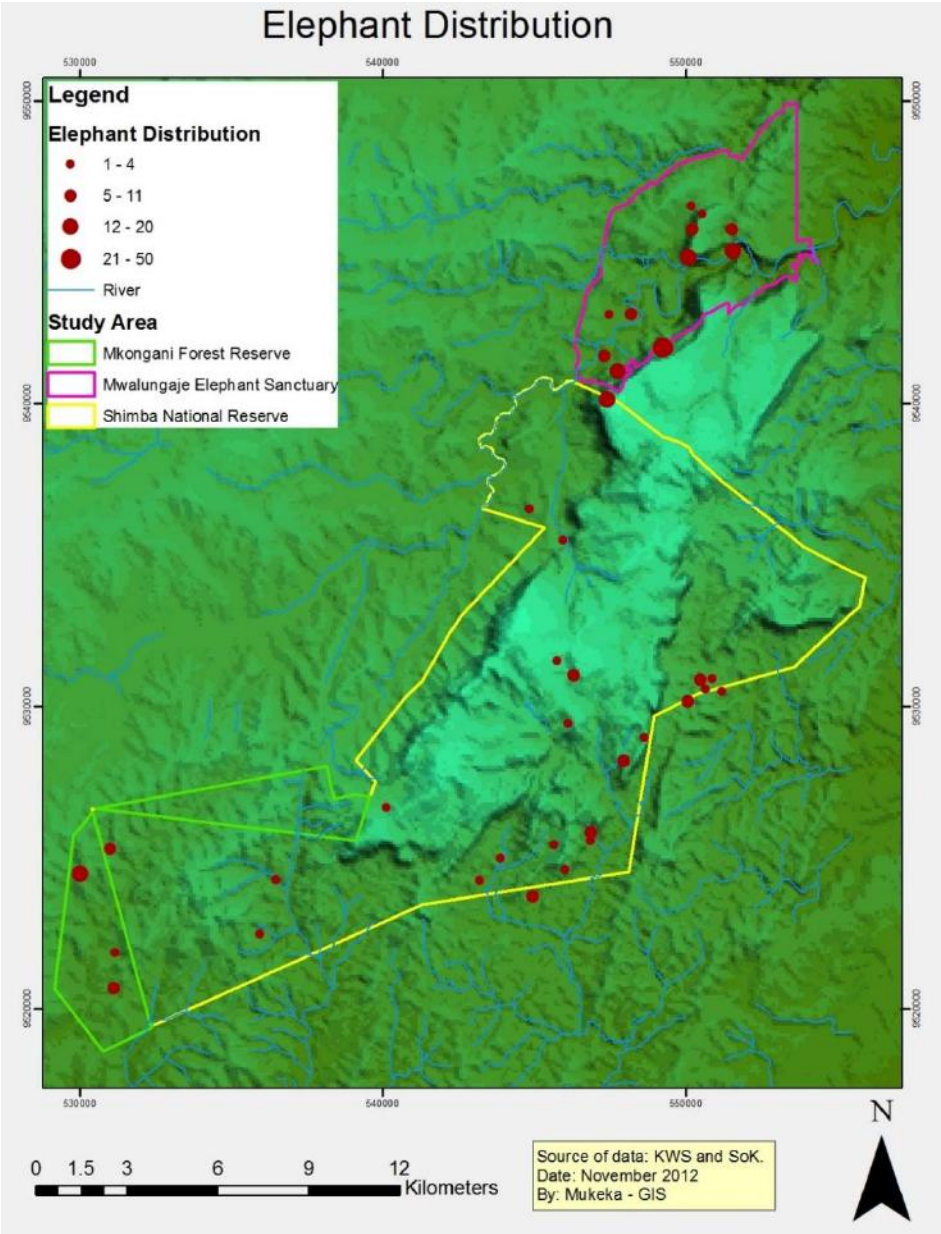

Figure 12: The distribution of elephants in Shimba Hills National Reserve, Mkongani Forest Reserve and Mwaluganje Elephant Sanctuary (Source: Ngene et al.*, 2012)*

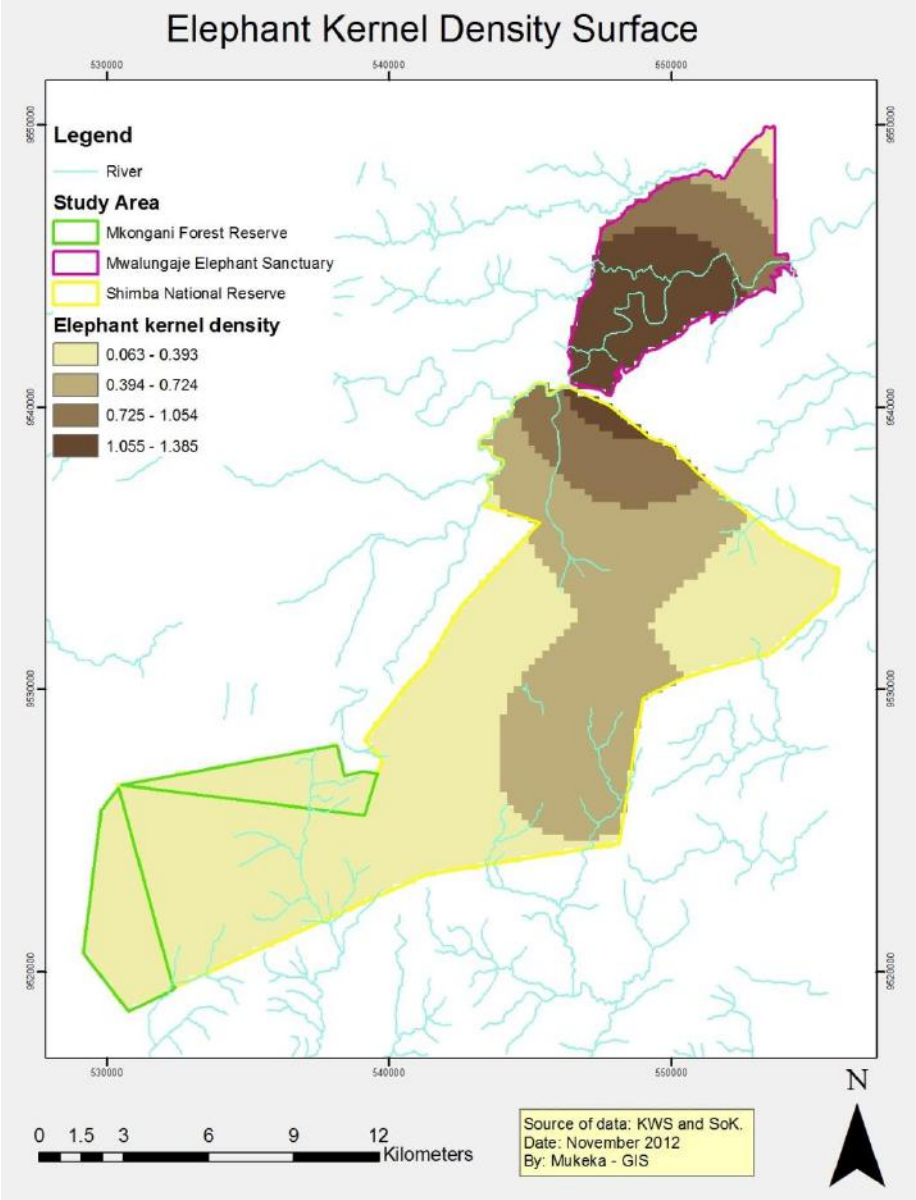

Figure 13: The kernel density of elephants in Shimba Hills National Reserve, Mkongani Forest Reserve and Mwaluganje Elephant Sanctuary (Source: Ngene et al., *2012)*

4.4.2 Elephant Movement in the Ecosystem

Golini-Mwaluganje Community Wildlife Conservancy is a preferred habitat by elephants throughout the year due to availability of suitable foliage and natural water sources. It provides for connectivity between Shimba Hills NR and Mwaluganje Forest. Further, elephants are still reported in the periphery of Shimba hills such as Lunga Lunga and are thought to utilize both the Tsavo and the Shimba hills ecosystems.

Beside confirmation of some elephants moving back to Shimba hills ecosystem after the 2005/2006 translocation to Tsavo East NP, there is limited information on the connectivity between the two ecosystems. Two elephants collared in January 2020 have not provided the much-anticipated information on connectivity as the elephants have been resident within the Shimba hills Mwaluganje landscape. However the movement of one elephant collared near shimba hills indicates elephant migration across the two ecosystems despite the increased human settlement on the landscape between the d conservation areas. Figures 14, 15, 16 illustrate two collared elephant (Dicki and Gina) movement in Shimba and Mwaluganje over a period of 21 days between December 2021and January 2022.

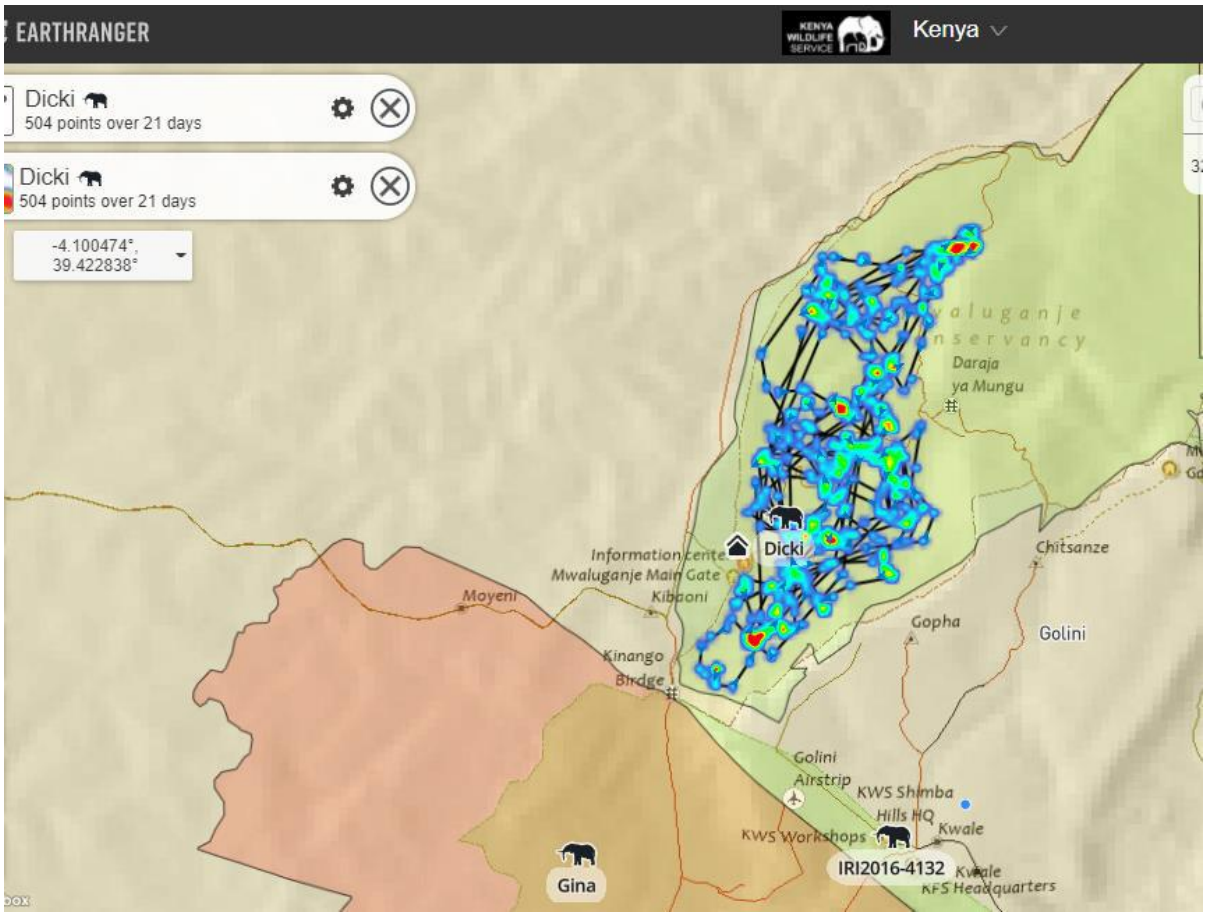

*Figure 14**: Movement pattern of collared elephant Dicki within Mwaluganje Conservancy***

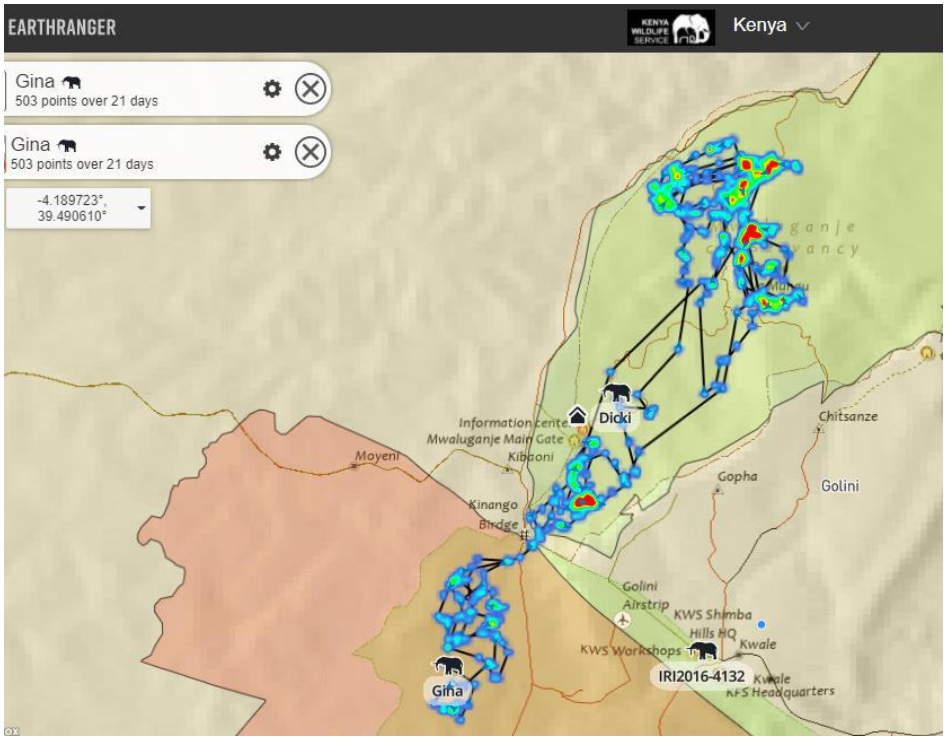

*Figure 15**: Movement pattern of collared elephant Gina within Mwaluganje and Shimba Hills National Park***

Figure 16: Resident Elephants foraging in MES

In an effort to understand the elephant population fluctuation and connectivity, the need for deployment of additional collars was identified with the aim of identifying the most potential candidates that would demonstrate connectivity between the two landscapes.

4.4.3 Human Elephant Conflicts

Human wildlife conflicts particularly those caused by elephants have significantly reduced over the years after the construction of the 141Km electric fence along the boundary of the conservation area (Figure and Table). Electric fence has therefore proved to be an effective tool for managing Human Elephant Conflicts (HEC) in the conservation area and should be properly maintained to sustain its performance. However, increasing human settlements due to upsurge in population and uncontrolled farming practices in neighbouring agricultural lands present potential HEC challenge in future and conflicts continue to be recorded in the unfenced sections

Table 7: Number of Human Elephant Conflict cases reported in the conservation area between 2010 and 2019

Year	No. of Human Elephant Conflict cases reported
2010	246
2011	259
2012	175
2013	278
2014	213
2015	204
2016	173
2017	119
2018	71
2019	30

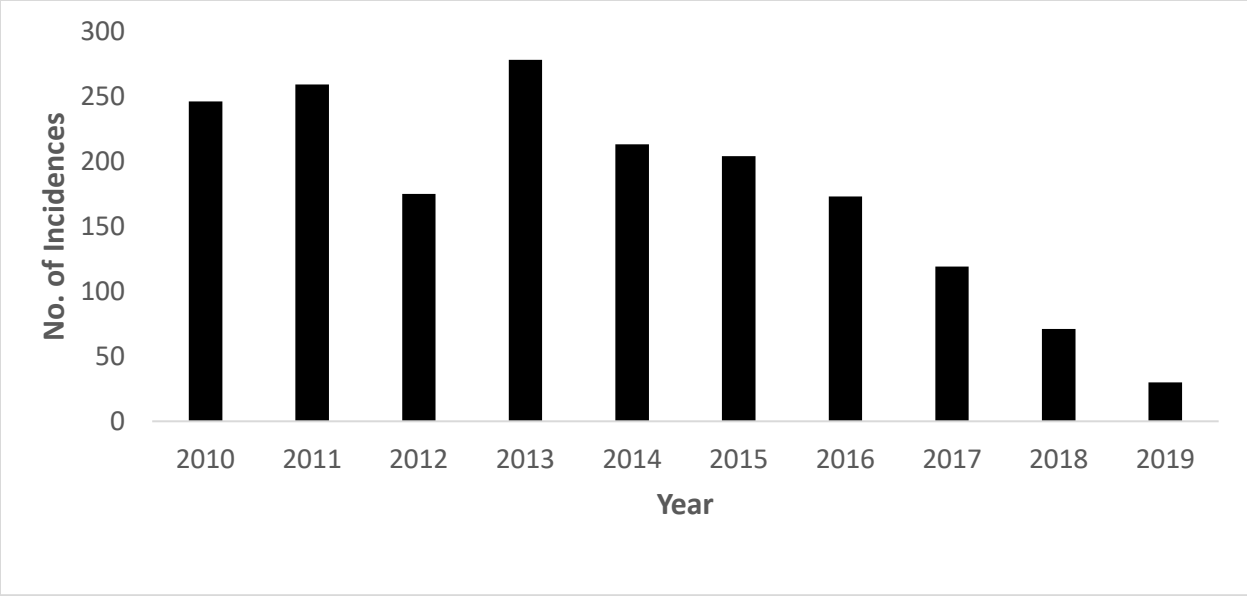

Figure 1: Human Elephant Conflict trend in Shimba Hills and Mwaluganje Conservation Areas

4.5 Other Wildlife species

Apart from elephants other large mammals in the conservation areas include buffalo, sable antelope, and giraffe. Other mammals include warthogs, bushbuck, suni, baboons, and kongoni (Reuling *et al.*, 1992; Omondi *et al.*, 1998; Ngene and Mukeka 2012; Ngene *et al.*, 2017; Kiambi et al., 2021). The conservation areas are rich in plant diversity (Adanje, 1994). Detailed descriptions of plant composition and diversity are outlined by Chesire *et al.* (2012), Omondi *et al.* (1994) and Adanje (1994).

4.6 African savanna elephant feeding behavior and mineral requirements

Free ranging African savanna elephants (L. africana) consume a variety of plant material including grasses, leaves, twigs, fruits, barks, herbaceous material and soil (Kabigumila, 1993; Dierenfeld, 2008). Although described as generalist herbivores consuming over 400 species of plants, diet composition may vary regionally and seasonally (Kabigumila, 1993). African savanna elephants are predominantly seasonal grazers and browsers with fruit, barks and soil being consumed as secondary food choices (Kabigumila, 1993). Elephants adopt both browse and grass feeding strategies, and switch depending on environment and season. Evidence suggests that elephants select food plants depending upon availability (.

Mineral levels in plants vary seasonally, geographically and between different parts of the plant (Joy et al., 2015) and due to the generalist feeding nature of African savanna elephants, it is thought that they are able to adapt their food selection as required to meet their target levels

of mineral requirements (Joy et al., 2015) . There is however some key mineral nutrients where deficiency has been report in both captive and free ranging elephant. These include calcium, iodine iron and zinc.

Elephants have their highest calcium demands when lactating (females) followed by during periods of intensive tusk growth (Dierenfeld, 2008)As with other mammals, elephants maintain serum calcium within a narrow range through intestinal absorption, renal excretion and mobilisation of bone (Clauss, Kienzle & Wiesner, 2003). Calcium deficiencies have rarely been documented in healthy adult captive elephants on maintenance diets. There is however, evidence that incidence of calcium deficiency is higher in cows during partition and lactation, when calcium demand is increased (Van Der Kolk et al., 2008).

Iodine is also an important mineral for the elephant. The thyroid mass of an elephant relative to its body mass is double its predicted size, compared to other mammals (Milewski, 2000). This may indicate that the iodine requirements of elephants are proportionally higher than those of other herbivores, and that due to the exclusively herbivorous diet of elephants, they may be susceptible to iodine deficiency (Milewski, 2000). Most plants consumed by elephants may be low or deficient in iodine due to the fact that iodine is not essential in plant metabolism and hence elephants need to supplement iodine from other sources mainly water and soil (Mwangi P. *et al* 2004).

4.6.1 Elephant foliage in Mwaluganje

Forage volume is a positive factor for animal shelter that provides body cover and protection from human intrusion, adverse weather as well as forage provision. Among three potential release sites assessed the Shimba Hills/Mwaluganje site had the highest number of wood plant species both in density species diversity with a total of 100 woody plants identified.

Similar to the woody plant species, the Shimba hills/Mwalughanje site had the highest herbaceous (grasses and forbs) species richness where 62 herbaceous species were encountered as compared to 56 species encountered in the Chyulu and Ithumba sites.

Elephants are known to be mixed feeders. The proportion of graze or browse in their diet is mostly determined by availability (Kos *et al.*, 2012). A higher diversity of both woody and herbaceous species is preferred and Shimba ecosystem meets this requirement. Sanare *et al* (2015) identified open - closed woody vegetation cover that's >40-65% as the key habitat suitability attribute for elephants in Serengeti National Park.
The connectivity between the savannah woodland in MES and the forest habitat in the Reserve provides a variety of food plants for the elephants where the animals can switch between herbs browse and grass depending on their seasonal availability in the ecosystem.

4.6.2 Floral diversity and land cover

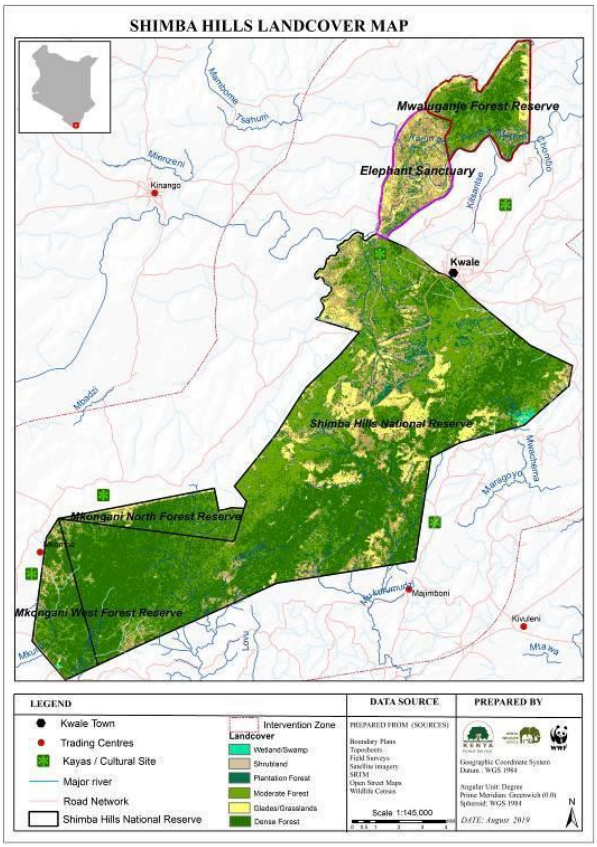

Figure 17 Vegetatiion cover of SHE (Ecosystem Management plan)

The SHE holds about 1400 plant species, representing 21% of the country's estimated plants. At least 35 plant species within the ecosystem are regarded as of conservation concern as per the IUCN Red Plant list and National Endemism Categorization (EA). Four (4) of the 35 species are listed as endangered, 16 vulnerable, 6 rare and 3 as Near Threatened plant species. The ecosystem has a considerable plant endemism with 31 plant species being endemic; 7 of which are nationally endemic and 24 regionally endemic. Cephalosphaera usambarensis is a rare tree endemic to the Shimba Hills Reserve at a national level.

SHE has four main vegetation types which include forests, grasslands, scrub/shrublands and plantations. The vegetative cover in the drier leeward western slopes of the ecosystem consist of forests of an undifferentiated type tending more to deciduous associations of *Scorodophloeus fischeri*, (Mysore thorn) *Caesalpinia insolita, Drypetes usambarica* and Cola minor. Within the river valleys are found stands of *Cephalosphaera usambarensis*, *Aporrhiza paniculata*, *Pouteria alnifolia* and *Xylopia parviflora*. In areas such as Longomwagandi, the forest are mature with tree species that include Quassia undulate, *Newtonia paucijuga, Antiaris toxicaria, Lovoaswyn newtonii, Cordia africana* and *Celtis mildbraedii.*.

The MES is mainly a shrubland with a diversity of woody species.

4.7 Hydrology

The Shimba hills ecosystem is drained by three permanent river systems flowing into the Indian Ocean. These are Manolo/Pemba, Mkurumudzi and Mwachema rivers with capacities of 7,605m^3, 9,917m^3 and 341.73m^3 of water respectively. It hosts the Marere springs with a

capacity of 9,087m^3 and this constitute an important source of fresh water for Kwale and Mombasa towns, Ukunda/Diani and Kinango areas (KCIDP,2018-2022). The wildlife within the ecosystem is depended on the permanently flowing rivers for watering purposes. These surface water sources are clean and of good quality for wildlife use.

Table 8.Rivers in Kwale County

River	Source	Area Traversed	Volume (M3/D)	Quality	Destination
Marere	Marere springs at Shimba Hills National Reserve	Shimba Hills National Reserve	9,087	Good	Indian Ocean at Bombo Creek
Manolo/Pemba	Marere Spring	KinangoTsunza	7,605	Good	Indian Ocean at Bombo Creek
Mkurumudzi	Shimba hills	Shimba hills	9,917	Good	Indian Ocean at Gazi-Msambweni

Most of the underground water in the project area of influence is within the Duruma sandstone series that occupy a great part of the middle area of the region and Kinango sub-county in particular. This underground water and/or reservoir series is saline and found in greater depths.

4.7.1 Water quality assessment

Most of the surface water within the project area is clean and of good quality for wildlife use. Samples of water analyzed in the ecosystem indicated that much of the surface water is alkaline, hard and well mineralized

Majority of the watering points that originate from the Shimba Hills reserve met the physical and chemical parameter thresholds and is not expected to have adverse impacts on wildlife. Relatively high levels of chromium and nickel were identified in Manolo River in the Mwalungwanje, this is possible due to the ongoing construction of various infrastructure including a dam upstream of the sampling point. Majority of the other parameters were within limit and considered non-toxic. The physical chemical parameters of the samples of water analyzed are annexed for ease of review.

