

Interim Draft for consultation: Heritage Impact Assessment

for the proposed Lamu Port–South Sudan–Ethiopia Transport (LAPSSET) corridor and the new Lamu Port and Metropolis Development Project, as well as related development in the Lamu Archipelago, Kenya



Lamu Old Town World Heritage property (Kenya) 1055

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EXECUTIVE SUMMARY

This Executive Summary is a summary that highlights findings of the Heritage Impact Assessment (HIA) performed on behalf of the State Party of Kenya, by three UNESCO-appointed consultants in collaboration with the National Museums of Kenya. This draft document is focused on providing relevant stakeholders with an interim HIA Report for final consultations to comment, moderate and to contribute towards its finalisation.

Heritage Impact Assessment is an Environmental Assessment (EA) component that focuses on potential impacts of proposed developments on known and unknown heritage resources within the project area. The assessment results in a report that identifies significant heritage resources, provide an evaluation of the significance of the resources, outlines any impacts the proposed development or site alteration will have on the resources and assesses their severity and significance, and makes recommendations towards alternatives and mitigation measures that would avoid or minimize impacts to those resources. As part of the EA process, an HIA Report also serves to inform decision making related to the protection and sound use of the identified heritage resources in the environment.

Background

As a signatory to the 1972 Convention Concerning the *Protection of the World Cultural and Natural Heritage*, the Kenyan government agreed to observe its obligations under the Convention and its *Operational Guidelines*. In line with this, the Government of Kenya nominated Lamu Old Town for inscription on the World Heritage List in 2000. The site was subsequently inscribed in 2001 as a cultural property of outstanding universal value under cultural criteria (ii), (iv) and (vi). By nominating Lamu, the State Party recognizes its obligations to ensure the proper conservation and management of the property, including putting into place any measures necessary for the maintenance and improvement of the property's OUV.

Since 2003, the State Party has been considering the extension of the boundaries of the World Heritage property. Since the Committee became aware of the proposed port development in Lamu County to link the Kenyan coast to South Sudan and Ethiopia, it asked the State Party of Kenya to provide it with all the relevant information on the said project to ensure that there are no negative impacts on the world heritage property.

This HIA is thus a response to the World Heritage Committee's request in Decision 37 COM 7B.40 (Item 5) that "the State Party urgently carry out a full Heritage Impact Assessment (HIA) which focuses on potential impacts on the OUV of the property following ICOMOS Guidance, covering not merely the first three berths of the Lamu Port, but for the full scope of the project; the HIA should focus not only on the possible impacts on the built heritage and natural environment of the property, but also on the social, cultural, and religious impacts to the property and its surrounding landscape and setting." Direction for its implementation was provided by the ICOMOS *Guidance for Heritage Impact Assessment in Cultural World Heritage properties* (2011).

Based on the approved Brief, the HIA relates to the Lamu component of the Lamu Port-Southern Sudan-Ethiopia Transport Corridor (LAPSSET) Project as in the *LAPSSET Corridor Development Alternative Plans Report* (2010) and the *LAPSSET Corridor and New Lamu Port Feasibility Study and master plans Report* (2011). Given the spate of the current developments in the area, it also examined oil and natural gas prospection and projects especially in Oil Blocks L4 and L13 of the Lamu archipelago area, as all of these relate to the Lamu World Heritage property, its setting and surrounding area.

Methodology



Following consultations with the National Museums of Kenya (NMK) and given that the Lamu Old Town World Heritage property is inextricably linked to its surrounding setting of the Lamu archipelago, which in turn contributes to its Outstanding Universal Value (OUV), the HIA study was extended to consider impacts at the scale of the cultural landscape that the archipelago constitutes.

The HIA thus considered impacts on the various national monuments in the area, and all the significant natural and cultural heritage components of the archipelago, inclusive of its people and their beliefs, customs and lifestyle, as each component contributes to an understanding of the whole should be managed and protected as such.

The HIA Report has demonstrated that the World Heritage property and its setting and surrounding area are inextricably bound together, and together support and sustain the OUV.

In addition to desk top reviews, consultations were held with various stakeholders, including local communities and community based organisations in the project area, government stakeholders, as well as those closely involved in directing the LAPSSET, at various stages of the HIA process. Four consultations took place in the Lamu archipelago in December 2013. A second round of consultations, involving the UNESCO-commissioned team was held in Lamu and Nairobi in January 2014. A third, follow up, consultation with government departments involved in LAPSSET was held in Nairobi on 14 February 2014 to engage with the various actors in the project on the contextual nature of the World Heritage property and to together consider mitigation measures.

The draft HIA report was subsequently produced and publically disclosed in Kenya ahead of final consultations in May 2014.



Description of proposed project

LAPSSET is a major infrastructural development consisting of a gateway that opens into the Corridor and other large projects associated to the first two. The gateway is the proposed 32-berth deep-water “mega port” in Lamu’s Manda Bay, to the northeast of the Lamu Old Town World Heritage site. The Corridor itself consists of three main components: a highway and railway line to South Sudan and Ethiopia; oil pipelines; three airports. Other associated infrastructures are an oil refinery, three “resort cities” (in Isiolo, Lamu and on Lake Turkana).

The Lamu Port ‘Gateway’ will comprise of the following major components :

- Port area, which defines the Special Economic Zone (SEZ), consisting of general Cargo Berths, Container