4.8 Social economic baseline

4.8.1 Administration and human population in the project area

Kwale County is divided into 4 administrative sub-counties namely Matuga, Kinango, Msambweni and Lunga-Lunga. The sub-counties are further divided into a total of 9 divisions including Matuga and Kubo in Matuga sub-county; Samburu, Kasemeni, Kinango and Ndavaya in Kinango; Msambweni and Diani in Msambweni; and Lunga-Lunga division. The County population stands at 866,820 according to 2019 national census comprising of 425,121 males and 441,681females. This is a 33% increase from 649,931 in 2009.

4.8.2 Shimba Hills Ecosystem Adjacent Communities

Shimba hills ecosystem lies within Matuga and Kinango sub-counties, where the respective populations of 194,252 and 296,455 spread across 39,231 and 51,113 households respectively.
The dominant community adjacent to the ecosystem is the Digo. Other major communities include the Duruma and Kamba. There are also a number of foreign investors focusing mainly on the tourism sector and conservation. The ecosystem is important to the local community for provision of consumptive uses which include extraction of firewood, building poles and sawn timber. Illegal hunting and trapping of wildlife is practiced by a section of the adjacent communities. Some plant species in the ecosystem have medicinal value and are exploited by local herbalists for sale among fellow community members, public and market centres. Other non-consumptive uses of the reserves include tourism and religious practices.

The economy of the local community is mainly agriculture based. Nevertheless, tourism, fisheries, livestock keeping, palm wine tapping, cooperatives and small scale businesses limited to the main market centres of Kwale and Kinango also contribute significantly to the economy of the local communities. Formal employment opportunities are limited and are mostly in the civil service such as teaching, nursing, wildlife conservation and protection and forest management. Some community members are employed by NGOs in conservation and environmental management programmes as well provision of humanitarian assistance especially relief food in the drier areas of Kinango and Mwaluganje.

4.8.3 Poverty Levels

Poverty is a major problem for the communities living around the Shimba hills ecosystem. Current statistics indicate that the overall poverty headcount rate for individuals in the county is 47.4% compared to 36.1% at national level implying that almost half the population live in overall poverty. Poverty level is higher in Kinango and Msambweni divisions than the other parts of the County. The major causes of poverty include poor infrastructure development

including electricity, roads, telecommunications and water, inadequate agricultural production due to land tenure problems, poor and undeveloped agricultural marketing and wildlife menace.

4.8.4 Literacy and Education

Literacy levels in Kwale County have reached an average of 57% with female literacy levels standing at 47.4 % against 66.6 % for the male. There are 150 adult literacy centres with a total enrolment of 7,133. However, a shortage of teachers for adult education has crippled efforts to increase literacy levels in the count.

The County has a total of 1,072 Early Childhood Development (ECD) centres spread evenly in the county. School enrolment stands at 81.2 %t. There are a total of 2,087 ECDE teachers in the County with 784 employed by the County Government and 1,333 unemployed. The teacher/pupil ratio is at 1:37 and the average ECD attendance age is 4.5 years. The county has 471 primary schools with a total enrolment of 178,166 pupils which constitute a gross enrolment rate of 107.5 % and a net enrolment rate of 76.1 %. The primary school teacher population is 4,892 which translate to a teacher/pupil ratio of 1:36. However, the performance in national examination is very poor due to poor and inadequate school infrastructure such as classrooms, toilets and desks. There are 79 secondary schools with a total enrolment of 25,739 students which constitutes a gross enrolment rate of 35.5 % and a net enrolment of 25.3 %. Tertiary institutions in the County include a Kenya School of Government (KSG), Kenya Medical Training College and 34 registered public and 4 private vocational training centres. There is no university but has a satellite campus of Technical University of Mombasa (TUM).

4.8.5 Health

The County has a total of 5 government hospitals, 10 health centres and 90 dispensaries located in Msambweni, Matuga, Lunga-Lunga and Kinango Sub-Counties. The doctor and nurse population ratio stands at 1:76,741 and 1: 3,133 respectively. In addition, the county has a total of 36 private health facilities and 9 health facilities owned by faith based organizations. The average distance to the nearest health facility within the County is 7 kilometers as compared to the required maximum of 3 kilometers.

The north eastern to eastern, southern, western and north western boundaries are occupied by farming communities. These communities grow crops that include maize, bananas, oranges, coconut, and mangoes among others (Kahumbu, 2002; Reuling *et al.*, 1992).

4.8.6 Ecotourism in the core project area

Golini-Mwaluganje Community Wildlife Conservancy was a model community conservancy in the late 90's and early 2000. The enterprises included tourism with marketing done by travelers'

hotel and paper manufacturing from elephant dung. However, due to reduced benefits, it almost collapsed. The sanctuary does not currently have a visitor accommodation facility and have been looking for an investment partner to enhance benefits accrued from the visitors. Visitation has been on decline as shown in figure below

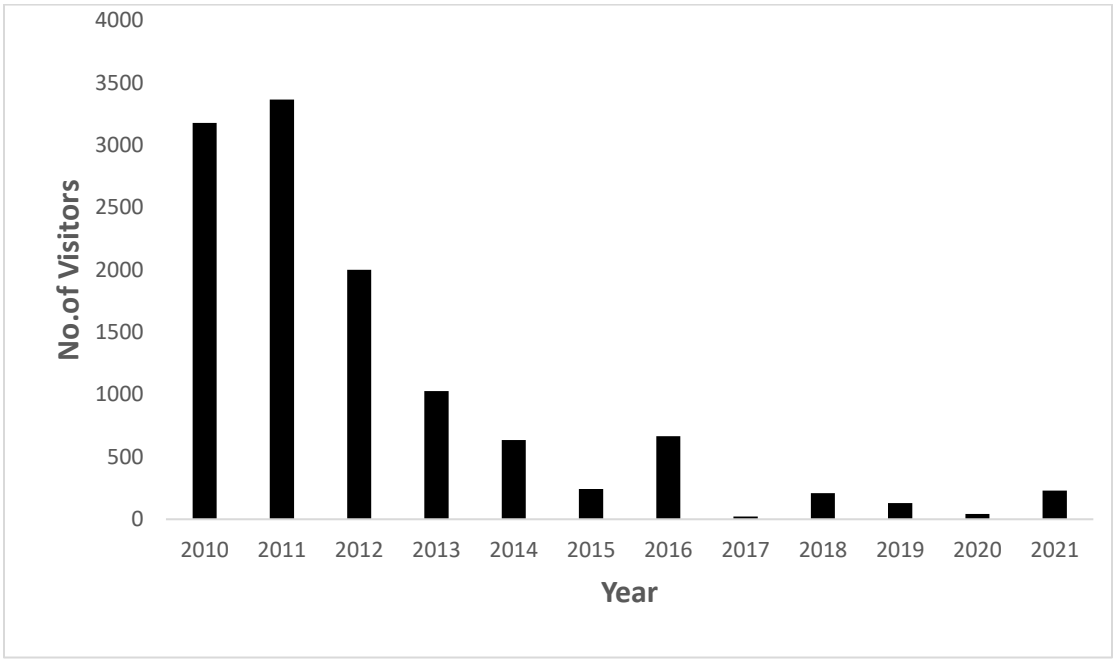

Figure 18. Visitor numbers for mwaluganje conservancy in the last 10 years

The conservancy was active and vibrant when tourism was high and when Travellers Mwaluganje tented camp was operational but since the lodge closed down after a deep in the tourism industry revenue from tourism was lost and the Conservancy operations almost came to a halt. The share holders lost income significantly from a compensation of Ksh.1,500/acre/year to the current fee of about ksh 500/acre. The lease is from the SWT to encourage the Sanctuary members to maintain land under conservation use since revenue declined sharply following the closure of Travellers Mwaluganje Tented Camp. The community have expectations that the unique translocation and re-wilding of the elephants from UK will revive the fame of Mwaluganje as a an elephant sanctuary and a visitor destination.

4.8.7 Land use and tenure in Mwaluganje Conservancy

Golini-Mwaluganje Community Wildlife Conservancy was established 1994 after the community in the buffer zone of the Shimba hills national Reserve set aside the 2470ha for wildlife conservation. The conservancy was designated as Mwaluganje Elephant Sanctuary

(MES) because the elephant was the focus species for its establishment. It has a shareholding of 350 households with 287 parcels of land with each household retaining their individual titles. Shares are by land ownership which is dedicated for conservation, in case one would want to sell their land, they cease to be members and new land owner becomes a member. The land can only be sold for conservation purposes. It is among the first community conservancies established in early 1990s which was very successful and is currently a shadow of its past having been run down. During wet season most of the elephants in the ecosystem move out of the wet forest to the relatively open habitat in MES. MES is also in between Shimba hills Forest Reserve and the Mwaluganje Forest Reserve and the movement of the elephants between the two forest blocks through community land increased cases of HWC and KWS advised the community to set aside the land for conservation and draw benefits from tourism activities..

The conservancy was registered as a Limited Company under the Companies Act, Cap 486 as Golini-Mwaluganje Community Wildlife Conservation Limited vide Certificate of Incorporation No.61085 dated 14th September 1994. It is also registered as a Community Based Organization (CBO) by the Ministry of Labour, Social Security and Services, and is a member of the Kenya Wildlife Conservancies Association (KWCA) and a member of Ecotourism Kenya.

The conservancy is managed by a Board of Directors comprising eight (8) elected Directors and four (4) co-opted Directors. The eight elected directors are four (4) each nominated from Matuga and Kinango Sub-counties as the Sanctuary straddles both Sub-counties. The co-opted Directors are one each from Kenya Wildlife Service (KWS), Kenya Forest Service (KFS), Sheldrick's Wildlife Trust (SWT), and the County Government of Kwale (CGK). The Sanctuary has a Management Committee and members of the Sanctuary hold an Annual General Meeting yearly to ratify the decisions of the Management Committee. Landowners have signed a consent in respect to the land that they have set aside to be managed jointly as a conservancy.

5.0 CONSULTATION AND PUBLIC PARTICIPATION

5.1 Introduction

This chapter outlines the engagement of project stakeholders and is a najor component of the ESIA process that provides clarity on the projects social and economic impacts based on the perception of diverse stakeholders. Stakeholders are 'all those people and institutions who have an interest in the project ranging from being project beneficiaries, impact receptors or sources, proponents, implementers, government leaders, civil society organizations among others. These include those positively and negatively affected by the project. Stakeholder participation involves processes whereby all those with a stake in the outcome of a project can actively participate in decisions on planning and management. They share information and knowledge, and may contribute to the project, so as to enhance the success of the project and hence ultimately their own interests. Different types of stakeholders' contributed to the EIA process in different ways and inputs from the broad variety of stakeholders' greatly complemented EIA process. Kenya has entered the era of participatory development in all matters of national life. Participation in this case is not just through elected representatives but also through direct action. The Environmental Management and Coordination Act (Revised, 2015) and its subsequent Environmental (Impact Assessment and Audit) Regulations, 2003 underscore the need for stakeholder participation in the EIA process.

5.2 Objectives of Public Participation

Public participation was carried out in order to:

- Inform the local people, leaders and other stakeholders about the proposed project and its objectives;
- Initiate public involvement processes, in a bid to induce and cultivate a sense of peoples' ownership to the project;
- Suggest and facilitate the peoples' roles in the project's sustainability, in terms of management and maintenance
- Seek views, concerns and opinions of people in the area concerning the project.
- Establish if the local people foresee any positive or negative environmental effects from the project and if so, how they would like the impacts to be mitigated;
- Find out if there are issues or places of cultural/or religious importance to the local communities that could be negatively impacted upon by the project and its infrastructure.

5.3 Identification of Stake holders

Like in all civil projects, the core stakeholders for the project are drawn from the government line Ministries Departments and Agencies (MDAs), Forest adjacent communities, Golini-Mwaluganje Community Conservancy, Community Forest Associations CFAs, opinion leaders within the community; local politicians; County Government leaders, Sub-County commissioners; Sub-County officers; area chiefs and their assistants and the Civil Society groups. This is the group that is likely to benefit or be affected by the proposed development. This category was also consulted as key informants on sectoral policy and to advise this EIA study on mitigation measures to be put in place so as to minimize adverse impacts in respective sectors.

5.4 Methodology

Stakeholder engagement was mainly achieved through direct interviews, focused group discussions, preliminary leaders meetings, workshops, questionnaire administration and public barazas. The EIA term began the public consultation process by holding preparatory meetings to strategize on how to engage the stakeholders in the EIA process together with the chiefs and assistant chiefs, who helped in the process of identification of the significant actors/ stakeholders who could provide data relevant to the proposed project. The following is a detailed discussion of public consultation methodology used by the EIA team.

Direct interviews were conducted with opinion leaders within the community; Mwaluganje conservancy Board of Diretors; local politicians; County leaders, County commissioners; area chiefs and their assistants. Others include representative from the national government ministries. Their comments were sought through engaging them in discussions about the proposed project and the benefits that are likely to accrue as a result of its implementation. This kind of engagement gave the respondents the opportunity to give insights and details about the issue at hand.

5.4.1 Inception meetings

The ESIA team of Expert held preliminary meetings with the County Commissioner Kwale and the County Executive Committee member for natural resources and Tourism. This inception meeting with the top most county leaders laid a foundation for the wider community consultations/barazas. The meetings established a clear pathway for the wider stakeholder engagement and gave the ESIA team blessings to engage the local communities.

5.4.2 Meeting with the MES management committee

This meeting was convened on 21st of December 2021 . The purpose of the meeting was to inform the MES leadership that the feasibility study recommended the conservancy as the release site for the 13 eleohants and collate their views and concerns. The meeting was also a platform to

introduce TAF to the Community and also for TAF to visit the potential release site for aclear picture of the logistical requirements during the actual project implementation. The ESIA expert also presented the ESIA process requirements particularly on stakeholder engagement and project information disclosure. The leaders were very happy that the feasibility assessments narrowed down to their area for the project. They informed that they have not been deriving reasonable benefits from the Conservancy since the drop in tourism. It was pointed out that the land under the conservancy was in very good range condition and not degraded like the land immediately outside of the conservancy. They however pointed out that they are currently receiving benefits in form of donations from the SWT. The donations are in form of conservation offset for leaving their land for wildlife conservation. Through the donations the conservancy has managed to employ 9 rangers, a manager and secretary for the Sanctuary. They also get bursary for their school going students. The committee requested that the proposed project be presented in their full Board of directors meeting for their understanding before presenting to the wider community. During this preliminary meeting it was noted that the Tsetse fly infestation in Shimba Hills Ecosystem poses key threat to the survival of the elephants upon release to the area. To mitigate on this threat it was agreed that a tsetse control and eradication programme be initiated prior to the translocation and a long-term tsetse management programme need to be established.

Figure 19.Inception meeting between GMCWC, TAF, WRTI,KWS

5.4.3 Consultation meeting with the MES board of Directors

This meeting was held on 6th January 2022 at the KFS Kwale station boardroom. The ESIA lead expert presented the project outline to the board members and requested them to raise their concerns and critique in view of their current activities in the sanctuary. They welcomed the project and said it would probably unlock donor funding for the conservancy and bring back its fame as a visitor destination . they said the project would attract local employment.
Directors for the conservancy who later discussed the project in their annual general meeting. There was a consensus amongst the members in support of the project.

Figure 20 Consultation meeting with the board of Directors MES

5.4.3 Community Barazas

Two community barazas were held on 13th and 14th of Janury 2022 to inform the wider public on the project. The numbers of the participants were restricted to 30 participants in view of the Covid 19 protocol. One of the meeting was held at a primary school hall while the other one was held under a tree on an open farm. Minutes of the issues discussed in the meeting have been annexed in the report .

Figure 21Consultations with project neighboring communities

5.4.4 Stakeholder workshop

A stakeholder consultation workshop was held on 20th January 2022. The meeting brought together the Kwale county leadership and the lead agencies at county and regional level and the project partners. The ESIA draft report was presented to the stakeholders for their critique. Issues of concern from the stakeholders were discussed in a plenary and documented. The workshop proceedings report is annexed for reference. The contributions from the stakeholders have been used to enrich the report. Key issues of concerns raised included human wildlife conflicts, local employment, benefit sharing, and project sustainability. The inputs from the consultation and public participation have been used to identify some of the potential impacts and improve on suggested mitigation measures.

Figure 22 Photo of stakeholders following the ESIA presentation during the workshop.

5.4.5 Questionnaire analysis

To reach out the wider public and local community a questionnaire was administered and about hundred respondents filled and returned the simple questionnaire whose summary analysis is outlined below. A sample questionnaire is annexed for reference. A total of 95 questionnaires were successfully filled. Respondents were drawn from the project area of influence. Most of the respondents were male 89% with only 11% female respondents (Figure23). Only 18% of the respondents live outside a 3km radius from the conservancy and forest reserve (figure24). The question on socio economic activities indicated that a majority of the GMCWC members benefit from tourism activities from the conservancy (Figure 26). 74% of the respondents did not think the project would affect their current social economic activities. While 14% felt it would affect them.

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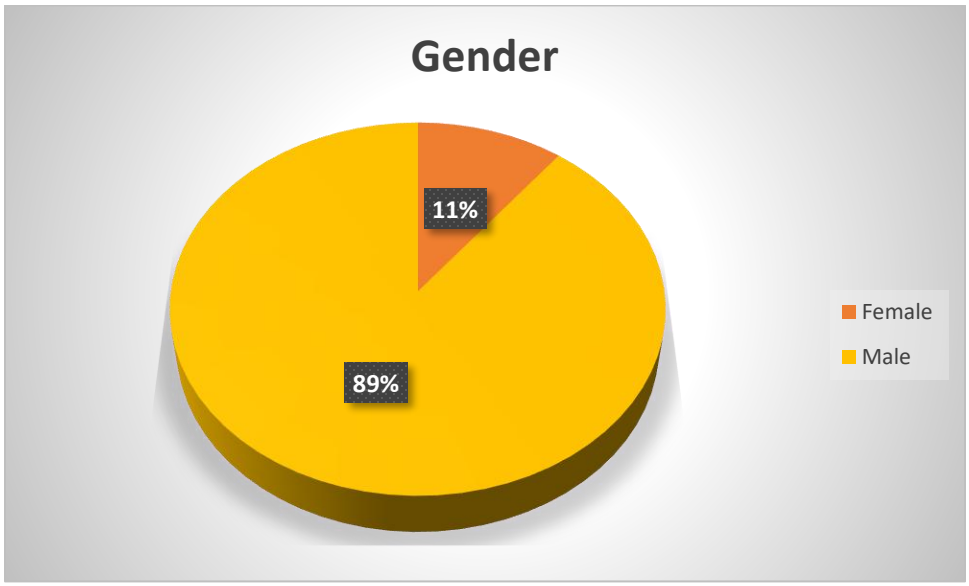

Figure 23. Gender of respondents

Question; .How far do you live from the project site (Mwaluganje conservancy/Shimba hills Reserve?

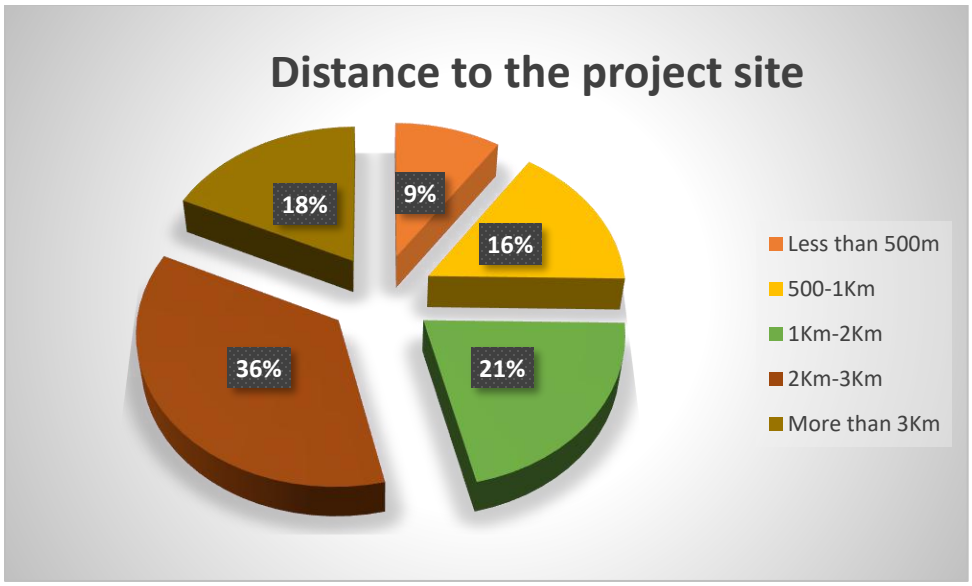

Figure.254 Distance of home of respondents from the conservancy and or Shimba hillsNational Reserve

Less than 500m	500-1Km	1Km-2Km	2Km-3Km	More than 3Km
11	15	21	34	24

Social economic activities undertaken within the conservancy/Shimba hills Reserve

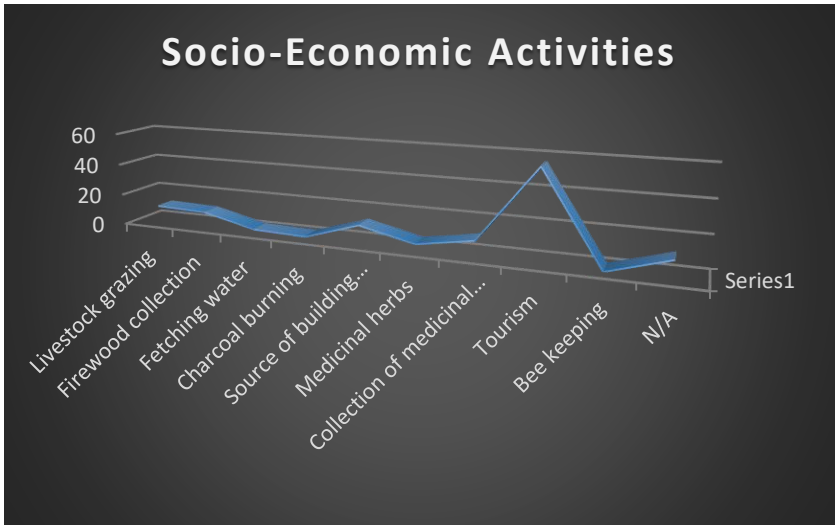

Figure 25 Social economic activities of the respondents within SHE

Question:Is the proposed project likely to affect your socio-economic activities?

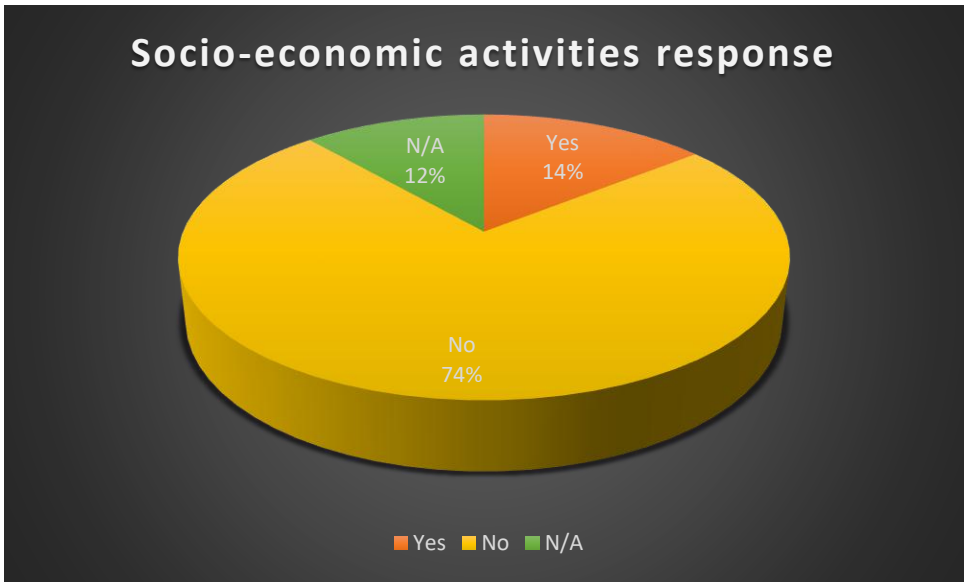

*Figure 26**: Percentages of the socio-economic response***

The respondents listed a number of positive and negative potential impacts they expect the project bring in the area. Most of the negative impacts highlighted revolved on restricted access to the sanctuary, due to the new project, potential to increase human wildlife conflict, stress of the animals after long journey, blockage of the foot paths to Kwale town. Others said the elephants would degrade the vegetation. On the positive impacts community members outlined creation of employment, increased dividend for landowners and creation of market for products due to tourism growth as some of the project benefits

6.0 IMPACT IDENTIFICATION AND ANALYSIS

6.1 Identification of potential impacts and mitigation measures

A number of impact identification techniques were used to predict project possible impacts and highlight those that are potentially significant. The key techniques used were checklists and *ad hoc* methods. A list of impacts associated with the project activities was prepared and summarized in tables qualitatively by brainstorming. Impacts considered significant have been described and an environmental management and a monitoring plan prepared to address the negative impacts.

In order to accurately identify the environmental impacts the following environmental aspects were taken into consideration:

1) *Physical Environment*

Water quality aspects for both surface water sources like piped water, storm water, and other related aspects

a) Soil conditions, soil contamination and landscape alterations/degradation (based on aesthetic aspects) associated with the proposed project.
b) Drainage patterns especially in relation to waste water effluents
c) Air quality aspects especially atmospheric emissions, dust and related discharges from machinery like diesel run equipment etc.
d) Noise and vibrations

2) *Biological Environment*

a) Flora and fauna (i.e. effects to natural plants and animals where applicable).
b) Interaction of the animal species in the facility
c) Introduction of nuisances, such as pests and related multiplication breeding sites
d) Introduction of diseases

3) *Social Welfare, Economic and Cultural Environment*

a) Determination of implications to the human society distribution, changes to the cultural lifestyle and indigenous knowledge of the local society/public
b) Implications on the employees, visitors and public health, safety and related hazards/risks such as HIV/AIDS, consumption of contaminated intravenous infusions products due to disease outbreaks, sanitary facilities, etc.
c) Aesthetic, landscape alterations and changes to infrastructural facilities, among others.
d) Effects associated with the construction and operation activities and related handling and disposal of wastes generated during the operations.
e) Effects associated with income generation opportunities created by the project due to the upcoming operations.

6.2 POSITIVE IMPACTS

6.2.1 Potential benefits for the Government of Kenya

- The project will contribute to marketing Kenya as a high value responsible and conservation-focused tourism destination. Directly contributing to the national tourism numbers and foreign income and investment. The Covid pandemic has had a significant negative impact on tourism in Kenya, specifically on the east coast of Kenya. This project will assist in expediting the recovery of the tourism industry in the Kwale and Ukunda Regions.

- The project will unlock donor funding which will contribute to government driven conservation projects in Mwaluganje and Shimba Hills. As an example, The Sheldrick Wildlife Trust is fencing the reserve which will have a direct impact on preventing human-wildlife conflict and will secure the animals in the reserve. This will also mean that additional species could be released into the reserve. The Aspinall Foundation is also investing in appointing, training and equipping additional community rangers and constructing additional infrastructure in Mwaluganje.

- The Kwale County has a very high tourism potential but this needs to be unlocked. The area is in close proximity to Kenya's coastline and there is very good access in terms of tar roads to the area. By bringing these elephants to this area, there is a good chance that local tourism will increase and more tourism infrastructure will be developed. Many tourists travel to the East Coast for the beach experience and then travel to Tsavo or the Masai Mara to view game. This project could unlock a 'beach to bush experience' for visitors who spend time at one of the many beach hotels and then travel

6.2.2 Benefits for Conservation in Kenya

The addition of 13 elephants will make a positive contribution to the number of elephants in the Shimba Hills ecosystem in Kenya as part of the cumulative impacts due to enhanced anti-poaching measures that will come with the project. This will in the long run have a net gain in elephant population numbers. The elephant population within the Shimba Hills ecosystem is relatively small (estimated in the low hundreds) with limited capacity for gene exchange due to current isolation from other wild populations. The addition of unrelated elephants to the population may improve the viability.

The project will provide additional resources to the conservation management of the Shimba Hills ecosystem, such as additional rangers, a patrol vehicle, a camp, etc. The elephants are

therefore directly unlocking additional management capacity for the area. Once the elephants have been successfully released, they will be managed in the same manner as how the existing population is being managed in the ecosystem.

This would be the first time that a breeding herd of elephants will be re-wilded from a zoo environment and especially across continents. This will be an ideal opportunity for the project partners to utilise this process to develop new re-wilding guidelines in collaboration with the IUCN/SSC. This project should demonstrate that re-wilding of African elephants is possible and that zoos have a feasible alternative to keeping elephants in captivity.

6.2.3 Direct Community benefits

One of the core objectives of the elephant translocation is to ensure that positive benefits are derived by local communities. The fact that the Mwaluganje Elephant Sanctuary is a community owned reserve is fundamental to the justification of the project.

Golini-Mwaluganje Community Wildlife Conservancy has a number of partners with KWS being the main partner supporting the Golini-Mwaluganje Community Wildlife Conservancy establishment in 1994. Peter Zannetti who is one of the land owners within Golini-Mwaluganje Community Wildlife Conservancy for the last 29 years, director and honorary warden has been the main individual stakeholder and in the year 2014 SWT came on board. They were incorporated in the board of directors in 2017 and are currently playing a major role in supporting the conservancy. They will be key in supporting implementation of the project. Other partners include the KFS and the County Government. This project will be implemented in alignment and in support of the conservation initiatives that are currently being implemented by the partners and will enhance the long-term conservation commitment of the stakeholders in the Shimba hills ecosystem.

As part of the project, The Aspinall Foundation has committed to provide the following community support projects to the Golini Mwaluganje Community Conservation Area/Elephant Sanctuary:

- Appointment of six additional community rangers to assist in the maintenance and monitoring of the elephants.
- Equipment and training for rangers.
- A vehicle to assist in mobilising the community rangers.
- 1 Classroom and equipment in the Golini Commmunity.
- 1 Classroom and equipment in the Mwaluganje Community.
- A camp for rangers/tourists in Mwaluganje Elephant Sanctuary, depending on what the need is, with associated miscellaneous employment opportunities.
- TAF would also consider restocking the reserve with other game species.

6.2.5 Impact on Biodiversity

The addition of 13 elephants will make a positive contribution to the small elephant population in the Shimba Hills ecosystem. The programme will also positively impact biodiversity in general by reducing human encroachment on the natural forest inside the sanctuary area and also securing the Community land for conservation due to the anticipated benefits. Activities like grazing and firewood collection will be minimized within the conservation area and there will be natural regeneration of vegetation increasing species diversity.

6.2.6 Conservation education and awareness creation

This project has very high educational potential. It can highlight the issues related to the international trade in African elephants and to holding elephants in captivity, the strong family bonds of elephants resulting in a need for translocation of the whole herd together, and the power of collaborative and community-based conservation. It can show that it is possible to reverse the exploitation of the past and hopefully will inspire future conservationists. Overall, the education and communication strategy can enhance conservation of the African Elephant in the long run

6.3 Potential Negative impacts

This section outlines the potential negative impacts of the proposed translocation and re-wilding of the elephants. The impacts include risk factors identified during the feasibility assessment and the direct predictable adverse impacts associated with the project activities. Actions to prevent or mitigate most of the impacts have been suggested and outlined for implementation in the environmental Social impact management plan.

6.3.1 *Disease risk*

Kenya has not had reported clinical cases of typanosomiasis in elephants during routine disease surveillance by KWS but the trypanosome parasite sporadically appear in the blood samples during screening. Similarly for the elephants in the Shimba ecosystem there has been no trpanosomiasis clinical intervention reported out of 15 cases of veterinary interventions carried out in the past 10 years. However, a number of trypanosomiasis cases have been recorded among the white rhinoceros and the prevalence of tsetse flies in the Shimba hills Mwaluganje ecosystem may therefore have a potential diseases risk on the elephants. This is especially so because the animals may not have well developed immunity like the resident elephant population.

Three species of tsetse flies occur in Shimba Hills Ecosystem *(Glossina pallidipes, G. brevipalpis and G. austeni).* The dominant tsetse fly species is *Glossina pallidipes which* is one of the most important tsetse fly vectors in Kenya because of its widespread distribution and is a key vector for animal trypanosomes. Previous studies undertaken in Shimba Hills confirmed infections with *Trypanosoma brucei. There are also* other trypanosome species circulating in the

flies including T. *godfreyi*, *T. simiae*, *T. vivax and T. congolense* (subspecies Kilifi and savannah). Other disease vectors in the release site are ticks and the most prevalent tick species identified was *Amblyomma variagatum*.

A potential disease risk assessment in Mwaluganje Shimba Hills is summarized in the table below

Table 9: Potential disease Risks

Disease	Disease Vector	Shimba Hills/ Mwaluganje
Trypanosomiasis	Tsetse fly	High
Anthrax	Bacteria Flies carrying bacteria spores infect browse and grazing fodder	Medium
Rift Valley Fever	Virus transmitted by Mosquitoes Contact with tissue of infected animals	Medium
Foot and mouth	Virus Transmitted by direct contact and possibly harboured by ticks *Rhipicephalus pulchellus*	Medium
Babesiosis (Tick fever, Redwater,	Ticks	High
Theileriosis (East Coast Fever)	Ticks	Medium
Anaplasmosis	Ticks	High
Heartwater	Ticks	Low
Tuberculosis	Mycobacterium	Low

In view of the above Trypanosomiasis, Babesiosis and Anaplamosis were considered as the high animal disease risk in the project area of influence. The risk assessment is based on the prevalence of vectors and reported cases mainly in livestock and also wildlife in the region.

6.3.2 Mitigation of Disease risks

6.3.2.1 Disease monitoring, surveillance and rapid response plan

The identified disease risks for the elephants require an elaborate disease monitoring and surveillance any suspicion of disease will trigger a prompt surveillance response coordinated by

KWS Veterinary services (HVS) department in collaboration with WRTI veterinary research and laboratories. Proposed action plan to include:

a) Mobilization of KWS and WRTI Vets to selected site to collect samples and investigate suspicious cases
b) HVS to coordinate with laboratories which can provide the requisite analyses
c) Enforcement of an exclusion buffer zone around the perimeter of the selected site to reduce potential of disease transmission in collaboration with the neighbouring community and local administrators

Early warning indicators of disease outbreak will need to be noted and response promptly triggered. These include:

i. Early warning by meteorological reports on flooding and drought
ii. Risk for RVF and other mosquito borne diseases during flooding
iii. Drought or prolonged dry weather leading to poor nutrition makes animals more susceptible to diseases such as anthrax
iv. Disease outbreaks in livestock with potential for disease transmission to wildlife

In the likelihood of an outbreak a rapid disease response should be instituted covering the following:

a) Vaccination of livestock neighbouring the re-wilding boma perimeter fence depending on extent of threat
b) Vaccination of elephants as a last resort or in extreme threat when livestock vaccination seems not to be effective, and following initial testing of efficacy of vaccine in elephants.
c) Carcass disposal through burning or burying as soon as possible to contain any harmful pathogens that may be the cause of disease or mortality
d) Vaccination of Keepers in extreme threats of perceived zoonosis

6.3.2.2 Control of Disease Vectors

Control of disease vectors particularly tsetse flies and ticks and any other that is identified as a potential threat to the elephants and other wildlife will be needed continuously across the landscape. In some instances, use of larvicides that are not harmful to other wildlife may be applied in water pans to suppress breeding of mosquitoes and other biting flies. Key recommendations to significantly lower the risk of infections include.

i) Prevent exposure to livestock diseases
ii) Vaccination against highly pathogenic diseases in livestock and possibly elephants at times of high risk
iii) Control of disease vectors (ticks, biting flies, mosquitos, worms, tsetse)

The proposed fencing of the release site by design shall prevent livestock incursions thereby reducing the exposure of elephants to endemic, epidemic and exotic diseases. In the event of a suspected disease outbreak or at times of high threat, a buffer zone around the perimeter of the proposed sites where livestock grazing is restricted should be enforced in order to reduce risk of disease cross over.

One of the key disease vector identified is tsetse and an elaborate tsetse control and eradication programme will need to be developed as outlined below.

Tsetse control and eradication programme.

The following mitigation measures are essential to ensure effective control of the tsetse fly and Trypanosome's infestation in the Shimba Hills ecosystem: -

i. In addition to the assessments done on tsetse fly density a more comprehensive survey needs to be carried out to cover the reserve and adjacent areas systematically to identify the tsetse belt, its connectivity and identify hotspots that can be a source of reinfestation of cleared areas.

ii. Establish the '*isolate nature*' of the tsetse belt and determine the spread and limits of this belt in relation to other belts in its proximity. Thus, an extensive survey including the adjacent belts should be carried out.

iii. In the long-term, a comprehensive tsetse control strategy should be consultatively formulated in conjunction with the communities adjacent to the park to ensure sustainability of the programme. This should be done by the deployment of all black or blue/black cloth (1.8 x 1 m) targets, sprayed with deltamethrin suspension concentrate and baited with NAB or POCA. This should be done concurrently with monitoring tsetse fly catches densities in Ngu traps on two-week intervals for a year. It is expected that the tsetse fly density will drop by approximately 3% per day and new trypanosomiasis cases/infections potentially declining by 99% within a year.

iv. The existing collaboration between KENNTEC and KWS on Tsetse control needs to be enhanced and more tsetse traps and control targets need to be deployed before the animals are translocated.

6.3.3 Potential Physiological stress

The animals can potentially suffer from physiological stress due to the long hours of transit from Howletts wild animal Park to Mwaluganje as they are transported both by road and air. This is especially so if the animal welfare is compromised.

6.3.3.1 Mitigation against physiological stress

Safety and welfare of the animals will need to be given utmost consideration right from the loading transportation and offloading of the animals. The crates must be well ventilated and without sharp edges that can injure the animals. Provisions must be provided in the crates for feeding and watering the animals. The animals must be accompanied by a veterinary while on transit who shall monitor them and intervene where necessary. All capture and immobilization protocols including training of the animals into the crates will need to be followed. Involved institutions, personnel and equipments must be mobilized early enough to avoid unnecessary delays that may prolong the time spent by the animals on transit. These include the trucks and airport loading and offloading.

Communication strategy to manage divergent perceptions and management of information will be key to the success of the project especially due to local and international profiling of the process. Adaptive measures due to shift in climatic conditions from the source site to the recipient sites to be undertaken including management of stress of the animals during transportation, quarantine and re-wildering process in adherence to relevant translocation guidelines and protocols need to be well implemented.

6.3.4 Human wildlife Conflict

Before establishment of Golini-Mwaluganje Community Wildlife Conservancy in 1991-92, there were increased cases of HEC as elephants traversed the farms from Shimba Hills NR to Golini-Mwaluganje Community Wildlife Conservancy Forest. However, when Golini-Mwaluganje Community Wildlife Conservancy was established as an elephant sanctuary, communities were relocated and the land was set aside for conservation. Golini-Mwaluganje Community Wildlife Conservancy is surrounded by 150 km fence and provided for connectivity between Shimba Hills NR to Golini-Mwaluganje Community Wildlife Conservancy Forest. The only unfenced area is the escarpment on Golini where elephants find their way to farmlands and settled areas. The communities have tolerance to elephants as they are the shareholders of Golini-Mwaluganje Community Wildlife Conservancy. However the existing fence is not very effective due to poor maintenance and some sections of the ecosystem are porous therefore are still cases of HEC in the area. The elephants from UK are used to people and during re-wilding their movement patterns may be unpredictable as the explore the new environment. Their sporadic movement may escalate HEC in the area.

6.3.4.1 HEC Mitigation

The entire 150 kilometer fence need to be rehabilitated and rebuild to ensure the elephants are contained within the closed ecosystem before they are released. Fortunately the SWT has already secured funds for the rebuilding of the fence and the project is already ongoing. This will mitigate any potential conflicts of the new elephants with the community during re-wilding. It is

worth noting that the elephants will be receiving care in re-wilding boma and management bomas in a semi captive environment for at two years before they are left to freely range and hence there are no anticipated immediate conflicts of the elephants with the community.

6.3.5 Potential threat of Poaching

Elephant population in Shimba Hills ecosystem is reported to have declined in the past decade with poaching being among the likely causes. However, establishment of a KWS security platoon in the conservancy has improved security situation within the larger Shimba hills NR, Golini-Mwaluganje Community Wildlife Conservancy, and Golini-Mwaluganje Community Wildlife Conservancy Forest Reserve landscape. Despite the significant decline in poaching sporadic cases of elephants killed for ivory are still reported in the country. Cognizant that the UK elephants are from a zoo set up and may be easily approached and killed, poaching remain a threat.

6.3.5.1 Security and enhancement to mitigate poaching

An elaborate security plan for the elephant upon arrival will need to be instituted by the Kenya Wildlife Service. Security of the animals will be provided right from the airport to the Release enclosure. Collaboration between the KWS rangers, the animal keepers and the community scouts will be established and security surveillance enhanced.

The existing security at Mwaluganje will need to be strengthened in Mwaluganje with at least 10 additional rangers deployed. Strategic deployment of rangers in the outposts will also be enhanced as the elephants are gradually released to integrate with the resident population. Additional surveillance equipments including vehicles, GPS, binoculars and camera traps will need to be provided not only for security purposes but also for post release research and monitoring.

A security plan for the project to include escort team from the airport to Mwaluganje, deployment of KWS rangers to work with animal keepers and community scout at the temporary holding facility. There will be need for deployment of additional KWS 14 rangers in the shimba hills ecosystem. Procurement of a water bowser under KWS is recommended to enhance supply of water to security rangers who will be strategically deployed in the ecosystem for the project sustainability. In addition two vehicle mobile VHF radios and hand held VHF radios will be required to enhance communication between the operation camp of the project the KWS Shimba station head quarters and the mobile security patrol teams. A new Toyota land cruiser for KWS is also required to enhance security patrols.

6.3.6 Potential Wild Fire Risks

With Golini-Mwaluganje Community Wildlife Conservancy being a community owned and managed conservancy, there are minimal fire threats coming from the neighbouring communities who are also the shareholders. However, Savannah ecosystems are prone to wild fires during the dry season and thi threat cannot be ignored. Measures need to be put in place to prevent fire spreading from community to the sanctuary.

6.3.6.1 Mitigation against wildfires

A well maintained fire break will be required along the electric fence both on the outside and the inside. 5 metre corridor on either side of the fence is usually maintained as road for the fence maintenance as well as a fire break. I addition a manned observation point at the cliff in Golini would serve as an early warning incase smoke is sported, We also recommend fire extinguishers at the personnel camp that will be adjacent to the elephant temporary holding Release boma.

6.3.7 Potential adverse Impact on Biodiversity

The project has minimal adverse impact on Biodiversity but the area for the semi captive facility is expected to be degraded due to trampling. However we expect the success of the programme to have a net gain by reducing human encroachment on the natural forest inside the sanctuary area and also securing the Community land for conservation due to the anticipated benefits. The elephants will be continuously fed with browse that will be on obtained from the ecosystem. The cutting of the browse shrubs may degraded the vegetation cover. This is however expected to be minimal and the impacts are likely to be felt during prolonged drought. The off-take of browse for the elephants from the natural habitat is expected to mimic the natural foliage removal by the resident elephants in their selective foraging behavior.

6.3.7.1 Mitigation measure on vegetation loss

Habitat management programmes within the ecosystem including planting indigenous trees will need to be instituted. Range seeding with suitable grass species. Community sensitization to discourage activities like over grazing and firewood collection from within the sanctuary will enhance natural regeneration of vegetation increasing species food for the elephants. Collaboration among the conservation partners and the County government to provide alternative sources of fuelwood and energy saving cooking methods will minimize pressure on the natural woodlands leaving more food for the elephants.

6.3.8 Social political conflicts

Due to its unique and bilateral nature, the project needs to ensure compliance with international obligation relating to export import permits of endangered species. These include obtaining prior informed consent and obtaining CITES and veterinary permits. There will also be need for an elaborate Memorandum of Understaning between the implementing partners namely the KWS,

TAF, WRTI, Golini Mwaluganje community conservancy. The MOU outlines the responsibilities of the implementing agencies and will need to be signed prior to the movement of the animals.

6.3.9 Failure to adapt to a free ranging environment

Although the ultimate goal is to release the animals to freely forage in the wild after re-wilding, a contingency plan is required for any of the animals whose natural instinct to freely forage might fail to work thus requiring prolonged care in the semi-captive facility. Such an animal or animals will be maintained in a managed environment and hence the need for sustained funding for the animals welfare. Partners need to commit themselves to support the upkeep of the animals until they are fully released to the wild or until such a time the conservancy will be generating adequate revenue to support the animals in a management setting.

6.3.10 Restricted access to the sanctuary for grazing

Following the fencing of the MES there will be restricted access to the sanctuary for grazing, firewood collection and fishing in the rivers. The neighbouring community raised the concern in the consultation meetings and expressed the need for access gates to enable them access through for their social economic activities. There are also tradition foot paths that connect the community in Kinango to Kwale town through the conservancy.

6.3.10.1 Provide few access gates for the community

The community in consultation with SWT and KWS will identify few strategic points for installation of small gates. These gates will be different from the main gates for tourism activities that will be manned by the conservancy scouts and KWS. The gates will be community policed to avoid illegal entry

6.4 Summary of the impacts

6.4.1 Positive impacts

ANTICIPATED IMPACT	DESCRIPTION
Employment Opportunities	Enhanced livelihoods through employment opportunities for the local communities from construction works
Promotion of tourism locally and nationally	• The unique nature of the project will contribute to marketing Kenya as a high value responsible and conservation-focused tourism destination. • Contribution to the national tourism numbers and foreign income and investment. • The Kwale County is strategically located in close proximity to Kenya's coastline and there is very good access in terms of tar roads to the area. By bringing these elephants to this area, there is a good chance that local tourism will increase and more tourism infrastructure will be developed
Community empowerment	• Capacity building through knowledge transfer as the locals will be trained as animal keepers and attendants amongst other skills.
Enhanced wildlife conservation	• The facility will complement the existing initiatives on promotion of conservation education. • Protection and conservation of the endangered African Elephant will be a key activity in the project and this will create more awareness to save this species. • Provide an opportunity to undertake research that will enhance conservation of wild living populations and adding to the body of knowledge on re-wilding and eventual release of Elephants from captivity to free ranging

ANTICIPATED IMPACT	DESCRIPTION
Enhancement of the elephants welfare	• The veterinary care unit deployed at the facility will greatly reduce response time for animals in need of special care through provision of prompt veterinary diagnostic services for the animals in the sanctuary and even other animals in the conservancy • Release of the animals to freely range enhances the longterm welfare of the elephants
Population viability	• The addition of 13 elephants will make a positive contribution to the number of elephants in the Shimba Hills ecosystem in Kenya as part of the cumulative impacts due to enhanced anti-poaching measures that will come with the project. This will in the long run have a net gain in elephant population numbers. The elephant population within the Shimba Hills ecosystem is relatively small (estimated in the low hundreds) with limited capacity for gene exchange due to current isolation from other wild populations. The addition of unrelated elephants to the population may improve the viability

6.4.2 Negative impacts

POTENTIAL IMPACT	MITIGATION
Risks of contracting Diseases and disease epidemic	▪ Implement prescribed disease monitoring, surveillance and rapid response plan. Disease Risk Assessment and Plan is attached to this document. ▪ Implement prescribed tsetse control and eradication programme. ▪ Screen the 13 elephants for diseases before translocation and regularly post translocation before release into the wild. Disease surveillance has already started at the source.

POTENTIAL IMPACT	MITIGATION
	▪ Undertake regular disease surveillance of the elephants and ensure staff are trained to conduct such surveillance measures. ▪ Liaise with Community to restrict livestock grazing inside the sanctuary to minimize contacts that can lead to disease transmission form livestock to the elephants. ▪ Regular screening the animals in the area for trypanosome outbreaks for early detection. ▪ Support vaccination programmes for livestock and rapid disease response in case of an outbreak that is likely to spread to the elephants. ▪ A veterinary team is actively working with the elephants in the United Kingdom and this will be done until such time that the elephants are translocated. ▪ A veterinary team will be on standby to treat the elephants in Kenya should there be any sign of disease. Provision has been made to deploy specialized vets if so required. ▪ Train animal keepers on early detection of sick animals.
Human Wildlife conflict	▪ Rehabilitate and rebuild the 150 kilometer fence around the Shimba Hills Mwaluganje Ecosystem. The Sheldrick Wildlife Trust are currently busy implementing a project to install a new fence around the ecosystem. ▪ Increase security patrols during construction of the perimeter fence. ▪ Ensure fencing workers are accompanied by armed KWS rangers to avoid possible attack by elephants ▪ Sensitize workers on the presence of dangerous animals like the elephants and buffalo. ▪ Involve community and relevant stakeholders in the entire project cycle. ▪ Establish a rapid response programme utilizing ground crews and aerial support, should the elephants break out of the reserve. ▪ Key members of the elephant group in the United Kingdom will be fitted with tracking collars so that they can be effectively monitored and so that the management team can respond to any fence breaks and any potential human wildlife conflict. This is however not anticipated as the elephants are used to being in a fenced area and the elephants should therefore not test the fences.

POTENTIAL IMPACT	MITIGATION
Poaching /illegal hunting	▪ Strengthen the security at the temporary holding Release boma and the entire ecosystem. An additional six rangers will be appointed from the community for the project. ▪ Increase walking and road security patrols. ▪ Rehabilitation of the fence and enhanced security surveillance along the fence along the entire perimeter of the ecosystem. ▪ Install sensors along the fence and a monitoring system. ▪ Maintain a robust post release monitoring programme including collaring of the animals for tracking purposes. ▪ Provision of additional vehicles to mobilize teams to monitor the elephants. ▪ Implement aerial surveillance wherever possible. ▪ Engage with communities to ensure they support anti-poaching activities and report potential security threats. ▪ Implement informant system. ▪ Implement Earth Ranger Programme to support anti-poaching operations with critical data.
Vegetation loss particularly during fencing of the ecosystem and the construction of the required infrastructure for the release of the elephants.	▪ Restrict perimeter fence construction activities to the existing fence alignment, this would include bush clearing to allow space for the fence and associated access roads. Clearing of a fire break would be acceptable. ▪ Elephant release enclosure to be designed around existing indigenous trees and shrubs to reduce vegetation clearance. ▪ The project site will be enriched through habitat modification with appropriate trees, grass and shrubs after the elephants have been released. ▪ The staff camp will be developed on the existing footprint of the previous tourism camp which is no longer operational. This will reduce destruction of vegetation accordingly.
Potential vegetation loss within the release enclosure and also during cutting of vegetation for supplementary feeding of the	▪ The elephants will be supplemented with pellets and a wide range of natural vegetation from outside of the release enclosure to reduce the demand of the vegetation on the inside of the enclosure. This will have a direct impact on reducing the damage on vegetation within the release enclosure. ▪ Cutting of vegetation for the elephants would be spread across different areas to avoid damage to vegetation in a single specific area.

POTENTIAL IMPACT	MITIGATION
elephants.	▪ The reserve ecologist will need to be consulted with to identify areas which the vegetation can be cut. ▪ Elephant specialists from Kenya would need to be consulted with to ensure the correct species of vegetation are cut for the elephants. ▪ The release enclosure will also be expanded on an ongoing by utilizing a temporary three-strand electric fence to provide the elephants with additional space. This will relieve pressure on the vegetation in the initial release enclosure.
Transport from airport and access roads.	▪ The elephants will need to be flown into Mombasa International Airport as the preferred airport for access to the release site. ▪ The elephants will then be transported from the airport to Mwaluganje by road. The preferred route would avoid driving through Mombasa and across the ferries. Although this would be shorter than the alternative route of exiting Mombasa via the road to Nairobi, the risks associated with driving through Mombasa and across the ferries are higher. ▪ The preferred access road will be checked and problem areas identified for management/temporary repairs to ensure there are no delays associated with trucks getting stuck. ▪ The preferred translocation date has been set for the months of June and July, which are the drier months of the year around Shimba Hills. This will therefore result in drier roads and therefore less impact caused by trucks driving on wet roads. ▪ The proposed release site is in very close proximity to the entrance gate of the Mwaluganje Community Wildlife Conservancy and therefore only a very short access road will need to be built to the actual release enclosure. This road will be constructed responsibly and avoiding sensitive vegetation and soils wherever possible. ▪ The police service in Mombasa will be requested to assist with the management of traffic on the day of transport from Mombasa Airport to the release site.
Solid waste generation at the animal keeper and security camp and construction of release enclosure.	▪ Employing waste minimization techniques such as the 3Rs (Reduce , Reuse, Recycle) principle ▪ Daily collection, segregation and disposal of waste at designated areas. ▪ Provide litter bins at the operation base for temporary holding before

POTENTIAL IMPACT	MITIGATION
	disposal. ▪ Sensitization and awareness creation amongst workers and visitors. ▪ Involved community service provider to collect waste and dispose of the waste in a responsible manner, at a registered waste facility.
Climate change due to carbon emission	▪ Enhance carbon sinking through the conservancy protection from habitat degradation ▪ Explore carbon trading from the enhanced sinking following institution of appropriate measures ▪ Sale of carbon credit will increase community income and reduce dependency on the natural vegetation and hence enhance more sequestration even outside the conservancy.
Competition for water	▪ Provide alternative water sources for the livestock and wildlife both inside the sanctuary and in the adjacent community. Such include drilling of boreholes, creation of pans for wildlife use and water troughs for livestock. ▪ Employing sustainable use measures that reduce demand on water resources and using the available water conservatively. ▪ Control usage by installation of monitoring metered gauges. ▪ Ensure that the water source provided for the elephants in the release enclosure will be for long term use of wildlife. ▪ The water provided for the elephants during the release period will be sourced from the municipal pipeline which services Mombasa. This will therefore mean that the elephants will have access to very fresh water. ▪ The elephants will then slowly be exposed to the natural water system in Mwaluganje. ▪ Water tests will be conducted at both the source and release sites to analyze and determine any significant differences or concerns.
Occupational Health and Safety (OHS)	▪ Employ authorized and competent contractors who comply with relevant regulations ▪ Sensitization of construction workers on safe use of equipment and substances. ▪ Providing construction workers with PPEs and replacing them as necessary. ▪ Notifying neighbors about construction activities to raise awareness

POTENTIAL IMPACT	MITIGATION
	and enable them to adjust. ▪ Securing the site and controlling movement in and out during construction. ▪ Controlling movement of workers at the campsite during night hours ▪ Putting the necessary signs to warn or alert people of the eminent risks such as works in progress. ▪ Provide and maintain fire-fighting and first aid equipment.
Operational Phase	
Increased Water consumption	▪ Employing sustainable use measures that reduce demand ▪ Use water tight taps and recycling wherever applicable ▪ Installing monitoring metered gauges to monitor water utilization. ▪ The current pipe servicing the Mwaluganje Elephant Sanctuary is too thin and will need to be upgraded. The intention would be to install a second, thicker pipe from the main water line to the release enclosure. ▪ There will be water troughs available for the elephants. These troughs will be supplied by the municipal water point and there will be a trough which will be supplied by water from the main river in the Mwaluganje Elephant Sanctuary. This will slowly start exposing the elephants to the water from the natural river system, at their own time whilst still providing them with fresh municipal water.
Noise generation	▪ Ensuring noises generated from project activities are within acceptable limits and ensuring most noisy activities are carried out during the day. ▪ Materials to be supplied in large quantities at once to avoid frequent and unpredictable traffic during camp and enclosure construction. ▪ Prepare and display clear rules and regulations at strategic visitor areas. ▪ Use of buffers between human settlements and animal enclosures ▪ Constructing animal enclosures away from settled areas. ▪ Prepare and display facility rules and regulation against excessive noise that may disturb the animals.
Solid waste generation	▪ Ensuring the movement of waste from source to dumpsite is safe and controlled to prevent spillages and pollution. ▪ Employing waste minimization techniques such as the 3Rs (Reduce

POTENTIAL IMPACT	MITIGATION
	,Reuse, Recycle) principle ▪ Daily collection, segregation and disposal of waste at designated areas ▪ Provide litter bins at the operation camp for temporary holding before disposal ▪ Sensitization and awareness creation amongst the workers ▪ Prepare and display sanctuary rules and regulation against littering. ▪ Adhere to integrated solid waste management regulations.
Waste water	▪ Waste water from the washrooms will be handled through a septic tank. Services of licensed waste handlers will be employed to empty the waste when is necessary.
Predation of the Elephants	▪ There are currently no resident lions within Shimba Hills Ecosystem. This will however be continuously monitored to ensure that the status quo remains. Should free roaming lions decide to reside within Shimba Hills, efforts will be made to remove these lions immediately. ▪ Ensure the perimeter fence is predator proof as far as possible. ▪ Monitor the Release boma for incidences of predator intrusion.
Illegal hunting of the Elephants in the sanctuary	▪ Ensure 24 hrs security surveillance along the fence. ▪ Install sensors along the fence and a monitoring system. ▪ Maintain a robust post release monitoring including collaring of the animals. ▪ Implement robust anti-poaching strategy, including foot patrols, air patrols and deployment of additional rangers. ▪ Obtain community support in the anti-poaching strategy by ensuring that they report threats to the animals and provide import information to ensure pro-active anti-poaching measures can be put in place. ▪ Earth Ranger Capability will be installed in the project area to provide critical data to the anti-poaching units.
OHS Risks o Human injury and accidents o Fire incidences at the operation	▪ Workers sensitization and awareness creation on safety and risk management ▪ Routine vaccination of staff and animals to prevent spread of zoonotic diseases as determined by National Strategies and Protocols. ▪ Training of facility workers on safe use of equipment and substances.

POTENTIAL IMPACT	MITIGATION
camps and Release boma	▪ Providing workers with adequate and quality PPEs and replacing them as necessary. ▪ Provision of emergency gates in the facility ▪ Ensuring there is adequate security within and around the facility ▪ Putting the necessary signs to warn or alert people of the eminent risks ▪ Ensuring hazardous/flammable chemicals such as detergents and fuels are stored safely and appropriately according to Controlled Substances and Regulations Act ▪ Providing and maintaining fire-fighting and first aid equipment(side buckets, hydrants, fire extinguishers) ▪ Designate and clearly label fire assembly points in the facility. ▪ Regular training of facility workers on emergency preparedness ▪ Maintain a fire break around the sanctuary
Socio-cultural impacts (Cultural erosion, Crime , HIV/AIDs spread)	▪ Awareness creation on HIV and AIDs ▪ HIV/AIDS preventive and management initiatives ▪ Awareness creation on importance and preservation of culture ▪ Employing local content for most of the project activities.
Security of release site and staff camp.	▪ Install fence sensor systems ▪ Prepare a security management plan ▪ Deploy adequate security rangers ▪ Collaborate with KWS, KFS and Conservancy scouts to enhance the security of the sanctuary ▪ Ensure day and night onsite security surveillance Ensure animal enclosures are regularly maintained to avoid escapes ▪ Controlling movement of facility workers during night hours ▪ Ensure main access gates are manned at all times.
Economic Impacts	▪ Although the creation of jobs as an outcome of the project is considered a positive impact, the selection of appropriate people from the local community must be done carefully to avoid conflict between community members. ▪ All existing community channels/structure will be utilized to appoint local people to fill job positions at Mwaluganje. ▪ A memorandum of understanding between the implementing partners spell out benefits and responsibility will be developed before the project commencement

POTENTIAL IMPACT	MITIGATION
Impact on existing elephant population.	▪ The existing elephant population move between Shimba Hills National Reserve and the Mwaluganje Elephant Sanctuary and it is important that the release enclosure does not significantly impact on these local migration routes. ▪ It is anticipated that the local population will accept the elephants from the United Kingdom without too much concern. ▪ The dynamics between the UK elephant herd and the wild populations will be closely monitored and this will be one of the criteria which will be used to determine the readiness of the elephants to be released into the environment. ▪ The Sheldrick Wildlife Trust (SWT) is already implementing conservation initiatives in the ecosystem. SWT are quite experienced with elephant reintegration, and they will be monitoring the re-wilding process closely.
Management of overpopulation of elephants.	▪ Provide long term relocation support to move elephants to other properties should it be deemed necessary as and when elephant numbers are deemed to grow over the acceptable carrying capacity. Tsavo can absorb a large number of elephants, translocated from Shimba Hills, so this will be considered as a first option. ▪ The current population of elephants in the area is relatively low, well below carrying capacity. ▪ With the growth of the population, the potential of Human Wildlife Conflict grows as well. This will therefore need to be monitored on an ongoing basis. The improved fence which will be installed and the increased ranger presence will assist in managing this aspect.
Potential inbreeding	▪ Due to the fenced nature of the Shimba Hills Ecosystem, there is no longer a migratory route for elephants between other reserves. This population is therefore isolated. ▪ The UK elephants will be bringing new genetics into the system which will assist in mitigating this impact. ▪ Long term introductions from local populations will also need to be considered.
Decommissioning of the temporarily holding facility	
OHS	▪ Putting up clear and visible signs around the site to remind workers

POTENTIAL IMPACT	MITIGATION
	of risks/dangers. ▪ Ensuring there is adequate security around the site and zoning or cordoning off the site during demolition. ▪ Providing workers involved with quality PPEs ▪ Sensitizing workers on safe handling and use of equipment and materials. ▪ Providing and maintaining firefighting equipment & putting in place an emergency response plan.
Security of the animals	▪ Ensure that all the elephants are either rewilded or no longer need to visit the release boma. ▪ The water points in the release enclosure will be left in place and will remain in commission to provide long term sustainable water sources for all wildlife in the Shimba Hills Ecosystem.
Management Camp	▪ The management camp will remain in place to support the long-term management activities of the community conservancy. ▪ The camp could also be utilized as a basic tourism facility.

6.5 Impact Significance Analysis

The significance of impacts is normally based on its probability of occurrence, the duration, severity, its area of influence and perception by affected stakeholder. Environmental impacts occur either directly or indirectly from the project activities. Subsequently, impacts emanating directly from the activities in this project that had a prolonged period of time and were also irreversible were categorized as major. Further, all short term indirect impacts as well as those that could be reversed were categorized as minor. Where an impact was negative, appropriate mitigation measures have been suggested to minimize the impacts to ensure environmental sustainability. This is illustrated in the table below.

6.5.2 Negative Impact Analysis

Table 10 Impact significance analysis

No.	Impacts	Direct/ Indirect/	Short term/ Long term	Major/ Minor	Significance (high/medium/low)
1.	Potential disease risks	Direct	long term	Major	High
2.	Vegetation loss	Direct	Short term	Minor	Low
3.	Human Wildlife conflict	Indirect	Long term	Major	Medium
4.	Predation of the Elephants in the sanctuary	Direct	Long term	Minor	Low
5.	Illegal hunting of the Elephants in the sanctuary	Direct	Short term	Minor	Medium
6.	Physiological stress	Direct impact	Short term	Major	High
7.	Wildfire risks	indirect	longterm	minor	Low
8.	Social political impact	indirect	Short term	Minor	Medium
9.	Solid waste generation	Direct	Short term	Minor	Low
10.	Climate change	Direct	Short term	Minor	Low
11.	Noise pollution	Direct	Short term	Minor	Low
12.	Increased water demand	Indirect	Short term	Major	Medium
13.	Occupational health and safety (OHS)	Both	Short term	Minor	medium
14.	Increased Water consumption	Direct	Short term	Minor	Medium
15.	Increased energy consumption	Indirect Direct	Long term	Minor	Low
16.	Noise generation	Indirect	Short term	Minor	Low
17.	Waste water	Indirect	Long term	Minor	Low
18.	Insecurity	Direct	Short term	Minor	Low
19.	Generation of demolition wastes	Direct	Short term	Minor	Low
20.	Failure to adapt to the wild environment	Direct	longterm	major	high

6.3 Impact rating and significance analysis

In this section we analyze the significance of the key impacts that are specific to the project. Impacts like noise, waste generation and pollution that are common to other project and have well conventional mitigations have not been included but those impacts affecting the 13 elephants directly or indirectly and also associated community impacts have been evaluated in table 10 below.

Table 11. Potential Negative impacts rating

			Sensitivity	**Magnitude**	**Likelihood**	**Duration**	**Reversibility**
			Not sensitive	Negligible	Remote	Short term	Reversible
			Low	Minor	Unlikely		
		Ecological receptor	Medium	Moderate	Occasional	Medium term	Irreversible
			High	Major	Very Likely	Long term	
Project phase	**Potential Impacts**						
Translocation	Physiological stress	Elephants	High	medium	Very likely	Short-term	Reversible
Translocation and re-wilding phases	Disease infection-Trypanosomiasis	Elephants	High	moderate	unlikely	Short-term	reversible
Translocation and	Disease risk	Elephants	Medium	major	Occasional	long-term	Reversible

re-wilding phases							
Translocation and in the holding enlosurephases	Injury	Elephant	low	low	remotely	Short term	reversible
Re-wilding Phase	Predation/illegal hunting	Elephants	Low	negligible	Occasional	Short term	Reversible
Temporary holding Re-wilding	Poaching	Elephants	Medium	Low	Unlikely	Short term	Reversible
Re-wilding phase	Human Elephant conflict	Community	Medium	negligible	likely	Short-term	irreversible*
All phases	In breeding	Elephants	sensitive	low	Occasional	Short term	irreversible
All phases	Occupation risks	Animal keepers & handlers in the project cycle	low	negligible	occasional	Short term	Reversible
Post translocation and re-wilding	Wildfire risks	Elephants Camp Enclosures	medium	medium	occasional	Short term	Irreversible
Post translocation and re-wilding	Predation	Elephants	low	low	Not likely	longterm	
Post Re-wilding	Snaring Injury	Elephants	medium	major	high	longterm	Reversible

7.0 PROJECT ALTERNATIVES

7.1 Release and re-wilding site alternatives

There are various considerations that are made before introduction or re-introduction of a species in a new area. Key among them is the suitability of the habitat and the associated ecological interaction of the species in the ecosystem setting including potential disease risks. In addition, there are important anthropogenic factors that determine the survival of the species. Such include security, management capacity, financial capacity, land ownership and project sustainability. A criterion to determine choice of a release site based on these factors was used to evaluate alternative sites for the translocation of the elephants

Three potential release sites were assessed all of which are natural habitats for Afrivan savanna elephants. These included Tsavo East National Park (Ithumba) and Shimba Hills National Reserve/Mwaluganje Elephant Sanctuary and Chyulu Hills National Park. These three sites were subjected to a suitability assessment by a technical team drawn from KWS, WRTI and SWT. The goal of undertaking these assessments is to ensure that the sites where such release and introduction or re-introduction of a species has the required resources necessary for it to thrive in the new site and where the project would offer maximum benefit to the neighbourhood

A set of 22 attributes that were considered important for the translocated elephants to easily thrive at the site were identified and listed and weighted by the technical team. Based on a set scoring criteria the three alternative sites were scored and although there was no significant difference between the scores Golini Mwaluganje community conservancy emerged the best alternative for the re-wilding of the elephants. Alternative site selection analysis is annexed in the

7.3 Do nothing alternative

This implies that the project is not implemented and status quo is maintained. The destiny of the elephants remains in the zoo set up with no hope for freedom at their native habitat.

7.4 Alternative Enclosure sites

Three potential sites for construction of the enclosure were identified at adjacent to the gate of Mwaluganje, Makobeni junction and Manolo loop. Site adjacent to the main gate of Mwaluganje is partly registered under the conservancy while part will be on shareholders land parcels. This was identified as ideal for construction of the elephant enclosure because this site is close to a KWS security base, it is nearer to Shimba Hills National Reserve Headquarters, has a river with fresh water (Marere River) through-out the year, has adequate elephant preferred food plants, it is close to Marere piped water source in case of a severe drought and wild elephants to and from Shimba Hills National Reserve frequent the area. The site is also accessible and electricity is not very far and the operation camp can easily be connected without very high connection costs.

8.0 ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN (ESMMP)

8.1 The Environmental and Social Management Plan (ESMP)

This chapter presents the assessment of the adverse impacts as outlined identified in chapter six of this report by presenting the impacts alongside their suggested mitigation in a tabular manner. For each impact the analysis is based on its nature extent duration intensity and probability of happening as rated above.

The Environmental Management Plan (EMP) seeks to prescribe mitigation measures to reduce negative impacts to acceptable or insignificant levels. Towards this endeavor, both the cost and the project negative impacts will be considerably minimized when implementation is carried out early in the project cycle. The mitigation hierarchy of impacts will need to be followed as outlined below.

1. **Avoid at Source:** This follows the principle of prevention is better than cure where predictable impacts that can be avoided by the pre-project planning and designing activities. For instance, designing the crates for the elephants with good ventilation and in accordance with the animal sizes minimizes movement, injury and stress for the animals before transportation.
2. **Abate at source:** This involve implementing activities onsite to reduce the impact for instance sedating the animals to lower their activity while on transit so as to minimize stress.
3. **Abate at the receptor:** This will involve restoration activities of the receptor environment. E,g Planting trees to restore cleared vegetation during construction of operation camp or fencing the ecosystem and construction of enclosures
4. **Offset the impacts:** For residual impacts that cannot be avoided or significantly reduced. Measures to compensate such impacts are implemented for instance buying carbon credits equivalent to the emission that come as a result of the project. Others include supporting community livelihoods for the disturbance caused by a project or compensating for the land used for the project.

Implementation of the project ESMP including environmental monitoring will commence following the securing of permit from National Environment Management Authority (NEMA) and all other permits relating to the movement of the animals from UK to Kenya.

Table 12. Environmental and Social Management Plan

POTENTIAL IMPACT	MITIGATION	Responsible party	Timeframe	Cost in Ksh,
Pretranslocation &Translocation Phase				
Risks of contracting Diseases and disease epidemic	▪ Implement prescribed disease monitoring, surveillance and rapid response plan. Disease Risk Assessment and Plan is attached to this document. ▪ Implement prescribed tsetse control and eradication programme. ▪ Screen the 13 elephants for diseases before translocation and regularly post translocation before release into the wild. Disease surveillance has already started at the source. ▪ Undertake regular disease surveillance of the elephants and ensure staff are trained to conduct such surveillance measures. ▪ Liaise with Community to restrict livestock grazing inside the sanctuary to minimize contacts that can lead to disease transmission form livestock to the elephants. ▪ Regular screening the animals in the area for trypanosome outbreaks for early detection. ▪ Support vaccination programmes for livestock and rapid disease response in case of an outbreak that is likely to spread to the elephants.	All partners TAF, KWS,WRTI,GMCWC	Pre and pst translocation phase	10million annually

POTENTIAL IMPACT	MITIGATION	Responsible party	Timeframe	Cost in Ksh,
	▪ A veterinary team is actively working with the elephants in the United Kingdom and this will bed done until such time that the elephants are translocated. ▪ A veterinary team will be on standby to treat the elephants in Kenya should there be any sign of disease. Provision has been made to deploy specialized vets if so required. ▪ Train animal keepers on early detection of sick animals.			
Physiological stress during transportation	▪ Ensure transportation crates are well ventilated and without sharp edges that can injure the animals. ▪ Provisions must be provided in the crates for feeding and watering the animals. ▪ The animals will need to be accompanied by a veterinary while on transit who shall monitor them and intervene where necessary. ▪ All capture and immobilization protocols including training of the animals into the crates will need to be clearly followed ▪ Involved institutions, personnel and equipments must be mobilized early enough to avoid unnecessary delays that may prolong the time spent by the animals on transit. These include the trucks and airport loading and offloading.	TAF, KWS	Pre-translocation& translocation	Inbuild in the project cost

POTENTIAL IMPACT	MITIGATION	Responsible party	Timeframe	Cost in Ksh,
Human Wildlife conflict	▪ Rehabilitate and rebuild the 150 kilometer fence around the Shimba Hills Mwaluganje Ecosystem. The Sheldrick Wildlife Trust are currently busy implementing a project to install a new fence around the ecosystem. ▪ Increase security patrols during construction of the perimeter fence. ▪ Ensure fencing workers are accompanied by armed KWS rangers to avoid possible attack by elephants ▪ Sensitize workers on the presence of dangerous animals like the elephants and buffalo. ▪ Involve community and relevant stakeholders in the entire project cycle. ▪ Establish a rapid response programme utilising ground crews and aerial support, should the elephants break out of the reserve. ▪ Key members of the elephant group in the United Kingdom will be fitted with tracking collars so that they can be effectively monitored and so that the management team can respond to any fence breaks and any potential human wildlife conflict. This is however not anticipated as the elephants are used to being in a fenced area and the elephants should therefore not test the fences.	SWT, KWS ,GMCWC	During fencing	100 million one off & 20 million annually

POTENTIAL IMPACT	MITIGATION	Responsible party	Timeframe	Cost in Ksh,
Poaching /illegal hunting	▪ Strengthen the security at the temporary holding Release boma and the entire ecosystem. An additional six rangers will be appointed from the community for the project. ▪ Increase walking and road security patrols. ▪ Rehabilitation of the fence and enhanced security surveillance along the fence along the entire perimeter of the ecosystem. ▪ Install sensors along the fence and a monitoring system. ▪ Maintain a robust post release monitoring programme including collaring of the animals for tracking purposes. ▪ Provision of additional vehicles to mobilise teams to monitor the elephants. ▪ Implement aerial surveillance wherever possible. ▪ Engage with communities to ensure they support anti-poaching activities and report potential security threats. ▪ Implement informant system. ▪ Implement Earth Ranger Programme to support anti-poaching operations with critical data.	TAF, KWS,WRTI,GMCWC	Translocation and re-wilding phase	40 million for 6 months
Vegetation loss	▪ Restrict perimeter fence construction activities	TAF,	During construction	Inbuilt in

POTENTIAL IMPACT	MITIGATION	Responsible party	Timeframe	Cost in Ksh,
particularly during fencing of the ecosystem and the construction of the required infrastructure for the release of the elephants.	to the existing fence alignment, this would include bush clearing to allow space for the fence and associated access roads. Clearing of a fire break would be acceptable. ▪ Elephant release enclosure to be designed around existing indigenous trees and shrubs to reduce vegetation clearance. ▪ The project site will be enriched through habitat modification with appropriate trees, grass and shrubs after the elephants have been released. ▪ The staff camp will be developed on the existing footprint of the previous tourism camp which is no longer operational. This will reduce destruction of vegetation accordingly.	SWT,KWS, GMCWC	of release enclosure and perimeter fence	project cost
Potential vegetation loss within the release enclosure and also during cutting of vegetation for supplementary feeding of the elephants.	▪ The elephants will be supplemented with pellets and a wide range of natural vegetation from outside of the release enclosure to reduce the demand of the vegetation on the inside of the enclosure. This will have a direct impact on reducing the damage on vegetation within the release enclosure. ▪ Cutting of vegetation for the elephants would be spread across different areas to avoid damage to vegetation in a single specific area. ▪ The reserve ecologist will need to be consulted	All partners TAF, KWS,WRTI,GMCWC	▪ Post translocation & pre re-wilding	Inbuilt in the overall project cost

POTENTIAL IMPACT	MITIGATION	Responsible party	Timeframe	Cost in Ksh,
	with to identify areas which the vegetation can be cut. ▪ Elephant specialists from Kenya would need to be consulted with to ensure the correct species of vegetation are cut for the elephants. ▪ The release enclosure will also be expanded on an ongoing by utilising a temporary three-strand electric fence to provide the elephants with additional space. This will relieve pressure on the vegetation in the initial release enclosure.			
Transport from airport and access roads.	▪ The elephants will need to be flown into Mombasa International Airport as the preferred airport for access to the release site. ▪ The elephants will then be transported from the airport to Mwaluganje by road. The preferred route would avoid driving through Mombasa and across the ferries. Although this would be shorter than the alternative route of exiting Mombasa via the road to Niarobi, the risks associated with driving through Mombasa and across the ferries are higher. ▪ The preferred access road will be checked and problem areas identified for management/temporary repairs to ensure there are no delays associated with trucks getting	TAF, KWS	▪ Translocation	▪ Inbuild in the project cost

POTENTIAL IMPACT	MITIGATION	Responsible party	Timeframe	Cost in Ksh,
	stuck. ▪ The preferred translocation date has been set for the months of June and July, which are the drier months of the year around Shimba Hills. This will therefore result in drier roads and therefore less impact caused by trucks driving on wet roads. ▪ The proposed release site is in very close proximity to the entrance gate of the Mwaluganje Community Wildlife Conservancy and therefore only a very short access road will need to be built to the actual release enclosure. This road will be constructed responsibly and avoiding sensitive vegetation and soils wherever possible. ▪ The police service in Mombasa will be requested to assist with the management of traffic on the day of transport from Mombasa Airport to the release site.			
Solid waste generation at the animal keeper and security camp and construction of release enclosure.	▪ Employing waste minimization techniques such as the 3Rs (Reduce , Reuse, Recycle) principle ▪ Daily collection, segregation and disposal of waste at designated areas. ▪ Provide litter bins at the operation base for temporary holding before disposal.	TAF, KWS,WRTI,GMCWC	▪ Construction and operation	▪ In built in project cost

POTENTIAL IMPACT	MITIGATION	Responsible party	Timeframe	Cost in Ksh,
	▪ Sensitization and awareness creation amongst workers and visitors. ▪ Involved community service provider to collect waste and dispose of the waste in a responsible manner, at a registered waste facility.			
Climate change due to carbon emission	▪ Enhance carbon sinking through the conservancy protection from habitat degradation ▪ Explore carbon trading from the enhanced sinking following institution of appropriate measures ▪ Sale of carbon credit will increase community income and reduce dependency on the natural vegetation and hence enhance more sequestration even outside the conservancy.	SWT, GMCWC	Operation	N/A
Competition for water	▪ Provide alternative water sources for the livestock and wildlife both inside the sanctuary and in the adjacent community. Such include drilling of boreholes, creation of pans for wildlife use and water troughs for livestock. ▪ Employing sustainable use measures that reduce demand on water resources and using the available water conservatively. ▪ Control usage by installation of monitoring	TAF, KWS,WRTI,GMCWC	▪	▪

POTENTIAL IMPACT	MITIGATION	Responsible party	Timeframe	Cost in Ksh,
	metered gauges. ▪ Ensure that the water source provided for the elephants in the release enclosure will be for long term use of wildlife. ▪ The water provided for the elephants during the release period will be sourced from the municipal pipeline which services Mombasa. This will therefore mean that the elephants will have access to very fresh water. ▪ The elephants will then slowly be exposed to the natural water system in Mwaluganje. ▪ Water tests will be conducted at both the source and release sites to analyze and determine any significant differences or concerns.			
Occupational Health and Safety (OHS)	▪ Employ authorized and competent contractors who comply with relevant regulations ▪ Sensitization of construction workers on safe use of equipment and substances. ▪ Providing construction workers with PPEs and replacing them as necessary. ▪ Notifying neighbors about construction activities to raise awareness and enable them to adjust. ▪ Securing the site and controlling movement in and out during construction.	All partners	▪ Project lifetime	▪ In build in the instution al safety policies

POTENTIAL IMPACT	MITIGATION	Responsible party	Timeframe	Cost in Ksh,
	▪ Controlling movement of workers at the campsite during night hours ▪ Putting the necessary signs to warn or alert people of the eminent risks such as works in progress. ▪ Provide and maintain fire-fighting and first aid equipment.			
Operational Phase				
Increased Water consumption	▪ Employing sustainable use measures that reduce demand ▪ Use water tight taps and recycling wherever applicable ▪ Installing monitoring metered gauges to monitor water utilization. ▪ The current pipe servicing the Mwaluganje Elephant Sanctuary is too thin and will need to be upgraded. The intention would be to install a second, thicker pipe from the main water line to the release enclosure. ▪ Provide adequate water troughs for the elephants in the holding and release enclosures. ▪ These troughs will be supplied with municipal water point and there will be a trough which will be supplied by water from the main river in the Mwaluganje Elephant Sanctuary. This	▪ TAF, SWT,GM CWC	▪ Operation	▪ 500,000 annually

POTENTIAL IMPACT	MITIGATION	Responsible party	Timeframe	Cost in Ksh,
	will slowly start exposing the elephants to the water from the natural river system, at their own time whilst still providing them with fresh municipal water.			
Noise generation	▪ Ensuring noises generated from project activities are within acceptable limits and ensuring most noisy activities are carried out during the day. ▪ Materials to be supplied in large quantities at once to avoid frequent and unpredictable traffic during camp and enclosure construction. ▪ Prepare and display clear rules and regulations at strategic visitor areas. ▪ Use of buffers between human settlements and animal enclosures ▪ Constructing animal enclosures away from settled areas. ▪ Prepare and display facility rules and regulation against excessive noise that may disturb the animals.	▪ KWS, GMCWC	▪ Post Translocation	▪ No cost
Solid waste generation	▪ Ensuring the movement of waste from source to dumpsite is safe and controlled to prevent spillages and pollution. ▪ Employing waste minimization techniques	▪ TAF, KWS, GMCWC	▪ Operation	▪ Inbuilt

POTENTIAL IMPACT	MITIGATION	Responsible party	Timeframe	Cost in Ksh,
	such as the 3Rs (Reduce ,Reuse, Recycle) principle ▪ Daily collection, segregation and disposal of waste at designated areas ▪ Provide litter bins at the operation camp for temporary holding before disposal ▪ Sensitization and awareness creation amongst the workers ▪ Prepare and display sanctuary rules and regulation against littering. ▪ Adhere to integrated solid waste management regulations.			
Waste water	▪ Waste water from the washrooms will be handled through a septic tank. Services of licensed waste handlers will be employed to empty the waste when is necessary.	▪ TAF, GMCWC	▪ Construction and operation	▪ Inbuilt in project cost
Predation of the Elephants	▪ There are currently no resident lions within Shimba Hills Ecosystem. This will however be continuously monitored to ensure that the statu quo remains. Should free roaming lions decide to reside within Shimba Hills, efforts will be made to remove these lions immediately. ▪ Ensure the perimeter fence is predator proof as far as possible. ▪ Monitor the Release boma for incidences of	▪ KWS, WRTI	▪ Translocation post translocation and re-wilding	▪ In built in routine operations

POTENTIAL IMPACT	MITIGATION	Responsible party	Timeframe	Cost in Ksh,
	predator intrusion.			
Illegal hunting of the Elephants in the sanctuary	▪ Ensure 24 hrs security surveillance along the fence. ▪ Install sensors along the fence and a monitoring system. ▪ Maintain a robust post release monitoring including collaring of the animals. ▪ Implement robust anti-poaching strategy, including foot patrols, air patrols and deployment of additional rangers. ▪ Obtain community support in the anti-poaching strategy by ensuring that they report threats to the animals and provide import information to ensure pro-active anti-poaching measures can be put in place. ▪ Earth Ranger Capability will be installed in the project area to provide critical data to the anti-poaching units.	▪ TAF, SWT,KWS, WRTI	▪ Translocation post translocation and re-wilding	▪ In built in routine operations
OHS Risks o Human injury and accidents o Fire incidences at the operation camps and Release boma	▪ Workers sensitization and awareness creation on safety and risk management ▪ Routine vaccination of staff and animals as determined by National Strategies and Protocols. ▪ Training of facility workers on safe use of equipment and substances.	▪	▪	▪

POTENTIAL IMPACT	MITIGATION	Responsible party	Timeframe	Cost in Ksh,
	▪ Providing workers with adequate and quality PPEs and replacing them as necessary. ▪ Provision of emergency gates in the facility ▪ Ensuring there is adequate security within and around the facility ▪ Putting the necessary signs to warn or alert people of the eminent risks ▪ Ensuring hazardous/flammable chemicals such as detergents and fuels are stored safely and appropriately according to Controlled Substances and Regulations Act ▪ Providing and maintaining fire-fighting and first aid equipment(side buckets, hydrants, fire extinguishers) ▪ Designate and clearly label fire assembly points in the facility. ▪ Regular training of facility workers on emergency preparedness ▪ Maintain a fire break around the sanctuary ▪ Plant fire resistant species near the sanctuary.			
Socio-cultural impacts (Cultural erosion, Crime , HIV/AIDs spread)	▪ Awareness creation on HIV and AIDs ▪ HIV/AIDS preventive and management initiatives ▪ Awareness creation on importance and preservation of culture ▪ Employing local content for most of the	▪ All partners	▪ All phases of the project	▪ No cost directly associate with project

POTENTIAL IMPACT	MITIGATION	Responsible party	Timeframe	Cost in Ksh,
	project activities.			
Security of release site and staff camp.	▪ Install fence sensor systems ▪ Prepare a security management plan with increased surveillance, intelligence gathering and strengthen man piower ▪ Collaborate with KWS, KFS and Conservancy scouts to enhance the security of the sanctuary ▪ Ensure day and night onsite security surveillance Ensure animal enclosures are regularly maintained to avoid escapes ▪ Controlling movement of facility workers during night hours ▪ Ensure main access gates are manned at all times.	▪ TAF, KWS, SWT	▪ After translocation in the first 6 months	▪ 600,000 for 6 months
Economic Impacts	▪ Although the creation of jobs as an outcome of the project is considered a positive impact, the selection of appropriate people from the local community must be done carefully to avoid conflict between community members. ▪ All existing community channels/structure will be utilized to appoint local people to fulfil positions at Mwaluganje.	▪ All partners	▪ Entire project cycle	▪ Inbuilt in project cost
Impact on existing	▪ The existing elephant population move	▪ TAF,	▪ Post translocation	▪ 50

POTENTIAL IMPACT	MITIGATION	Responsible party	Timeframe	Cost in Ksh,
elephant population.	between Shimba Hills National Reserve and the Mwaluganje Elephant Sanctuary and it is important that the release boma does not impact on these local migration routes. ▪ It is anticipated that the local population will accept the elephants from the United Kingdom without too much concern. ▪ The dynamics between the UK elephant herd and the wild populations will be closely monitored and this will be one of the criteria which will be used to determine the readiness of the elephants to be released into the environment. ▪ The Sheldrick Wildlife Trust is very experienced with elephant reintegration, and they will be monitoring the process closely.	KWS, WRTI, SWT	and pre-wilding	million/year
Management of overpopulation of elephants.	▪ Provide long term relocation support to move elephants to other properties should it be deemed necessary as and when elephant numbers are deemed to grow over the acceptable carrying capacity. Tsavo can absorb a large number of elephants, translocated from Shimba Hills, so this will be considered as a first option. ▪ The current population of elephants in the area is relatively low, well below carrying capacity.	▪ TAF, KWS, WRTI, SWT	▪ Post translocation and post re-wilding	▪ 50 million/year

POTENTIAL IMPACT	MITIGATION	Responsible party	Timeframe	Cost in Ksh,
	▪ With the growth of the population, the potential of Human Wildlife Conflict grows as well. This will therefore need to be monitored on an ongoing basis. The improved fence which will be installed and the increased ranger presence will assist in managing this aspect.			
Potential inbreeding	▪ Due to the fenced nature of the Shimba Hills Ecosystem, there is no longer a migratory route for elephants between other reserves. This population is therefore isolated. ▪ The UK elephants will be bringing new genetics into the system which will assist in mitigating this impact. ▪ Long term introductions from local populations will also need to be considered. ▪ Undertake genetic profiling(DNA analysis)	▪ WRTI, TAF,SWR	▪ Post re-wilding	▪ 100 million one off
Decommissioning of the temporarily holding facility				
OHS	▪ Putting up clear and visible signs around the site to remind workers of risks/dangers. ▪ Ensuring there is adequate security around the site and zoning or cordoning off the site during demolition. ▪ Providing workers involved with quality PPEs ▪ Sensitizing workers on safe handling and use of equipment and materials. ▪ Providing and maintaining firefighting	▪ KWS, GMCWC, TAF,SWT	▪ Decommissioning	▪ 500,000

POTENTIAL IMPACT	MITIGATION	Responsible party	Timeframe	Cost in Ksh,
	equipment & putting in place an emergency response plan.			
Security of the animals	▪ Ensure that all the elephants are either rewilded or no longer need to visit the release boma. ▪ The water points in the release enclosure will be left in place and will remain in commission to provide long term sustainable water sources for all wildlife in the Shimba Hills Ecosystem.	▪ KWS	▪ Decommissioning	▪ Inbuilt in operation cost
Management Camp	▪ The management camp will remain in place to support the long-term management activities of the community conservancy. ▪ The camp could also be utilized as a basic tourism facility.	▪ GMCWC	▪ Decommmissioning	▪ No cost

8.2 Project sustainability

The construction of the holding and release enclosures will commence under the supervision of TAF, Conservancy management and KWS. The responsibility of implementing the environmental and social management plan rests with the partners and this need to be outlined in the MoU. A project Implementation committee drawn from the partners will provide oversight on implementation of the mitigation for the entire life cycle of the project.

The proposed project will be implemented in a public, private partnership model so that adequate resources can be mobilised for implementation of the project. Apart from construction of the staff houses, enclosures for the elephants, additional cost of hosting the animals include; additional KWS rangers for security provision, browse harvesting for the elephants and additional operational budgets (vehicles, fuel, repairs, food & water). Additional monitoring and security equipment will be required and support water provision for the elephants and staff. The implementing partners KWS, TAF, GMCWC, WRTI &SWT need have a Memorandum of Understanding with clear roles and responsibilities between the parties.

Among other key risks associated with the project implementation are the disease risks, weather risks, fire risks, forage and water risks which are described as potential negative impacts separately in this in this report. The MoU need to spell out how foreseen risks will be managed.

8.3 Training, Awareness and Competence

The facility is required to train workers and ensure that they are equipped with basic environmental awareness to safely perform all designated duties in harmony with best industrial practices and legislation. Such training should be all encompassing basic ecological studies, animal keeping, weaning and re-wilding, animal handling safety training, storage and handling of animal feeds and drugs, task specific training and maintaining records.

To enhance environmental auditing and monitoring we recommend a visit of environment technical and oversight representatives from Kenya to Howletts to appreciate the status of the animals before relocation to Kenya.
During the operation TAF will ensure that all employees working in the facility are equipped with necessary skills ranging from simple animal keeping and handling to specialized veterinary and laboratory skills. The training will incorporate the local community where youth and women will be the key beneficiaries.

8.4 Environmental monitoring

A proper monitoring programme is vital for a successful implementation of impact mitigation measures. Monitoring activities will comm

ence immediately construction starts in order to ensure that recommended environmental conservation, safety aspects and social welfare issues are addressed. Environmental monitoring of the project will include the following activities:

- *Site meetings and monthly environmental inspections:* These will be intended to verify compliance with the EMP and EIA License conditions.
- *Monthly PIC meetings:* These will be held to address issues emerging from the project implementation.

Important records including reports and minutes with recommendations for corrective actions will be maintained for verification. An annual environmental audit of the project will be required in accordance to EMCA provisions.

Important environmental and social aspects that require to be monitored during the operational phase are outlined in the table below.

Table 1 Environmental monitoring plan

Environmental and social aspect	**Monitoring indicator**	**Monitoring method**	**Monitoring frequency**	**Responsbility**
Safety & Security of animals	Record of observed & reported incidences of injury or death of animals	Enclosure inspections	Daily	Animal Keepers
Security	Reported incidences of attack	Visitor survey forms	Quarterly	Security rangers
Successful breeding	Natality	Birth records and recruitment	annually	Animal keepers
Reintroduction into native habitat.	No. of elephantsa successfully weaned and released for free ranging	No of healthy elephants released in the open sanctuary and surviving without food supplementation	Yearly	Resdent Scientis/researcher(
Waste generation	Strategically placed bins Visitor	Facility inspection	Quarterly	Camp supervisor

Environmental and social aspect	Monitoring indicator	Monitoring method	Monitoring frequency	Responsbility
	warnings signage on no dumping of waste			
Health and safety aspects of animals	Reported incidents of death and veterinary reports	Physical observation of animal Health/Vet inspection reports Auditing of records	Monthly	Veterinary
Health and safety of workers	Vaccination and injury reports Records of zoonoses among staff	Animal keepers medical examination reports Audit interviews	Monthly	Supervisor
Fire prevention	Serviceable Extinguishers Fire break maintenance Emergency preparedness	Calibration and servicing record Inspection of fire breaks aroung the conservancy	Quarterly	KWS & GMCWC
Conflicts	Reported cases	Visitor survey forms	Quarterly	KWS
Safety of animal enclosures	Adherence to facility maintenance protocol	Maintenance records	Annually	Supervisor

9.0 CONCLUSION AND RECOMMENDATION

This ESIA study has established that the proposed translocation and re-wilding of elephants from Howletts Wild Animal Park in the UK to Shimba Hills Mwaluganje in Kenya is unique in nature. This is due to the fact that it will be the first time that African elephants bred in a zoo in Europe will be returned to their native habitat in Africa. Piloting the project is a worthwhile investment and will no doubt contribute to the improvement of wildlife conservation by enhancing understanding of the existing potential of reintroductions of mega herbivores from *exsitu* populations to reintegrate them with *insitu* populations. Nationally the project will seek to enhance the welfare of the animals by demonstrating that mega mammals that require large home range like the elephants should not be condemned in zoo captivity setting for the rest of their life. The Aspinall Foundation and most of the stakeholders consulted in the project area of influence believe the project will be a success that will trigger other zoos to follow suit.

The project is also expected to spur tourism development in Kwale County and improve community livelihoods through the associated multiplier effects of the project including local employment, corporate social responsibility, and development of other tourism products that support local businesses. The positive impacts have been discussed in details in chapter6.0 of this report.

However, the ESIA study has also established that the project will also come with some challenges. One of the key concerns from both national and international stakeholders is the uncertainty of whether the animals will be able to forage for food in the unfamiliar environment since they have been habituated to being fed and taken care of by people. The mitigation for this impact is that a contingency plan needs to be in place for the animals to be given care for as long as they are in the holding enclosure just in case, they are unable to adapt and forage in the wild. However, most of other negative impacts identified for this project have mitigations which have been suggested in details in this report. The project partners have initiated the drawing of a memorandum of understanding on their commitments to the implementation to enhance project sustainability. It is recommended that in addition to this commitment all the measures outlined in the ESMP need to be implemented and monitored as well as adherence to all relevant national and international safety standards, policies and regulations that govern reintroductions of species and management of biological resources.

We opine that the project be allowed to be tested since the major impacts have been fully outlined and measures to mitigate provided.

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ANNEXES

1. ESIA team of Experts
2. Stakeholder workshop proceedings
3. List of stakeholders
4. Criteria for alternative project sites
5. Physical chemical characteristics of surface water in the project site
6. Sample questionnaires
7. KWCA Membership certificate of GMCWC
8. Practicing License of the Lead Expert
9. Disease Risk assessment for the reintroduction of the elephants
10. Profile of the elephants in Howletts Wild Animal Park
11. Elephant diet transition

1. ESIA team of experts

The assessment was undertaken by the following core team.

Name	Expertise	Responsibilities
Peter Mwangi	Team Leader & ESIA Lead Expert	▪ Coordinated the study implementation ▪ Development of data collection tools ▪ Planning and executing stakeholder consultation meetings ▪ Liaising with the Aspinall foundation for data and information on the elephants in Howlettes zoo ▪ Analyzing significant environmental aspects for further studies ▪ Identifying and analyzing impacts ▪ Compiling the final report ▪ Submiting the report to NEMA and follow up
Dr. Shandrack Ngene	Ecologist / Natural Resources Expert	▪ Sharing feasibility assessment output ▪ Baseline information gathering ▪ Elephant population and distribution evaluation ▪ Evaluation of the ecological setting of the project ▪ Develop appropriate mitigation.
Dr. Mohammed Omars	EIA lead expert Coastal forests	▪ Assist the Team Leader in field logistics coordination ▪ Environmental baseline review of tsetse density and control in project area ▪ Field assessments and interactions ▪ Stakeholder consultations ▪ Environmental quality assessment ▪ ESIA Report preparation
Dr. Joseph Mukeka	Geospatial mapping	▪ Geospatial data collation ▪ Development of GIS maps for the project
Bernard Ocheng	Sociecologist	▪ Baseline review of Human Elephant conflict in shmba hills ▪ Baseline review of tourism in shimba hills ▪ Baseline on tsetse density and control
Jacquiline Bernard	Sociologist	▪ Social, cultural and economic baseline review ▪ Compiling stakeholder proceedings ▪ Questionnaire data management ▪ Social impact analysis
Geraldine Mjomba	Research assisstant	▪ Social, cultural and economic baseline review ▪ Compiling stakeholder proceedings

Name	Expertise	Responsibilities
		▪ Questionnaire data management ▪ Social impact analysis
Dereck Milburn	Regional coordinator	▪ Liaise with the UK team and the Kenyan team on all relevant information ▪ Field site assessment ▪ Participate in relevant consultation meetings ▪ Provide information on the design holding and release enclosures ▪ Provide information on translocation process and the animal crates ▪ Provide information on their experience in orphaned elephants herding, reaction on first release to wild and their interaction on encountering free ranging herds in the wild ▪ Provide description of the 13 elephants in Howletts
Ephantus Ndambiri	Wildlife veterinary doctor	▪ Provide guidance on site wildlife health and safety issues, ▪ Establish health and safety to the site surroundings, ▪ Guide on potential impacts and safety measures during transportation of elephants from Airport to rewinding site ▪ Provide baseline on elephant health conditions, ▪ Propose interventions in health and safety aspects
Dr Fredrick Lala	Ecologist	▪ Provide data on status of elephant population Collared Elephant movement and distribution
Dr. Fred Omengo	Hydrologist	▪ Under taking the water availability and quality assessment

2. PROCEEDINGS FOR THE PROPOSED ELEPHANT TRANSLOCATION AND REWILDLING ESIA PROJECT
FINAL STAKE HOLDER CONSULTATIONS HELD on 20th JANUARY 2022 AT KWALE GOLDLEN HOTEL

MINUTE	ITEM description	REMARKS
Registration	Member Present for the meeting (See Annex 1)	See Annex 1 for list of participants
Introduction& parayers	The meeting was called to order by the Senior Warden Shimba Hills National Reserve Mr. Orahle at 10.15hrs.	All members were welcomed to the meeting
	The meeting started with a word of prayer by a member followed by self-introductions by County Officials, Stakeholders, KWS, WRTI and community members.	Participants introduced themselves
Opening remarks	KWS AREA SENIOR ASSISTANT DIRECTOR	The SAD welcomed all to the meeting and gave a brief history of the elephants that are to be translocated to Shimba Hills. He then welcomed the Deputy Director Parks and Reserves who thanked the stakeholders, donors, partners, KWS, WRTI and community members for attending the workshop. He said there was a proposal to translocate13 elephants from UK through the Aspinal Foundation to Mwaluganje Shimba Hills National Reserve. The Government of UK through Aspinall Foundation approached Kenyan Government steered by Ministry of Tourism and Wildlife who then gave KWS and partners WRTI the mandate to look for a suitable park to re-wild the elephants. The main objective was to return back the endangered species back to the wild. Once the proposal was

MINUTE	ITEM description	REMARKS
		embraced, assessment and feasibility study were conducted in key sites considered for the re-wilding. The parks identified were; Chyullu Hills, Ithumba and Mwaluganje. The key issues that were looked into were habitat assessment, disease, human wildlife conflict, other wild animals, predators and community relations.
		He said it was a high-level bilateral agreement that involved community and stakeholders. Interactions through meetings and workshops were key to gather community/ stakeholders' inputs, positive/negative issues, mitigation measures of re-wilding the elephants to Mwaluganje. The key aspect was the ESIA component. The EIA expert will then submit the EIA report to NEMA for approval.
	MCA Golini: Simba Lango	The MCA thanked and welcomed all to the meeting. He said the project was of benefit to the people of Mwaluganje. He highlighted that land owners who are the stakeholders to gain and community be ready to take care of the elephants.The National Government and KWS to look for pros and cons of the project since Mwaluganje is ready to take up the task. Compensations for community affected by wildlife need to be fast-tracked currently it takes time to compensate.

MINUTE	ITEM description	REMARKS
	MCA Kinango	MCA Kinango thanked KWS for invite. He said the fence was not well maintained and there is no security. The animals move out to invade community land and are worried of the elephants. Happy that the project will create employment to youths who will safeguard the conservancy.
	CEC- Environment Kwale County Mr. Ratemo	CEC thanked organizers and appreciated the initiative. He said tourism would bring revenue and in return boost the economy. There is need to face challenges at hand. He emphasized that the project should ensure the safety of the community is guaranteed and conservation regulations are considered. He noted that most translocations in Kenya have been positive but others s have challenges. He said stakeholders' engagement will be concrete action that will be referred to in future. Evaluation of sustainability of Mwaluganje appreciated the incoming species.
	Official opening of the workshop by County commissioner, Kwale	The County Commissioner representative thanked the participants and said Community there was need to sensitize more community members to improve their understanding of expectations and needs. KWS and County Government has the ability to give community support and enhance their ownership of the project.

MINUTE	ITEM description	REMARKS
Workshop objectives and Feasibility study of the project	Power point Presentation by Dr. Mohammed Omar	Dr Omar presented the outcome of the feasibility assessment that zeroed in on the Mwaluganje for the release of the elephants
ESIA Process & Output	Presentation by Peter Mwangi	Project purpose and ESIA process ESIA expert presented the project and highlighted the process of the EIA. He also pointed out the potential negative impacts and positive impacts of the project. He invited stakeholders to give input and ask
Plenary input	KFS – Ecosystem Conservator	Input Mandated to conserve the forest KFS keen on long term sustainability A lot of Buffalo and Columbus monkey death caused by drought Corridors have been cut off by human encroachment/settlement Project will add value to the county and community hence increase tourism The project will increase connectivity and team work with partners and donors.
	CDE – NEMA	Input Revise the report if has a feature to mitigate risks given by experts and community The project will be subjected to a number of processes before approval Identify all potential risks, negative impacts, mitigation measures that will affect the process Mwaluganje conservancy does not have a management plan hence

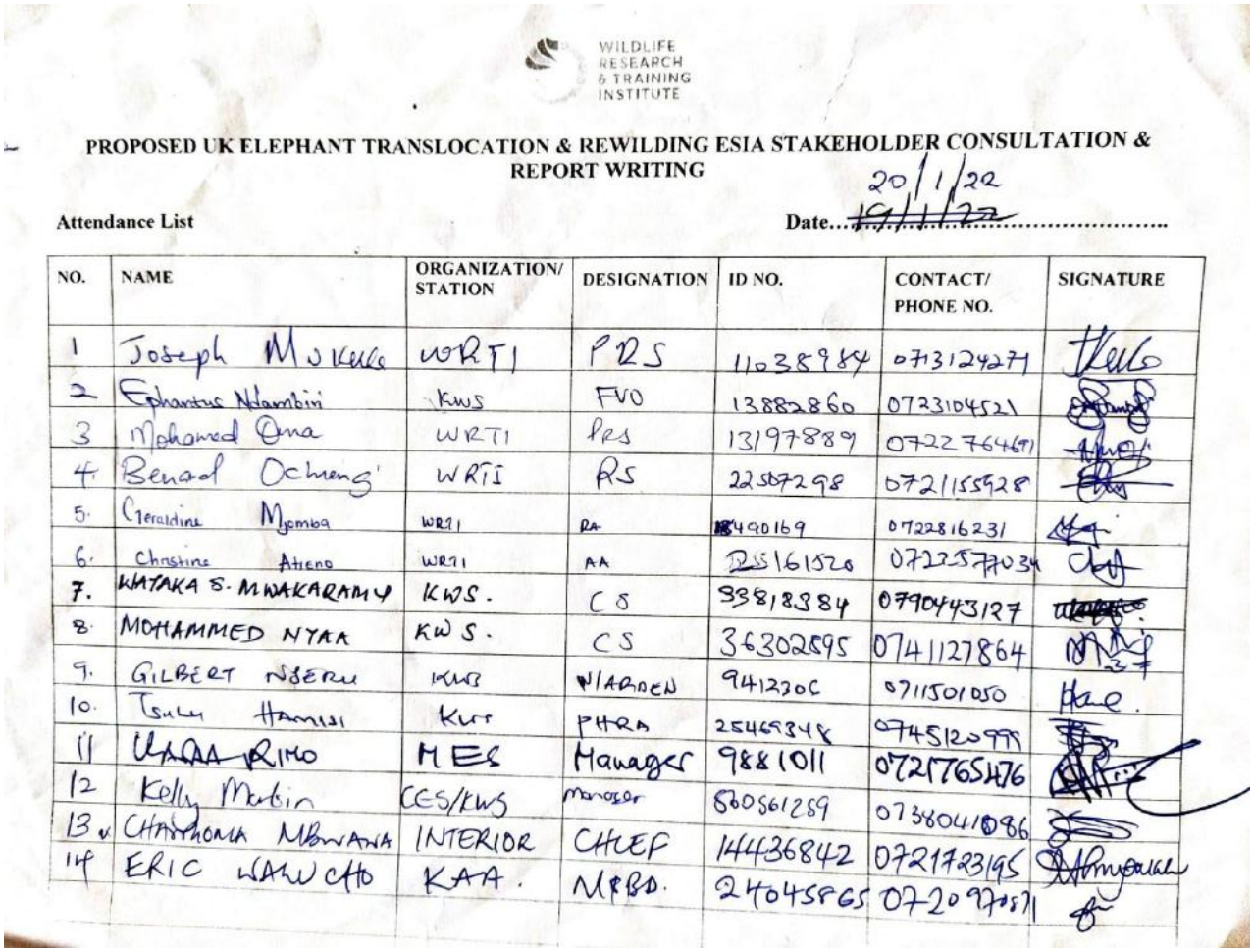
MINUTE	ITEM description	REMARKS
		the process might be delayed Ensure all the requirements are captured in the report before submitting to NEMA EIA for the Release boma and an import permit should be part of the report (prior to country of origin and destination) in absence of this no permit shall be granted.
	Chairman – Mwaluganje	Gave brief history of Mwaluganje conservancy (before 1990, Mwaluganje was a human settlement and was formed in 1993-1994).Sheldrick Wildlife Trust have been on the ground for the past 9 years and have been offering services to community by issuing bursaries and appreciating land owners. Collaborate with NEMA not to delay the process. Mwaluganje community is ready for the proposed project
	David Sheldrick	Rehabilitate elephants back to the wild Sheldrick Wildlife Trust primary role is to work with KFS, KWS, WRTI and Mwaluganje community Aspinall Foundation to monitor the elephants together with KWS and community
Plenary Q&A	QUESTIONS AND INPUTS	RESPONSE
Richard	Had a concern if the water in Mwaluganje was tested was fit for the elephant: concerned there is a time he met some fishermen putting soap in the water to catch fish.	EIA Expert: There is piped water that has been tapped from the river to the sanctuary SAD CCA: Community sensitization to be done to discourage the use of soap to catch fish. Security will

MINUTE	ITEM description	REMARKS
		be high to avoid similar incidences. SWT: Water survey has been done in three areas and an EIA done on two of the areas
MCA	Asked if the Mwaluganje conservancy was registered. What if there is over dependance of the donors and the community is not fully involved. The community meetings that were held in Mwaluganje and Ziwani only what about the opinion of the other areas that around the conservancy. What will happen in case of conflict like injuries and also death, how will the case be handled and how much are the victims paid? How will the new elephant cope with the elephants around will there be conflict? In this meeting we speak good and how to implementation we don't know let us be involving The Mca said he was happy on what was about to happen but to pass it to the community	S/w: Informed the members that incase of conflict the normal procedures of compensation will be followed. As per the Wildlife Act 2013:in the case of death, five million shillings; in the case of injury occasioning permanent disability, three million shillings; in the case of any other injury, a maximum of two million shillings, depending on the extent of injury. S/w: The elephants from UK are the same elephants like the present once in Mwaluganje-Shimba hills ecosystem. They will coexist with the elephants around. S/w: SWT (Sheldrick Wildlife Trust) will do the construction and maintenance of the electric fence. Chairman Mwaluganje/Golini: The members a while back they had approached the Mca's office to assist in construction of roads in the conservancy but was fruitless. In conservation there is no overdependency of donors: The community is given bursaries and land owners are compensated annually for their land. Chairman Mwaluganje /Golini: There was an AGM of all the land owners were all the members

MINUTE	ITEM description	REMARKS
		were present and we aired the views and all the landowners of Mwaluganje agreed to have the elephants. Chairman Mwaluganje/Golini: Registration is only for the land owners. EIA Expert: This is a pilot project; the elephants can come and not be able to adopt to be fully rewilded. The option would be to have the first ever in Kenya in the conservancy.
Director	Why don't you bring two elephants first if they climatize then translocate the other eleven	Veterinarian: Dr Ndambiri. Elephants have strong family bonds and translocation of a family enhances their adaptability and social integration, separating the family increases psychological stress.
Airport	This project is a tourism related are there any plans of advertising Mwaluganje at the airport. Is the tourism board aware of this project?	EIA Expert: When re-wilding we would not want crowds but after that. Publicizing Mwaluganje for tourism will be our a prioritty EIA Expert: Kenya Tourism Board was invited. The project is known in the ministry. The project success is what is been waited. We are involving stakeholders namely; KWS, SWT, KFS, Aspinall foundation and the community. Sheldricks have a history in fundraising for projects. The elephants will be fitted with Gps collars. There will be need of a permanent veterinary to come up with an agreement so that the project can

MINUTE	ITEM description	REMARKS
Agriculture	Compensations on crops destruction is done In development of tourism will the project in the future be able to run on its own and be advertised a tourist destination. The community to work with donors to open the roads and build tourist facilities.	SWT: The outcome of the project will depend on; elephants adapt and are released in the wild or if they don't adapt and are left in the pens that will be addressed at that time.
Closing Remarks	The Representative of CEC Environment Mr. Ratemo.	The CEC appreciated all the participants; From t, conservation teams and the community members. Corporate responsibility expert in KWS/WRTI. There is a way forward in the project he thanked Richard (Honorary warden) for the information on the soap in the water
Adjournment	The Senior Warden adjourned the meeting at 14:25hrs with a word of prayer by a member after which members had lunch and left at their pleasure.	

3. List of stakeholders consulted



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PROPOSED UK ELEPHANT TRANSLOCATION & REWILDING ESIA STAKEHOLDER CONSULTATION & REPORT WRITING

Attendance List **Date...** 20/1/22

NO.	NAME	ORGANIZATION/ STATION	DESIGNATION	ID NO.	CONTACT/ PHONE NO.	SIGNATURE
1	Joseph Mokeira	WRTI	PRS	11038984	0731242 71	
2	Ephantus Ntambiri	KWS	FVO	13882860	0723104521	
3	Mohamed Ona	WRTI	PRS	13197889	0722764691	
4	Benard Ochieng'	WRTI	RS	22507298	0721155928	
5.	Geraldine Mjomba	WRTI	RA	8490169	0722816231	
6.	Christine Ateno	WRTI	AA	25161520	0722577034	
7.	KATAKA S. MWAKARAMU	KWS.	CS	33818384	0790443127	
8.	MOHAMMED NYAA	KWS.	CS	36302695	0741127864	
9.	GILBERT NSERU	KWS	WARDEN	9412206	0711501050	
10.	Tsuma Hamisi	KWS	PHRA	25465348	0745120999	
11	UHURU RIMO	MES	Manager	9881011	0721765476	
12	Kelly Mutisya	CCS/KWS	Manager	30561259	0738041086	
13	CHARTHOUSE MBWANA	INTERIOR	CHIEF	14436842	0721723195	
14	ERIC WAWCHO	KAA.	MRBD.	24045865	0720970871	

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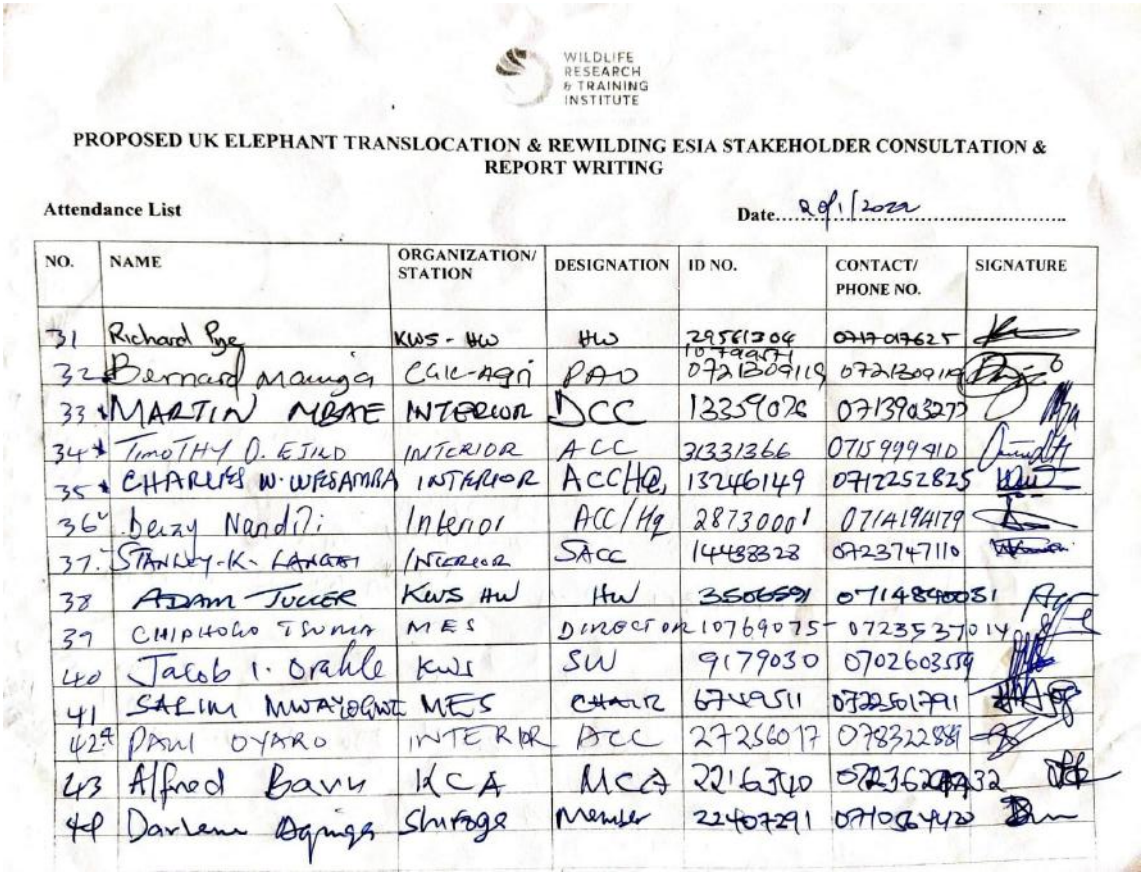
KENYA WILDLIFE SERVICE

WILDLIFE RESEARCH & TRAINING INSTITUTE

PROPOSED UK ELEPHANT TRANSLOCATION & REWILDING ESIA STAKEHOLDER CONSULTATION & REPORT WRITING

Attendance List **Date** 20/01/2022

NO.	NAME	ORGANIZATION/ STATION	DESIGNATION	ID NO.	CONTACT/ PHONE NO.	SIGNATURE
15	RATEMO SAMMY	KWALE WATER CEU/KAG	Safeguard special	22373026	0790334886	[signature]
16	M. JENKINS	SWT	FIELD MANAGER		0740582866	[signature]
17	SIASA JUMA	NEMA	SEO	0468821	0711698260	[signature]
18	Salim. S. Mwamatumbi	Mukelugenjo	Director	8434542	0713884911	[signature]
19	ROMAN SHORAH	NDMA Kwale	CDC	8656853	0722673367	[signature]
20	Michael Wanjau	KWS Hqs	DD	1831483	0722361181	[signature]
21	CORRADO CAPRADOSSI	SHIMBA GREEN L	DIRECTOR	YA6739551	0703806950	[signature]
22	FREDRICK LALA	WRTI-TSAVO	PRS	20029446	0703114492	[signature]
23	Swaleme Simba	KCA	MCA	12894667	0722365354	[signature]
24	SEIF BENDERA HSC	MUNICIPALITY KWALE	CHAIRMAN	0464146	0722346238	[signature]
25	JACQUILINE BENARD	WRTI	RS	10819430	0713720764	[signature]
26	Hassan Kiea	KWS	AWI	10950396	0727993245	[signature]
27	SAMUEL TOKORE	KWS	SAD	9831294	0722930646	[signature]
28	Blessington C. Maghanga	KFS	EC-Kwale	21362839	0720578770	[signature]
29	MBODZE ZAMANI	MES	DIRECTOR	22845836	0724620661	[signature]
30	ABDUL ABDALLA	KWS	RGL	27931415	074642120	[signature]



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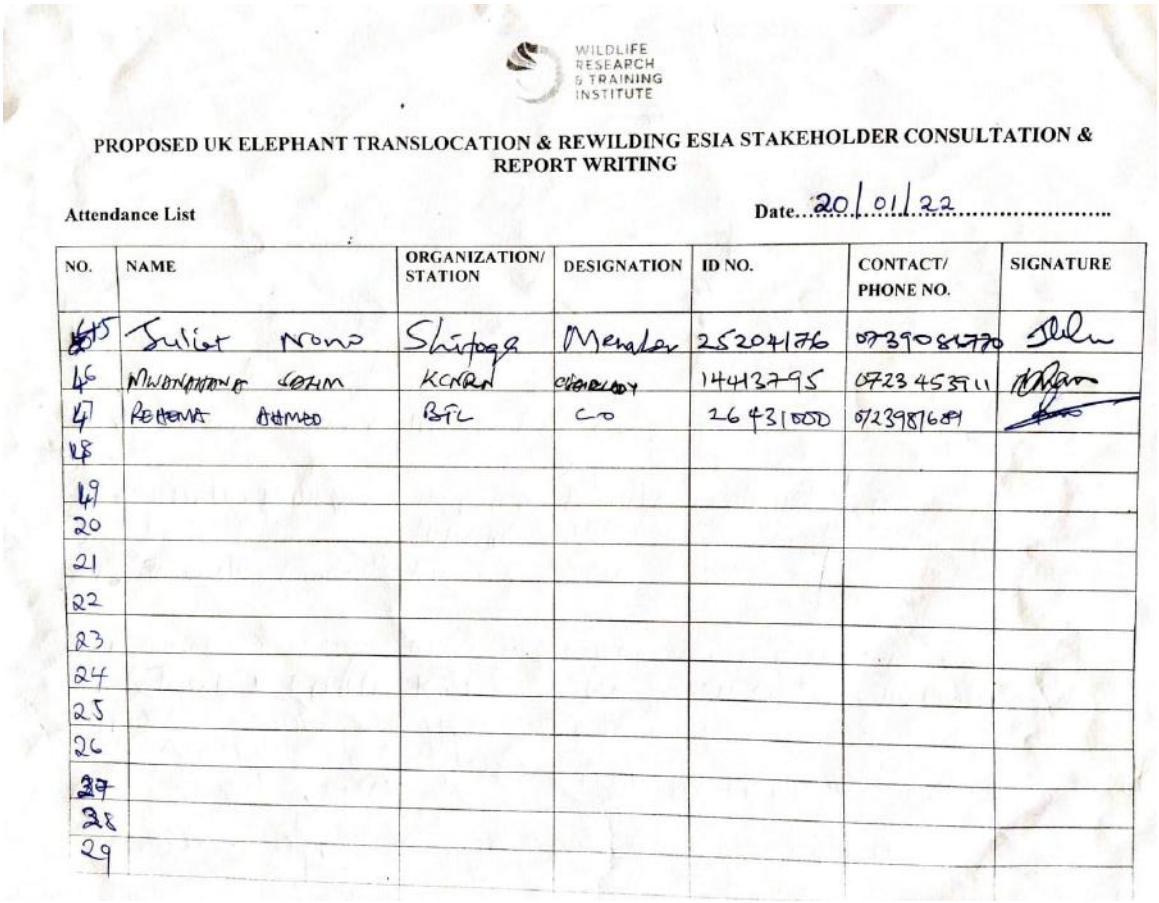
PROPOSED UK ELEPHANT TRANSLOCATION & REWILDING ESIA STAKEHOLDER CONSULTATION & REPORT WRITING

Attendance List **Date**: 20/1/2022

NO.	NAME	ORGANIZATION/ STATION	DESIGNATION	ID NO.	CONTACT/ PHONE NO.	SIGNATURE
31	Richard Pye	KWS - HW	HW	29561304	0717017625	
32	Bernard Maunga	CAIC-AGRI	PAO	07213091[illegible]	07213091[illegible]	
33	MARTIN MBATE	INTERIOR	DCC	13359026	0713903277	
34	TIMOTHY O. EJILO	INTERIOR	ACC	31331366	0715999410	
35	CHARLES W. WESAMBA	INTERIOR	ACC HQ	13246149	0712252825	
36	Deizy Nandi	Interior	ACC/Hq	28730001	0714194179	
37	STANLEY K. LANGAT	INTERIOR	SACC	14488328	0723747110	
38	ADAM TUCKER	KWS HW	HW	35066591	0714840081	
39	CHIPICHO TSUMA	MES	DIRECTOR	10769075	0723537014	
40	Jacob I. Orahle	KWS	SW	9179030	0702603554	
41	SALIM MWAYOGWE	MES	CHAIR	6749511	0722501791	
42	PAUL OYARO	INTERIOR	ACC	27256017	0783222881	
43	Alfred Bavu	KCA	MCA	22163740	0723624432	
44	Darlene Ogunga	Shirogs	Member	22407291	0710564420	



WILDLIFE RESEARCH & TRAINING INSTITUTE

PROPOSED UK ELEPHANT TRANSLOCATION & REWILDING ESIA STAKEHOLDER CONSULTATION & REPORT WRITING

Attendance List **Date**... 20/01/22 .....

NO.	NAME	ORGANIZATION/ STATION	DESIGNATION	ID NO.	CONTACT/ PHONE NO.	SIGNATURE
~~45~~	Juliet Nono	Shirtoga	Member	25204176	0739084770	
46	Mwongeni Sofia	KCNRA	[illegible]	14413795	0723 453511	
47	Rehema Ahmed	BFL	CO	26431000	0723987689	
48						
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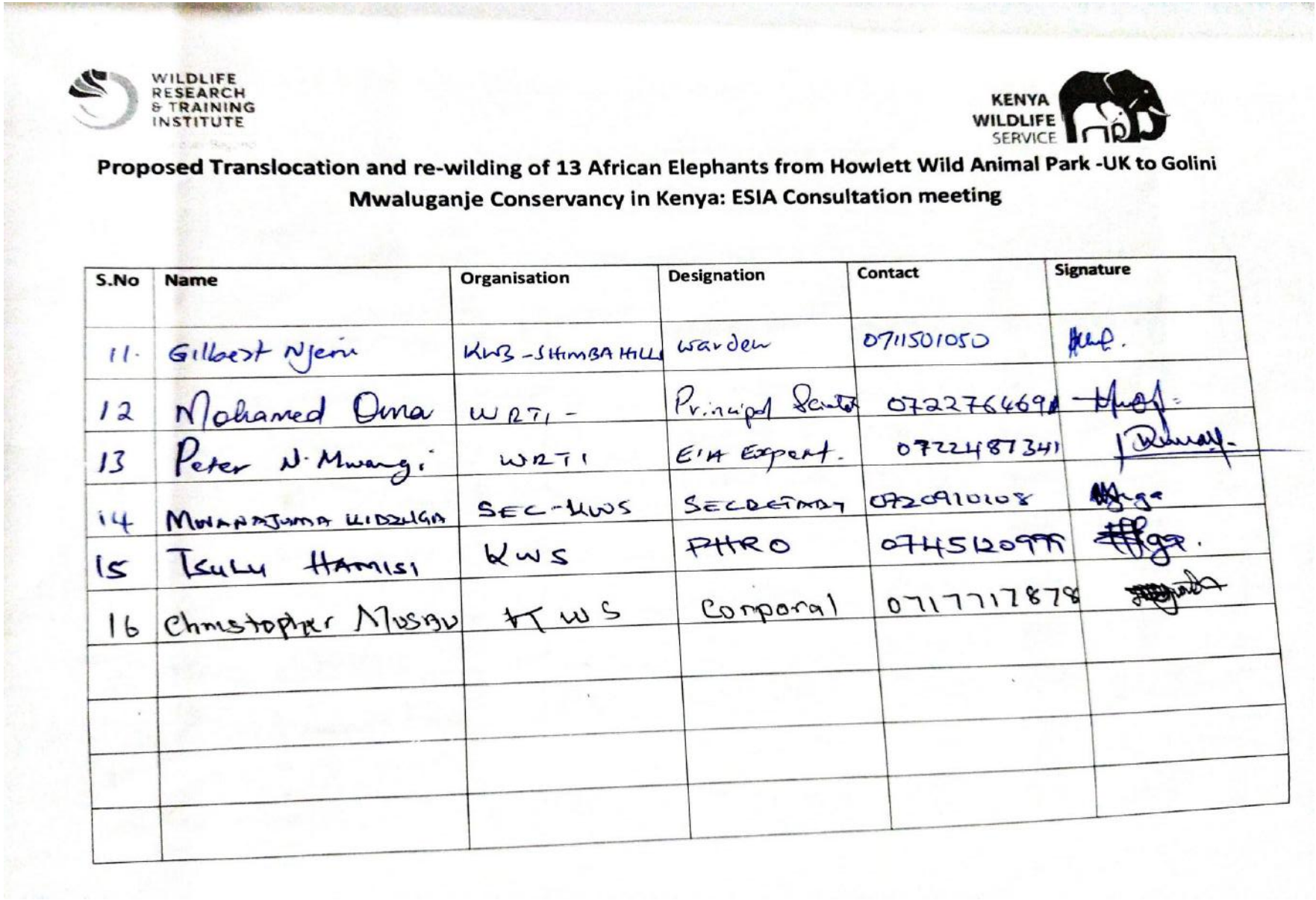
WILDLIFE RESEARCH & TRAINING INSTITUTE

KENYA WILDLIFE SERVICE

Proposed Translocation and re-wilding of 13 African Elephants from Howlett Wild Animal Park -UK to Golini Mwaluganje Conservancy in Kenya: ESIA Consultation meeting

Held at KFS boardroom Kwale 6/01/2022

S.No	Name	Organisation	Designation	Contact	Signature
1	SALIM MWAYOGHE	MES	CHAIR	0722501797	
2	ONIAL CHANGOMA	MES	Member	0534494406	
3	Salim. S. Mwamasumbi	MES	Director	0713884911	
4	MBOZE ZAHRAN	MES	DIRECTOR	0724620661	
5	EDWIN MISACHI	KFS	Station Manager Kwale Forest Station	0720484114	
6	Lylian Shikuku	M.E.S	MEMBER	0729-895632	
7	MARK JENKINS	SWT		0790 542 866	
8	Juma A. Mwatenga	MES	Director	0713083602	
9	CHIPHOGA TSUMA	MES	DIRECTOR	0723537014	
10	Kafae Rama Mramo	MES	Manager	0721765476	



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KENYA WILDLIFE SERVICE

Proposed Translocation and re-wilding of 13 African Elephants from Howlett Wild Animal Park -UK to Golini Mwaluganje Conservancy in Kenya: ESIA Consultation meeting

S.No	Name	Organisation	Designation	Contact	Signature
11.	Gilbert Njeru	KWS - SHIMBA HILL	warden	0711501050	
12	Mohamed Dima	WRTI -	Principal Scientist	0722766698	
13	Peter N. Mwangi	WRTI	EIA Expert.	0722487341	
14	MWANAJUMA KIDZUGA	SEC-KWS	SECRETARY	0720910108	
15	Tsuma Hamisi	KWS	PHRO	0745120999	
16	Christopher Musau	KWS	Corporal	0717717878	

4. Evaluation of alternative project sites

No.	Variables/Sites	Tsavo East National Park (Ithumba Area)	Chyulu Hills National Park (Kithaasyo Area)	Golini-Mwaluganje Community Wildlife Conservancy
1.	Forage availability (Low=1mark; Moderate=4marks; High=8marks)	8	8	8
2.	Quantity of available water per day (<25,000Lts=1mark; 25,000-50,000Lts=4marks; >50,000Lts=8marks)	8	1	8
3.	Quality of available water (Above set standards=1mark; Below set standards=4marks; Within set standards=8marks)	8	8	8
4.	Presence of trypanosomiasis in tsetse flies (None=8marks; Present=0mark)	0	0	0
5.	Presence of tick borne diseases (None=8marks; Present=0mark)	0	0	0
6.	Impact of project to community, conservation & tourism (High=8marks; Moderate=5 marks; Low (2marks)	2	5	8
7.	Presence of wild elephants (None=0mark; Present=3marks)	3	3	3

No.	Variables/Sites	Tsavo East National Park (Ithumba Area)	Chyulu Hills National Park (Kithaasyo Area)	Golini-Mwaluganje Community Wildlife Conservancy
8.	Distance to permanent natural water source from proposed stockade (>20km=1mark; 10-20km=2marks; <10km=3marks)	2	3	3
9.	Presence of tsetse flies (Absent=3marks; Present=0mark)	0	0	0
10.	Presence of ticks (Absent=3marks; Present=0mark)			
11.	Presence of Predators (Lion, Hyena, Leopard; Absent=3marks; Present=0mark)	0	0	0
12.	Poaching threat (Low=3marks; Moderate=2marks; High=1mark)	2	3	3
13.	Possibility of human-elephant conflicts (Low=3marks; Moderate=2marks; High=1mark)	2	3	2
14.	Stakeholders support to conservation (Low=1mark; Medium=2marks; High=3marks)	2	3	3
15.	Local community support to conservation (Low=1mark; Medium=2marks; High=3marks)	1	2	3
16.	Land ownership (Public=3marks;	3	3	1

No.	Variables/Sites	Tsavo East National Park (Ithumba Area)	Chyulu Hills National Park (Kithaasyo Area)	Golini-Mwaluganje Community Wildlife Conservancy
	Communal =2marks; Private [leased or individual] =1mark)			
17.	Climatic factors at recipient site [physicals factors] against source site in summer season (Closer=3marks; Modest=2marks; Different=1mark)	1	1	3
18.	Fire outbreak threats (Low=3marks; Moderate=2marks; High=1mark)	2	1	2 (during dry season and easy to control, low biomass vegetation)
19.	Existing capacity for captive elephant management (Optimum=3marks; Moderate=2marks; Inadequate=1mark)	3	1	1
20.	Site accessibility by road (All weather=3marks; Seasonal=2marks; Difficult to access=1mark)	2	3	3
21.	Risk on management capacity for captive facility (High=0; Moderate=1mark; Low=2mark)	2	2	1
22.	Livestock Incursion (High=0; Moderate=1mark;	1	2	2

No.	Variables/Sites	Tsavo East National Park (Ithumba Area)	Chyulu Hills National Park (Kithaasyo Area)	Golini-Mwaluganje Community Wildlife Conservancy
	Low=2mark)			
	Total Score	**52**	**52**	**54**
	Total Marks	**94**	**94**	**94**
	Percentage	**55.3**	**55.3**	**57.4**

5.0 Water Physical and chemical parameters for Shimba Hills ecosystem

		Shimba Hills														
	Parameter	MAD	MAWS	MKR	KAS	MKS	KIS	BAS	KIS	PHS	SFR	SLS	MAS	MAN1	MAN2	Max limits
1	Coluor (Hazen Units)	13880.0	90.0	39.0	103	7.0	50.0	263	88	10.0	34.0	192.0	1.0	402	89	50.0
2	Deposit	SED	OM	OM	Nil	OM	OM	OM	OM	Nil	OM	OM	Nil	Nil	Nil	
3	Ph	7.7	8.1	7.7	7	8.8	8.1	7.6	7.5	4.7	7.3	8.0	7.7	8	8.2	5.5-9.5
4	Turbidity (NTU)	850.0	12.0	3.3	4.2	24.0	14.0	45	4.5	0.5	5.1	22.0	2.5	55	28	25.0
5	Odour	PS	PS	OL	OL	PS	PS	OL	OL	OL	OL	PS	OL	OL	OL	
6	E. Conductivity @25°C (µ C cm^{-1})	79.1	513.0	145.3	91.6	25.0	1217.0	793	605	319.0	98.1	212.0	67.7	573	664	2500.0
7	Total alkanity as $CaCO_3$	20.0	85.0	30.0	25	Nil	130.0	215	9	Nil	25.0	20.0	20.0	135	155	500.0
8	Phenolphthalien (CO_3)	Nil	Nil	Nil	Nil	25.0	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	10	
9	Methyl Orange ($HC0_3$)	20.0	85.0	30.0	25	20.0	130.0	215	90	Nil	25.0	20.0	20.0	135	165	
10	Chloride (Cl)	30.0	125.0	27.5	12.5	10.0	430.0	155	160	85.0	20.0	50.0	20.0	130	200	250.0
11	Sulphate (SO_4)	34.0	12.0	3.0	1	0.3	60.0	29	21	40.0	11.0	23.0	9.0	30	23	250.0
12	Nitrate (NO_3)	926.0	5.3	2.3	4.5	0.0	5.0	12.8	2.3	2.5	1.1	6.9	0.4	19.8	4.7	50.0
13	Nitrite (NO_2)	0.4	0.0	0.0	0.03	0.0	0.0	0.06	0.02	0.0	0.0	0.1	0.0	0.1	0.021	3.0
14	Flouride (F)	2.5	0.8	0.5	Nil		1.0	1	Nil	0.0	0.0	0.5	0.0	0.5	0.5	1.5
15	Sodium (Na)+	24.1	93.5	20.0	15.585	13.9	137.0	128.65	91.76	56.9	12.4	30.7	14.0	86.28	103.96	200.0
16	Potassium(K)+	26.2	Nil	Nil	Nil	0.4	Nil	Nil	Nil	Nil	0.8	Nil	Nil	Nil	Nil	50.0
17	Calcium (Ca)++	Nil	6.0	4.0	Nil	4.0	20.0	22	10	4.0	4.0	2.0	2.0	10	20	150.0
18	Magnesium (Mg)++	31.2	62.4	26.4	12	3.6	75.6	55.2	34.8	13.2	26.4	39.6	16.8	40.8	33.6	100.0
19	Iron (Total) (Fe)+++	3.7	2.5	0.4	0.2	0.3	0.6	0.9	0.51	1.7	0.3	2.5	0.2	0.64	0.17	0.3
20	Manganese (Mn)++	1.9	1.5	0.0	0.029	0.0	0.1	0.199	0.158	0.2	0.0	0.1	0.0	0.158	0.037	0.4
21	Carbonate hardness as (CaCO3)	20.0	85.0	30.0	25	25.0	130.0	215	90	Nil	25.0	20.0	20.0	135	155	600.0
22	Non-carbonate hardness as (CaCO3)	110.0	190.0	90.0	25	Nil	235.0	70	80	65.0	95.0	150.0	55.0	60	35	
23	Total hardness as (CaCo3)	130.0	275.0	120.0	50	25.0	365.0	285	170	65.0	120.0	170.0	75.0	195	190	500.0
24	Silica (SiO2)	880.0	14.0	9.0	10	5.0	2.0	31	29	26.0	8.0	22.0	4.0	22	6	

		Shimba Hills														
	Parameter	MAD	MAWS	MKR	KAS	MKS	KIS	BAS	KIS	PHS	SFR	SLS	MAS	MAN1	MAN2	Max limits
25	Oxygen absorbed 4hr at 27°C (P.V.)	32.0	4.0	1.4	Nil	1.3	3.0	6	1.8	1.2	0.8	4.7	0.1	2.5	0.6	1.0
26	TDS, residue dried at 180°C	39.6	254.0	72.4	45.5	60.1	609.0	397	303	160.0	48.9	106.0	33.8	287	333	1500.0
27	Cadmium (Cd^{2+})	0.000	0.001	0.000	0.001	0.000	0.000	0.001	0.000	0.003	0.000	0.001	0.001	0.001	0.001	0.003 0
28	Copper (Cu^{2+})	0.000	0.036	0.008	0.005	0.010	0.043	0.022	0.019	0.020	0.060	0.013	0.001	0.027	0.034	1.000 0
29	Zinc (Zn^{2+})	0.6391	0.2151	0.0539	0.3562	0.0891	0.2450	0.0476	0.0253	0.5477	0.0305	0.0729	0.1663	0.0208	0.0208	5.000 0
30	Arsenic (As^{5+})	0.0008	0.0089	0.0001	0.0001	0.0002	0.0009	0.0008	0.0006	0.0003	0.0006	0.0003	0.0001	0.0009	0.0012	0.010 0
31	Cromium (Cr^{3+})	0.0208	0.0012	0.0020	0.0009	0.0029	0.0008	0.0006	0.0004	0.0008	0.0000	0.0089	0.0011	0.0882	0.0431	0.050 0
32	lead (Pb^{2+})	0.0012	0.0004	0.0000	0.0000	0.0001	0.0001	0.0001	0.0002	0.0019	0.0001	0.0003	0.0001	0.0001	0.0001	0.010 0
33	Mercury (Hg^{2+})	0.0002	0.0001	0.0001	0.0001	0.0001	0.0000	0.0002	0.0001	0.0002	0.0001	0.0001	0.0000	0.0000	0.0000	0.001 0
34	Nickel (Ni^{2+})	0.0028	0.0061	0.0049	0.0006	0.0004	0.0009	0.0013	0.0007	0.0001	0.0004	0.0006	0.0006	0.0017	0.0024	0.002 0
35	Selenium (Se^{2+})	0.0006	0.0028	Nil	0.0001	Nil	0.0040	0.0012	0.0008	0.0001	Nil	0.0005	0.0001	0.0008	0.0016	0.010 0
36	Salinity (PPM)	77	310	84	58	60	961	426	308	265	58	122	63	364	521	

Key

	Sampling Site	Initials
9	Magwesheni Dam	MAD
10	Mawia Stream	MAWS
11	Mkanda River	MKR
12	Katangini spring	KAS
13	Mkururmunzi Stream	MKS
14	Kirewe Spring	KIS
15	Bahakanda Spring	BAS
16	Kilibanjele Spring	KIS
17	Pengo Hills Spring	PHS
18	Shedrick falls River	SFR
19	Shimba Lodge	SLS
20	Marere Spring River	MAS
21	Manolo River pt 2	MAN1
22	Manolo River pt 3	MAN2

Parameter	Initials
Organic matter	OM
Sediment	SED
Not detected	NIL
Pungent Smell	PS
Odourless	OL

6.0 Sample questionnaires

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(22)

PUBLIC PARTICIPATION QUESTIONNAIRE FOR THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)STUDY FOR THE PROPOSED TRANSLOCATION AND RE-WILDING OF 13 ELEPHANTS FROM HOWLETT WILD ANIMAL PARK, UK TO SHIMBA HILLS- GOLINI MWALUGANJE COMMUNITY WILDLIFE CONSERVANCY IN KENYA, KWALE COUNTY.

The Aspinall Foundation (TAF) in partnership with the government of Kenya and United Kingdom propose to implement a project of translocation and re-wilding African Elephants from the United Kingdom (UK) to Kenya. The project involves the unique translocation of a herd of 13 African Elephants from Howlett Wild Animal Park in Kent, UK to Kenya for re-wilding at Shimba hills /Golini Mwaluganje Community Wildlife Conservancy ecosystem in Kwale County. The Aspinall Foundation is partnering with the Kenya Wildlife Service (KWS), the Wildlife Research and Training Institute (WRTI), Golini Mwaluganje Community Wildlife Conservancy (GMCWC) and the David Sheldrick Wildlife Trust (DSWT) to implement the elephant translocation and rewilding programme.

Pursuant to section 58 of the Environmental Management and Coordination Act (EMCA), Cap 387, the project requires an Environmental and Social Impact Assessment (ESIA) study and approval by the National Environment Management Authority (NEMA) before implementation.

Consequently, and in compliance with the EMCA, EIA/EA Regulations a team of experts drawn from Wildlife Research and Training Institute, KWS and the Aspinall Foundation is undertaking an Environmental and Social Impact Assessment study for the proposed project. Public Participation is a requirement in the ESIA process as stipulated in the constitution and EMCA

You are an important stakeholder and the EIA team seeks your views and concerns on the proposed development. Your input will be incorporated in the ESIA Report for informed decision making.

A. General Information

Name MWADOSHE A. MWALUGALO Gender Male [✓] Female [ ]

Contacts (Phone or Postal address) 0727631177 ID No. 0467301

Occupation.....

Part B: Specific Questions

1) How far do you live from the project site (Mwaluganje conservancy/Shimba hills N. Reserve? [ ] Less than 500m [ ] 500-1Km [ ] 1Km-2Km [ ] 2Km-3Km [ ]more than 3KM

2) Are you a member of Golini- Mwaluganje Community Wildlife Conservancy? [ ] Yes [✓] No

3) What socio-economic activities do you undertake within the conservancy & Shimba hills N. Reserve?

[ ] Livestock grazing ✓ [ ] Firewood collection

[ ] Fetching water [ ] Charcoal burning

[ ] Source of building materials [ ] Medicinal herbs

[ ] Collection of Medicinal herbs [ ] Tourism

[ ] Bee keeping

State any other.....

4) Is the proposed project likely to affect your socio economic activities? Yes [ ] No [ ]

If yes, please explain how? Kupata Nivedente Kila mbaka

5) What are some of the potential impacts of the proposed project to the neighbouring community & the general public?

a) Positive impacts

Comuite ila kaudhika kwa Kupata Vibazia

b) Negative impacts

NO

6) Are there any of the impact(s) identified that will affect you directly? Yes [ ] No [ ]

Specify.....

7) Suggest mitigation measures for the negative impacts identified in 5a above?

NO

DATE: 14/1/2022 Signature

Thank you for taking your time to respond

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96

PUBLIC PARTICIPATION QUESTIONNAIRE FOR THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)STUDY FOR THE PROPOSED TRANSLOCATION AND RE-WILDING OF 13 ELEPHANTS FROM HOWLETT WILD ANIMAL PARK, UK TO SHIMBA HILLS- GOLINI MWALUGANJE COMMUNITY WILDLIFE CONSERVANCY IN KENYA, KWALE COUNTY.

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You are an important stakeholder and the EIA team seeks your views and concerns on the proposed development. Your input will be incorporated in the ESIA Report for informed decision making.

A. General Information

Name Richard Pye ..... Gender Male [✓] Female [ ]

Contacts (Phone or Postal address) 0717017625 ID No. 29561304

Occupation CONSULTANT. (KWS honorary warden)

Part B: Specific Questions

1) How far do you live from the project site (Mwaluganje conservancy/Shimba hills N. Reserve? [ ] Less than 500m [ ] 500-1Km [ ] 1Km-2Km [ ] 2Km-3Km [✓] more than 3KM

2) Are you a member of Golini- Mwaluganje Community Wildlife Conservancy? [ ] Yes [✓] No

3) What socio-economic activities do you undertake within the conservancy & Shimba hills N. Reserve?

[ ] Livestock grazing
[ ] Fetching water
[ ] Firewood collection
[ ] Charcoal burning

[ ] Source of building materials
[ ] Collection of Medicinal herbs
[ ] Bee keeping
[ ] Medicinal herbs
[✓] Tourism

State any other.....

4) Is the proposed project likely to affect your socio economic activities? Yes [✓] No [ ]

If yes, please explain how? ...Increased income to the community. Increase in Tourism hopefully

5) What are some of the potential impacts of the proposed project to the neighbouring community & the general public?

a) Positive impacts
employment (long term multigenerational income generator.)
capacity building
industry created.
local tourism increase
endangered animal conservation.

b) Negative impacts
Foreign ly
land tenure - unsecure currently

6) Are there any of the impact(s) identified that will affect you directly? Yes [✓] No [ ]

Specify.....

7) Suggest mitigation measures for the negative impacts identified in 5a above?
Secure land as community conservation with no development clause

DATE: 20/1/22 Signature

Thank you for taking your time to respond

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98

PUBLIC PARTICIPATION QUESTIONNAIRE FOR THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)STUDY FOR THE PROPOSED TRANSLOCATION AND RE-WILDING OF 13 ELEPHANTS FROM HOWLETT WILD ANIMAL PARK, UK TO SHIMBA HILLS- GOLINI MWALUGANJE COMMUNITY WILDLIFE CONSERVANCY IN KENYA, KWALE COUNTY.

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You are an important stakeholder and the EIA team seeks your views and concerns on the proposed development. Your input will be incorporated in the ESIA Report for informed decision making.

A. General Information

Name Ratemo Fanny ..... Gender Male [ ] Female [ ]

Contacts (Phone or Postal address) 0790334886 ..... ID No. 22373016

Occupation Environmental Social Safeguard Specialist.

Part B: Specific Questions

1) How far do you live from the project site (Mwaluganje conservancy/Shimba hills N. Reserve? [ ] Less than 500m [ ] 500-1Km [ ] 1Km-2Km [ ] 2Km-3Km [ ] more than 3KM

2) Are you a member of Golini- Mwaluganje Community Wildlife Conservancy? [ ] Yes [ ] No

3) What socio-economic activities do you undertake within the conservancy & Shimba hills N. Reserve?

[ ] Livestock grazing
[ ] Fetching water
[ ] Firewood collection N/A
[ ] Charcoal burning

[ ] Source of building materials
[ ] Medicinal herbs
[ ] Collection of Medicinal herbs
[ ] Tourism
[ ] Bee keeping

State any other...

4) Is the proposed project likely to affect your socio economic activities? Yes [ ] No [✓]

If yes, please explain how? ....

5) What are some of the potential impacts of the proposed project to the neighbouring community & the general public?

a) Positive impacts
~~Human wildlife Conflict~~
- Opening up the are on the global map.
- Tourism destination / income
- Employment ad Shephard - accomodation & food facilities
- Socio economic of the area improve

b) Negative impacts
Human wildlife Conflict

6) Are there any of the impact(s) identified that will affect you directly? Yes [ ] No [✓]

Specify...

7) Suggest mitigation measures for the negative impacts identified in 5a above?
Community awareness Creation / wider Stakeholder engagement.

DATE: 20/01/2022 Signature [signature]

Thank you for taking your time to respond

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99

PUBLIC PARTICIPATION QUESTIONNAIRE FOR THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)STUDY FOR THE PROPOSED TRANSLOCATION AND RE-WILDING OF 13 ELEPHANTS FROM HOWLETT WILD ANIMAL PARK, UK TO SHIMBA HILLS- GOLINI MWALUGANJE COMMUNITY WILDLIFE CONSERVANCY IN KENYA, KWALE COUNTY.

The Aspinall Foundation (TAF) in partnership with the government of Kenya and United Kingdom propose to implement a project of translocation and re-wilding African Elephants from the United Kingdom (UK) to Kenya. The project involves the unique translocation of a herd of 13 African Elephants from Howlett Wild Animal Park in Kent, UK to Kenya for re-wilding at Shimba hills /Golini Mwaluganje Community Wildlife Conservancy ecosystem in Kwale County. The Aspinall Foundation is partnering with the Kenya Wildlife Service (KWS), the Wildlife Research and Training Institute (WRTI), Golini Mwaluganje Community Wildlife Conservancy (GMCWC) and the David Sheldrick Wildlife Trust (DSWT) to implement the elephant translocation and rewilding programme.

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You are an important stakeholder and the EIA team seeks your views and concerns on the proposed development. Your input will be incorporated in the ESIA Report for informed decision making.

A. General Information

Name Alfred Bauu ..... Gender Male [✓] Female[ ]

Contacts (Phone or Postal address) 0723629932 ..... ID No. 22163740

Occupation..... MCA .....

Part B: Specific Questions

1) How far do you live from the project site (Mwaluganje conservancy/Shimba hills N. Reserve? [ ] Less than 500m [ ] 500-1Km [ ] 1Km-2Km [ ] 2Km-3Km [✓] more than 3KM

2) Are you a member of Golini- Mwaluganje Community Wildlife Conservancy? [ ] Yes [✓] No

3) What socio-economic activities do you undertake within the conservancy & Shimba hills N. Reserve?

[ ] Livestock grazing
[ ] Fetching water
[ ] Firewood collection
[ ] Charcoal burning

[ ] Source of building materials
[ ] Collection of Medicinal herbs
[ ] Bee keeping
[ ] Medicinal herbs
[ ] Tourism ✓

State any other.....

4) Is the proposed project likely to affect your socio economic activities? Yes [ ] No [ ]

If yes, please explain how? .....

5) What are some of the potential impacts of the proposed project to the neighbouring community & the general public?

a) Positive impacts
- Firewood collection
- Building materials
- Medicine herbs collection
- ~~tot~~ Tourism

b) Negative impacts
- Harassment by wardens
- Destroy ~~ton~~ farming
- No freedom of movement in sanctuary.

6) Are there any of the impact(s) identified that will affect you directly? Yes [ ] No [✓]

*Specify.....

7) Suggest mitigation measures for the negative impacts identified in 5a above?
- Continued consultative meeting by community and stakeholders

DATE: 20/1/2022 Signature .....

Thank you for taking your time to respond

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100

PUBLIC PARTICIPATION QUESTIONNAIRE FOR THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)STUDY FOR THE PROPOSED TRANSLOCATION AND RE-WILDING OF 13 ELEPHANTS FROM HOWLETT WILD ANIMAL PARK, UK TO SHIMBA HILLS- GOLINI MWALUGANJE COMMUNITY WILDLIFE CONSERVANCY IN KENYA, KWALE COUNTY.

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A. General Information

Name. KATAKA S. MWAKARAMU Gender Male [✓] Female[ ]

Contacts (Phone or Postal address) 0790443127 ID No. 33818384

Occupation. KWS scout.

Part B: Specific Questions

1) How far do you live from the project site (Mwaluganje conservancy/Shimba hills N. Reserve? [ ] Less than 500m [ ] 500-1Km [✓] 1Km-2Km [ ] 2Km-3Km [ ]more than 3KM

2) Are you a member of Golini- Mwaluganje Community Wildlife Conservancy? [ ] Yes [✓] No

3) What socio-economic activities do you undertake within the conservancy & Shimba hills N. Reserve?

[ ] Livestock grazing
[ ] Fetching water
[ ] Firewood collection
[ ] Charcoal burning

[ ] Source of building materials
[ ] Collection of Medicinal herbs
[ ] Bee keeping
[ ] Medicinal herbs
[ ] Tourism

State any other... Conservation

4) Is the proposed project likely to affect your socio economic activities? Yes [✓] No [ ]

If yes, please explain how? The project being purely for conservation then it will have a positive impact in my career growth as a community scout at Shimba hills national Reserve.

5) What are some of the potential impacts of the proposed project to the neighbouring community & the general public?

a) Positive impacts

Create job opportunities to the local community.
Market Msalugange as a tourism destination for Ecotourism.
Bring development and social amenities to Msalugange.

b) Negative impacts

Human wildlife conflicts.

6) Are there any of the impact(s) identified that will affect you directly? Yes [ ] No [✓]

Specify...

7) Suggest mitigation measures for the negative impacts identified in 5a above?

DATE: 20/01/2022. Signature [signature]

Thank you for taking your time to respond

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101

PUBLIC PARTICIPATION QUESTIONNAIRE FOR THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)STUDY FOR THE PROPOSED TRANSLOCATION AND RE-WILDING OF 13 ELEPHANTS FROM HOWLETT WILD ANIMAL PARK, UK TO SHIMBA HILLS- GOLINI MWALUGANJE COMMUNITY WILDLIFE CONSERVANCY IN KENYA, KWALE COUNTY.

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A. General Information

Name Mohamed Ali Mya Gender Male [✓] Female[ ]

Contacts (Phone or Postal address) 0741127864 ID No. 36302895

Occupation Community Scout

Part B: Specific Questions

1) How far do you live from the project site (Mwaluganje conservancy/Shimba hills N. Reserve? [ ] Less than 500m [ ] 500-1Km [ ] 1Km-2Km [ ] 2Km-3Km [✓]more than 3KM

2) Are you a member of Golini- Mwaluganje Community Wildlife Conservancy? [✓] Yes [ ] No

3) What socio-economic activities do you undertake within the conservancy & Shimba hills N. Reserve?

[ ] Livestock grazing
[✓] Firewood collection
[ ] Fetching water
[ ] Charcoal burning

[ ] Source of building materials
[ ] Collection of Medicinal herbs
[ ] Bee keeping
[ ] Medicinal herbs
[M] Tourism

State any other.....

4) Is the proposed project likely to affect your socio economic activities? Yes [ ] No [M]

If yes, please explain how? .....

5) What are some of the potential impacts of the proposed project to the neighbouring community & the general public?

a) Positive impacts
Contribute marketing
project can definetely used for educatu

b) Negative impacts
~~Contribute marketing~~
~~project can definetely used for educatu~~
Human wildlife conflict

6) Are there any of the impact(s) identified that will affect you directly? Yes [ ] No [M]

Specify... Contribute marketing

7) Suggest mitigation measures for the negative impacts identified in 5a above?
Tsetse control
Security plan
Human wildlife conflicts

DATE: 20/1/2022 Signature

Thank you for taking your time to respond

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PUBLIC PARTICIPATION QUESTIONNAIRE FOR THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)STUDY FOR THE PROPOSED TRANSLOCATION AND RE-WILDING OF 13 ELEPHANTS FROM HOWLETT WILD ANIMAL PARK, UK TO SHIMBA HILLS- GOLINI MWALUGANJE COMMUNITY WILDLIFE CONSERVANCY IN KENYA, KWALE COUNTY.

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A. General Information

Name..... .....Gender Male [✓] Female[ ]

Contacts (Phone or Postal address) .....ID No.....

Occupation.....

Part B: Specific Questions

1) How far do you live from the project site (Mwaluganje conservancy/Shimba hills N. Reserve? [ ] Less than 500m [ ] 500-1Km [ ] 1Km-2Km [ ] 2Km-3Km [✓]more than 3KM

2) Are you a member of Golini- Mwaluganje Community Wildlife Conservancy? [ ] Yes [✓] No

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[ ] Livestock grazing
[ ] Fetching water
[ ] Firewood collection
[ ] Charcoal burning

[ ] Source of building materials
[ ] Collection of Medicinal herbs
[ ] Bee keeping
[ ] Medicinal herbs
[✓] Tourism

State any other.....

4) Is the proposed project likely to affect your socio economic activities? Yes [ ] No [✓]

If yes, please explain how? .....

.....

5) What are some of the potential impacts of the proposed project to the neighbouring community & the general public?

a) Positive impacts

- Business of Value on Land.

b) Negative impacts

Human - wildlife Conflict.

6) Are there any of the impact(s) identified that will affect you directly? Yes [ ] No [✓]

Specify.....

7) Suggest mitigation measures for the negative impacts identified in 5a above?

- Fencing is very key.
-

DATE: 19/1/2022 Signature _____

Thank you for taking your time to respond

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PUBLIC PARTICIPATION QUESTIONNAIRE FOR THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)STUDY FOR THE PROPOSED TRANSLOCATION AND RE-WILDING OF 13 ELEPHANTS FROM HOWLETT WILD ANIMAL PARK, UK TO SHIMBA HILLS- GOLINI MWALUGANJE COMMUNITY WILDLIFE CONSERVANCY IN KENYA, KWALE COUNTY.

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A. General Information

Name Kelly Martin Gender Male [ ] Female [X]

Contacts (Phone or Postal address) 0738041086 ID No. 660 56056259

Occupation Conservationist

Part B: Specific Questions

1) How far do you live from the project site (Mwaluganje conservancy/Shimba hills N. Reserve? [ ] Less than 500m [ ] 500-1Km [ ] 1Km-2Km [ ] 2Km-3Km [X] more than 3KM

2) Are you a member of Golini- Mwaluganje Community Wildlife Conservancy? [ ] Yes [X] No

3) What socio-economic activities do you undertake within the conservancy & Shimba hills N. Reserve?

[ ] Livestock grazing
[ ] Fetching water
[ ] Firewood collection
[ ] Charcoal burning

[ ] Source of building materials

[ ] Collection of Medicinal herbs

[ ] Bee keeping

[ ] Medicinal herbs

[X] Tourism

State any other... Recreational

4) Is the proposed project likely to affect your socio economic activities? Yes [X] No [ ]

If yes, please explain how? ...If successful will improve tourism and ne parks spread.

5) What are some of the potential impacts of the proposed project to the neighbouring community & the general public?

a) Positive impacts

- Increase in income
- Increase in exposure before infrastructure.
- Increase in animals in part + health of ecosystem

b) Negative impacts

→ Human / wildlife interactions → conflict
→ corruption esp. potential opportunities for poachers.
→ Completely fouls + negative backlash
→ Community we do not benefit + retaliate + don't support

6) Are there any of the impact(s) identified that will affect you directly? Yes [X] No [ ]

*Specify... ~~Kinds of negatively~~ perceived

7) Suggest mitigation measures for the negative impacts identified in 5a above?

→ Awareness + education programmes for school + communities
→ Careful monitoring + strong community ties
→ Transparency + honesty throughout
→ Attr Investment in alternative livelihood programes to benefit - beekeeping, products produced, cultural visits etc
→ a strong governing body so funds are not misused.
→ a strong marketing strategy / plan

DATE: 20/01/22 Signature ~~[illegible]~~

Thank you for taking your time to respond

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PUBLIC PARTICIPATION QUESTIONNAIRE FOR THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)STUDY FOR THE PROPOSED TRANSLOCATION AND RE-WILDING OF 13 ELEPHANTS FROM HOWLETT WILD ANIMAL PARK, UK TO SHIMBA HILLS- GOLINI MWALUGANJE COMMUNITY WILDLIFE CONSERVANCY IN KENYA, KWALE COUNTY.

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A. General Information

Name Edward M. Kinyua Gender Male [✓] Female[ ]

Contacts (Phone or Postal address) 0723 809 115 ID No. 10799571

Occupation Card Carrier

Part B: Specific Questions

1) How far do you live from the project site (Mwaluganje conservancy/Shimba hills N. Reserve? [ ] Less than 500m [ ] 500-1Km [ ] 1Km-2Km [ ] 2Km-3Km [✓]more than 3KM

2) Are you a member of Golini- Mwaluganje Community Wildlife Conservancy? [ ] Yes [✓] No

3) What socio-economic activities do you undertake within the conservancy & Shimba hills N. Reserve?

[ ] Livestock grazing
[ ] Fetching water
[ ] Firewood collection
[ ] Charcoal burning

[ ] Source of building materials
[ ] Collection of Medicinal herbs
[ ] Bee keeping
[ ] Medicinal herbs
[✓] Tourism

State any other..... N/A

4) Is the proposed project likely to affect your socio economic activities? Yes [✓] No [ ]

If yes, please explain how? ..... N/A

5) What are some of the potential impacts of the proposed project to the neighbouring community & the general public?

a) Positive impacts
- Income
- Employment

b) Negative impacts
- Human-wildlife conflicts
- Destruction of crops

6) Are there any of the impact(s) identified that will affect you directly? Yes [ ] No [✓]

*Specify..... N/A

7) Suggest mitigation measures for the negative impacts identified in 5a above?

N/A

DATE: 20/1/2022 Signature

Thank you for taking your time to respond

[ ] Source of building materials
[ ] Collection of Medicinal herbs
[ ] Bee keeping
[ ] Medicinal herbs
[✓] Tourism

State any other..... N/A

4) Is the proposed project likely to affect your socio economic activities? Yes [✓] No [ ]

If yes, please explain how? ..... N/A

5) What are some of the potential impacts of the proposed project to the neighbouring community & the general public?

a) Positive impacts
- Income
- Employment

b) Negative impacts
- Human-wildlife conflicts
- Destruction of crops

6) Are there any of the impact(s) identified that will affect you directly? Yes [ ] No [✓]

*Specify..... N/A

7) Suggest mitigation measures for the negative impacts identified in 5a above?

N/A

DATE: 20/1/2022 Signature

Thank you for taking your time to respond

(9)

PUBLIC PARTICIPATION QUESTIONNAIRE FOR THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)STUDY FOR THE PROPOSED TRANSLOCATION AND RE-WILDING OF 13 ELEPHANTS FROM HOWLETT WILD ANIMAL PARK, UK TO SHIMBA HILLS- GOLINI MWALUGANJE COMMUNITY WILDLIFE CONSERVANCY IN KENYA, KWALE COUNTY.

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A. General Information

Name. HAMADI N2AO MWAGUTA Gender Male [✓] Female[ ]

Contacts (Phone or Postal address) 0724283050 ID No. 5427782

Occupation. FARMER

Part B: Specific Questions

1) How far do you live from the project site (Mwaluganje conservancy/Shimba hills N. Reserve? [ ] Less than 500m [ ] 500-1Km [ ] 1Km-2Km [ ] 2Km-3Km [ ]more than 3KM

2) Are you a member of Golini- Mwaluganje Community Wildlife Conservancy? [✓] Yes [ ] No

3) What socio-economic activities do you undertake within the conservancy & Shimba hills N. Reserve?

[ ] Livestock grazing
[ ] Firewood collection
[ ] Fetching water
[ ] Charcoal burning

[ ] Source of building materials [ ] Medicinal herbs

[ ] Collection of Medicinal herbs [✓] Tourism

[ ] Bee keeping

State any other... FARMING

4) Is the proposed project likely to affect your socio economic activities? Yes [ ] No [✓]

If yes, please explain how? .....

5) What are some of the potential impacts of the proposed project to the neighbouring community & the general public?

a) Positive impacts

POSITIVE IMPACT — THIS IS BECOUSE THE PROTEST WILL CALL FOR MANY VISITORS WHO WILL COME TO SEE THE NEW ELEPHANTS. THIS WILL GENERATE ALOT OF INCOME TO THE MEMBERS

b) Negative impacts

NO — N/A

6) Are there any of the impact(s) identified that will affect you directly? Yes [ ] No [ ]

Specify... NO

7) Suggest mitigation measures for the negative impacts identified in 5a above?

EFFECTIVE FENCING OF THE PARK

DATE: 13/1/2022 Signature

Thank you for taking your time to respond

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PUBLIC PARTICIPATION QUESTIONNAIRE FOR THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)STUDY FOR THE PROPOSED TRANSLOCATION AND RE-WILDING OF 13 ELEPHANTS FROM HOWLETT WILD ANIMAL PARK, UK TO SHIMBA HILLS- GOLINI MWALUGANJE COMMUNITY WILDLIFE CONSERVANCY IN KENYA, KWALE COUNTY.

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A. General Information

Name..Mwachitanga Salim..... Gender Male [✓] Female[ ]

Contacts (Phone or Postal address) ..0721547163.....ID No..21704888

Occupation.....Cooperative practitioner

Part B: Specific Questions

1) How far do you live from the project site (Mwaluganje conservancy/Shimba hills N. Reserve? [ ] Less than 500m [ ] 500-1Km [ ] 1Km-2Km [✓] 2Km-3Km [ ]more than 3KM

2) Are you a member of Golini- Mwaluganje Community Wildlife Conservancy? [✓] Yes [ ] No

3) What socio-economic activities do you undertake within the conservancy & Shimba hills N. Reserve?

[ ] Livestock grazing
[ ] Fetching water
[ ] Firewood collection
[ ] Charcoal burning

[ ] Source of building materials
[ ] Collection of Medicinal herbs
[ ] Bee keeping
[ ] Medicinal herbs
[✓] Tourism

State any other.....

4) Is the proposed project likely to affect your socio economic activities? Yes [ ] No [✓]

If yes, please explain how? .....

5) What are some of the potential impacts of the proposed project to the neighbouring community & the general public?

a) Positive impacts

(i) Employment opportunities to the community member
(ii) finance benefits to the land owners
(iii) more talented work force and less overtan issues that affect community member.

b) Negative impacts

Restriction of common or local member into the sanctuary

6) Are there any of the impact(s) identified that will affect you directly? Yes [ ] No [ ]

Specify..... financial benefits to the land owners and employment opportunities

7) Suggest mitigation measures for the negative impacts identified in 5a above?

N/A

DATE: 10/1/2022 Signature

Thank you for taking your time to respond

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PUBLIC PARTICIPATION QUESTIONNAIRE FOR THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)STUDY FOR THE PROPOSED TRANSLOCATION AND RE-WILDING OF 13 ELEPHANTS FROM HOWLETT WILD ANIMAL PARK, UK TO SHIMBA HILLS- GOLINI MWALUGANJE COMMUNITY WILDLIFE CONSERVANCY IN KENYA, KWALE COUNTY.

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A. General Information

Name CHIMWAMA MBARAKA Gender Male [✓] Female[ ]

Contacts (Phone or Postal address) 0721723195 ID No. 14436842

Occupation CHIEF-GOLINI

Part B: Specific Questions

1) How far do you live from the project site (Mwaluganje conservancy/Shimba hills N. Reserve? [ ] Less than 500m [ ] 500-1Km [✓] 1Km-2Km [ ] 2Km-3Km [ ]more than 3KM

2) Are you a member of Golini- Mwaluganje Community Wildlife Conservancy? [✓] Yes [ ] No

3) What socio-economic activities do you undertake within the conservancy & Shimba hills N. Reserve?

[ ] Livestock grazing
[ ] Fetching water
[ ] Firewood collection
[ ] Charcoal burning

[ ] Source of building materials
[ ] Collection of Medicinal herbs
[ ] Bee keeping
[ ] Medicinal herbs
[✓] Tourism

State any other.....

4) Is the proposed project likely to affect your socio economic activities? Yes [ ] No [✓]

If yes, please explain how? .....

5) What are some of the potential impacts of the proposed project to the neighbouring community & the general public?

a) Positive impacts

(i) Employment opportunities
(ii) Less crime such as poaching due to high security level
(iii) Increase in finance benefits to the members.

b) Negative impacts

No access into the sanctuary for socio economic activities

6) Are there any of the impact(s) identified that will affect you directly? Yes [ ] No [ ]

Specify... More finace benefits to the community members

7) Suggest mitigation measures for the negative impacts identified in 5a above?

Hinders socio economic ativities into the sanctuary.

DATE: 18/01/2022 Signature

Thank you for taking your time to respond

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88

PUBLIC PARTICIPATION QUESTIONNAIRE FOR THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)STUDY FOR THE PROPOSED TRANSLOCATION AND RE-WILDING OF 13 ELEPHANTS FROM HOWLETT WILD ANIMAL PARK, UK TO SHIMBA HILLS- GOLINI MWALUGANJE COMMUNITY WILDLIFE CONSERVANCY IN KENYA, KWALE COUNTY.

The Aspinall Foundation (TAF) in partnership with the government of Kenya and United Kingdom propose to implement a project of translocation and re-wilding African Elephants from the United Kingdom (UK) to Kenya. The project involves the unique translocation of a herd of 13 African Elephants from Howlett Wild Animal Park in Kent, UK to Kenya for re-wilding at Shimba hills /Golini Mwaluganje Community Wildlife Conservancy ecosystem in Kwale County. The Aspinall Foundation is partnering with the Kenya Wildlife Service (KWS), the Wildlife Research and Training Institute (WRTI), Golini Mwaluganje Community Wildlife Conservancy (GMCWC) and the David Sheldrick Wildlife Trust (DSWT) to implement the elephant translocation and rewilding programme.

Pursuant to section 58 of the Environmental Management and Coordination Act (EMCA), Cap 387, the project requires an Environmental and Social Impact Assessment (ESIA) study and approval by the National Environment Management Authority (NEMA) before implementation.

Consequently, and in compliance with the EMCA, EIA/EA Regulations a team of experts drawn from Wildlife Research and Training Institute, KWS and the Aspinall Foundation is undertaking an Environmental and Social Impact Assessment study for the proposed project. Public Participation is a requirement in the ESIA process as stipulated in the constitution and EMCA

You are an important stakeholder and the EIA team seeks your views and concerns on the proposed development. Your input will be incorporated in the ESIA Report for informed decision making.

A. General Information

Name. HAMAD MWAKUWESA Gender Male [✓] Female[ ]

Contacts (Phone or Postal address) 0799545701 ID No. 10768138

Occupation. FARMER

Part B: Specific Questions

1) How far do you live from the project site (Mwaluganje conservancy/Shimba hills N. Reserve? [ ] Less than 500m [✓] 500-1Km [ ] 1Km-2Km [ ] 2Km-3Km [ ]more than 3KM

2) Are you a member of Golini- Mwaluganje Community Wildlife Conservancy? [✓] Yes [ ] No

3) What socio-economic activities do you undertake within the conservancy & Shimba hills N. Reserve?

[✓] Livestock grazing
[ ] Fetching water
[ ] Firewood collection
[ ] Charcoal burning

[✓] Source of building materials
[✓] Medicinal herbs
[ ] Collection of Medicinal herbs
[ ] Tourism
[ ] Bee keeping

State any other.....

4) Is the proposed project likely to affect your socio economic activities? Yes [✓] No [ ]

If yes, please explain how? .....

5) What are some of the potential impacts of the proposed project to the neighbouring community & the general public?

a) Positive impacts

(i) It will reduce human wildlife conflict and increase opportunities for growth around and within community.
(ii) Generation of employment opportunities
(iii) Increase in finance to the community members.

b) Negative impacts

(i) Restriction of movements into the sanctuary.
(ii) Fear of unknown i.e the outcome of the project to the community members

6) Are there any of the impact(s) identified that will affect you directly? Yes [✓] No [ ]

Specify.. more finance benefits to the community members

7) Suggest mitigation measures for the negative impacts identified in 5a above?

No access in the sanctuary. Socio economic activities.

DATE: 10/01/2022 Signature

Thank you for taking your time to respond

89

PUBLIC PARTICIPATION QUESTIONNAIRE FOR THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)STUDY FOR THE PROPOSED TRANSLOCATION AND RE-WILDING OF 13 ELEPHANTS FROM HOWLETT WILD ANIMAL PARK, UK TO SHIMBA HILLS- GOLINI MWALUGANJE COMMUNITY WILDLIFE CONSERVANCY IN KENYA, KWALE COUNTY.

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A. General Information

Name BIZIKI AKIBA .....Gender Male [ ] Female [✓]

Contacts (Phone or Postal address) 0758230601 **ID No.** 2769283

Occupation BUSINESSWOMAN

Part B: Specific Questions

1) How far do you live from the project site (Mwaluganje conservancy/Shimba hills N. Reserve? [ ] Less than 500m [ ] 500-1Km [✓] 1Km-2Km [ ] 2Km-3Km [ ]more than 3KM

2) Are you a member of Golini- Mwaluganje Community Wildlife Conservancy? [✓] Yes [ ] No

3) What socio-economic activities do you undertake within the conservancy & Shimba hills N. Reserve?

[ ] Livestock grazing
[ ] Fetching water
[ ] Firewood collection
[ ] Charcoal burning

[✓] Source of building materials
[ ] Collection of Medicinal herbs
[ ] Bee keeping
[ ] Medicinal herbs
[ ] Tourism

State any other.....

4) Is the proposed project likely to affect your socio economic activities? Yes [ ] No [✓]

If yes, please explain how? .....

5) What are some of the potential impacts of the proposed project to the neighbouring community & the general public?

a) Positive impacts

(1) less crime (poaching) du to high modified security
2) more finance to the community member
(3) Employement opportunities to the youth
(4) It will reduce problem and increase opportunities for growth.

b) Negative impacts

No access in the sanctuary for socio economic activities

6) Are there any of the impact(s) identified that will affect you directly? Yes [✓] No [ ]

Specify... Employment opportunities to the community youth

7) Suggest mitigation measures for the negative impacts identified in 5a above?

N/A.

DATE: 10/01/2022 Signature

Thank you for taking your time to respond

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90

PUBLIC PARTICIPATION QUESTIONNAIRE FOR THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)STUDY FOR THE PROPOSED TRANSLOCATION AND RE-WILDING OF 13 ELEPHANTS FROM HOWLETT WILD ANIMAL PARK, UK TO SHIMBA HILLS- GOLINI MWALUGANJE COMMUNITY WILDLIFE CONSERVANCY IN KENYA, KWALE COUNTY.

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A. General Information

Name..BAKARI VITENDO.....Gender Male [✓] Female[ ]

Contacts (Phone or Postal address) .....ID No..0464913.

Occupation..FARMER.....

Part B: Specific Questions

1) How far do you live from the project site (Mwaluganje conservancy/Shimba hills N. Reserve? [ ] Less than 500m [ ] 500-1Km [✓] 1Km-2Km [ ] 2Km-3Km [ ]more than 3KM

2) Are you a member of Golini- Mwaluganje Community Wildlife Conservancy? [✓] Yes [ ] No

3) What socio-economic activities do you undertake within the conservancy & Shimba hills N. Reserve?

[✓] Livestock grazing
[ ] Fetching water
[ ] Firewood collection
[ ] Charcoal burning

[✓] Source of building materials
[ ] Collection of Medicinal herbs
[ ] Bee keeping
[ ] Medicinal herbs
[ ] Tourism

State any other.....

4) Is the proposed project likely to affect your socio economic activities? Yes [ ] No [✓]

If yes, please explain how? .....

5) What are some of the potential impacts of the proposed project to the neighbouring community & the general public?

a) Positive impacts

(1) Employment opportunities.
(2) more finance to the community member
(3) Less crime such as poaching since tight security to guard
4 more talented work force through training the community member

b) Negative impacts

Restriction of movement into the sanctuary

6) Are there any of the impact(s) identified that will affect you directly? Yes [✓] No [ ]

Specify... Increas finance to the community members and employment opportunities.

7) Suggest mitigation measures for the negative impacts identified in 5a above?

No entrance into the sanctuary for socio economic activities.

DATE: 10/01/2022 Signature

Thank you for taking your time to respond

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91

PUBLIC PARTICIPATION QUESTIONNAIRE FOR THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)STUDY FOR THE PROPOSED TRANSLOCATION AND RE-WILDING OF 13 ELEPHANTS FROM HOWLETT WILD ANIMAL PARK, UK TO SHIMBA HILLS- GOLINI MWALUGANJE COMMUNITY WILDLIFE CONSERVANCY IN KENYA, KWALE COUNTY.

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You are an important stakeholder and the EIA team seeks your views and concerns on the proposed development. Your input will be incorporated in the ESIA Report for informed decision making.

A. General Information

Name. HUSSEIN NJERU .....Gender Male [ ] Female[ ]

Contacts (Phone or Postal address) 0717421064 ID No. 27228514

Occupation. TEACHING

Part B: Specific Questions

1) How far do you live from the project site (Mwaluganje conservancy/Shimba hills N. Reserve? [ ] Less than 500m [ ] 500-1Km [ ] 1Km-2Km [✓] 2Km-3Km [ ]more than 3KM

2) Are you a member of Golini- Mwaluganje Community Wildlife Conservancy? [✓] Yes [ ] No

3) What socio-economic activities do you undertake within the conservancy & Shimba hills N. Reserve?

[ ] Livestock grazing
[ ] Fetching water
[ ] Firewood collection
[ ] Charcoal burning

[ ] Source of building materials [ ] Medicinal herbs

[ ] Collection of Medicinal herbs [✓] Tourism

[ ] Bee keeping

State any other.....

4) Is the proposed project likely to affect your socio economic activities? Yes [ ] No [✓]

If yes, please explain how? .....

.....

5) What are some of the potential impacts of the proposed project to the neighbouring community & the general public?

a) Positive impacts

(a) more financial benefits to the Landowners.
(b) Generation of employments opportunities
(c) less human wildlife conflict

b) Negative impacts

(a) fear of unknown the community member are not sure of project out come
(b) restriction of access into the conservancy

6) Are there any of the impact(s) identified that will affect you directly? Yes [✓] No [ ]

Specify... more financial benefits to the land owners.

7) Suggest mitigation measures for the negative impacts identified in 5a above?

The community member will not have access to the conservancy for socio activities.

DATE: 10/1/2022 Signature

Thank you for taking your time to respond

92

PUBLIC PARTICIPATION QUESTIONNAIRE FOR THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)STUDY FOR THE PROPOSED TRANSLOCATION AND RE-WILDING OF 13 ELEPHANTS FROM HOWLETT WILD ANIMAL PARK, UK TO SHIMBA HILLS- GOLINI MWALUGANJE COMMUNITY WILDLIFE CONSERVANCY IN KENYA, KWALE COUNTY.

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A. General Information

Name MOHAMED ALI MWAGANDANI Gender Male [✓] Female[ ]

Contacts (Phone or Postal address) 0758336960 ID No. 4625367

Occupation FARMER

Part B: Specific Questions

1) How far do you live from the project site (Mwaluganje conservancy/Shimba hills N. Reserve? [ ] Less than 500m [ ] 500-1Km [ ] 1Km-2Km [✓] 2Km-3Km [ ]more than 3KM

2) Are you a member of Golini- Mwaluganje Community Wildlife Conservancy? [✓] Yes [ ] No

3) What socio-economic activities do you undertake within the conservancy & Shimba hills N. Reserve?

[ ] Livestock grazing
[✓] Firewood collection
[ ] Fetching water
[ ] Charcoal burning

[✓] Source of building materials
[ ] Collection of Medicinal herbs
[ ] Bee keeping
[ ] Medicinal herbs
[ ] Tourism

State any other.....

4) Is the proposed project likely to affect your socio economic activities? Yes [ ] No [ ]

If yes, please explain how? .....

5) What are some of the potential impacts of the proposed project to the neighbouring community & the general public?

a) Positive impacts

(i) more talented workforce and less overall issues that impact residents through training courses
(ii) Employment opportunities around the community
(iii) more finance to the community member

b) Negative impacts

~~The source of employment to the youth~~
(i) How movement into the sanctuary any how

6) Are there any of the impact(s) identified that will affect you directly? Yes [✓] No [ ]

Specify... The source of employment to the youths.

7) Suggest mitigation measures for the negative impacts identified in 5a above?

Hinderance of community member to access the sanctuary.

DATE: 16/01/2022 Signature

Thank you for taking your time to respond

93

PUBLIC PARTICIPATION QUESTIONNAIRE FOR THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)STUDY FOR THE PROPOSED TRANSLOCATION AND RE-WILDING OF 13 ELEPHANTS FROM HOWLETT WILD ANIMAL PARK, UK TO SHIMBA HILLS- GOLINI MWALUGANJE COMMUNITY WILDLIFE CONSERVANCY IN KENYA, KWALE COUNTY.

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A. General Information

Name HALIMA BEMBUZI MWAPOMBE Gender Male [ ] Female[ ]

Contacts (Phone or Postal address) 0707076952 ID No 16699922

Occupation FARMER

Part B: Specific Questions

1) How far do you live from the project site (Mwaluganje conservancy/Shimba hills N. Reserve? [ ] Less than 500m [✓] 500-1Km [ ] 1Km-2Km [ ] 2Km-3Km [ ]more than 3KM

2) Are you a member of Golini- Mwaluganje Community Wildlife Conservancy? [✓] Yes [ ] No

3) What socio-economic activities do you undertake within the conservancy & Shimba hills N. Reserve?

[ ] Livestock grazing
[✓] Firewood collection
[ ] Fetching water
[ ] Charcoal burning

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[✓] Source of building materials
[ ] Collection of Medicinal herbs
[ ] Bee keeping
[ ] Medicinal herbs
[ ] Tourism

State any other.....

4) Is the proposed project likely to affect your socio economic activities? Yes [ ] No [ ]

If yes, please explain how? .....

5) What are some of the potential impacts of the proposed project to the neighbouring community & the general public?

a) Positive impacts

(i) Employement opportunities
(ii) more finance to the community myember
(iii) less crime such as poaching since high security is guran
(iv) more talented workforce through training the community members

b) Negative impacts

Restriction of movement into the sanctuary

6) Are there any of the impact(s) identified that will affect you directly? Yes [✓] No [ ]

Specify... Incercase finance to the community member and employment opportunities

7) Suggest mitigation measures for the negative impacts identified in 5a above?

No intrance into the sanctuary for socio economic activities

DATE: 10/01/2022. Signature

Thank you for taking your time to respond

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94

PUBLIC PARTICIPATION QUESTIONNAIRE FOR THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)STUDY FOR THE PROPOSED TRANSLOCATION AND RE-WILDING OF 13 ELEPHANTS FROM HOWLETT WILD ANIMAL PARK, UK TO SHIMBA HILLS- GOLINI MWALUGANJE COMMUNITY WILDLIFE CONSERVANCY IN KENYA, KWALE COUNTY.

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You are an important stakeholder and the EIA team seeks your views and concerns on the proposed development. Your input will be incorporated in the ESIA Report for informed decision making.

A. General Information

Name ALI SALIM MWACHARO Gender Male [ ] Female[ ]

Contacts (Phone or Postal address) 0706324625 ID No. 14436217

Occupation FARMER.

Part B: Specific Questions

1) How far do you live from the project site (Mwaluganje conservancy/Shimba hills N. Reserve? [ ] Less than 500m [ ] 500-1Km [ ] 1Km-2Km [ ] 2Km-3Km [ ]more than 3KM

2) Are you a member of Golini- Mwaluganje Community Wildlife Conservancy? [ ] Yes [ ] No

3) What socio-economic activities do you undertake within the conservancy & Shimba hills N. Reserve?

[ ] Livestock grazing
[ ] Firewood collection
[ ] Fetching water
[ ] Charcoal burning

[ ] Source of building materials
[ ] Collection of Medicinal herbs
[ ] Bee keeping
[ ] Medicinal herbs
[ ] Tourism

State any other.....

4) Is the proposed project likely to affect your socio economic activities? Yes [ ] No [ ]

If yes, please explain how? .....

5) What are some of the potential impacts of the proposed project to the neighbouring community & the general public?

a) Positive impacts

(i) Less crime for instance poaching
(ii) Generation of employment opportunities
(iii) finance benefits for community member rises

b) Negative impacts

No access into the Sanctuary socio economic activities

6) Are there any of the impact(s) identified that will affect you directly? Yes [ ] No [ ]

Specify... financial benefits to the community member

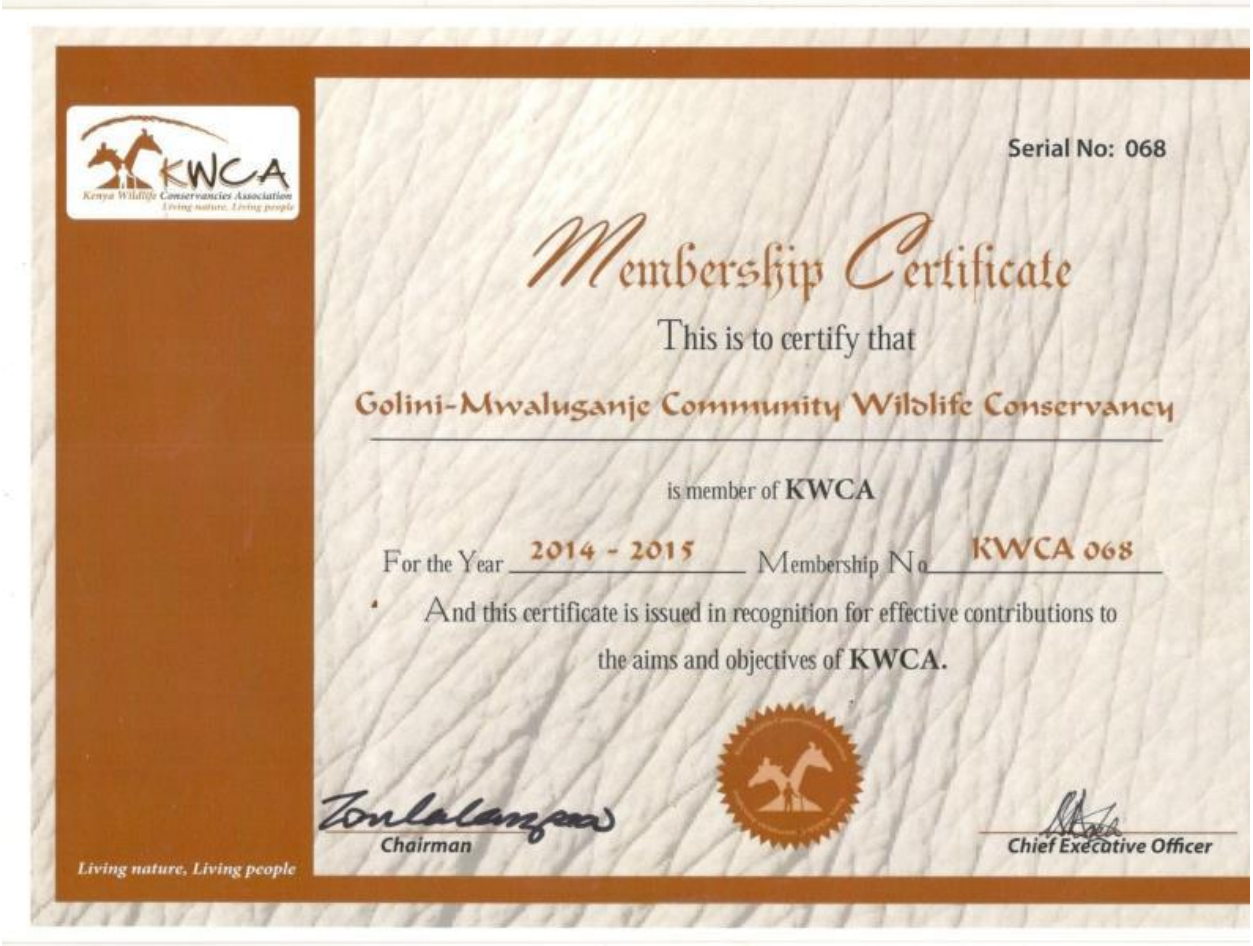
7) Suggest mitigation measures for the negative impacts identified in 5a above?

Hinders access to the Sanctuary

DATE: 12/07/2022 Signature

Thank you for taking your time to respond

Membership with Kenya Wildlife Conservancy Association



KWCA
Kenya Wildlife Conservancies Association
Living nature, Living people

Serial No: 068

Membership Certificate

This is to certify that

Golini-Mwaluganje Community Wildlife Conservancy

is member of **KWCA**

For the Year 2014 - 2015 Membership No KWCA 068

And this certificate is issued in recognition for effective contributions to the aims and objectives of **KWCA.**

Chairman

Chief Executive Officer

Living nature, Living people

FORM 7 (r.15(2))

nema

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY(NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT

ENVIRONMENTAL IMPACT ASSESSMENT/AUDIT (EIA/EA) PRACTICING LICENSE

License No : NEMA/EIA/ERPL/16528

Application Reference No: NEMA/EIA/EL/21865

M/S **Peter Njiiri Mwangi**
(individual or firm) of address

P.O. Box 3513-00200 Nairobi

is licensed to practice in the

capacity of a (Lead Expert/Associate Expert/Firm of Experts) **Lead Expert**
registration number **0710**

in accordance with the provision of the Environmental Management and Coordination Act Cap 387.

Issued Date: **2/9/2022** Expiry Date: **12/31/2022**

Signature.....

(Seal)
Director General
The National Environment Management Authority

P.T.O.

Figure 24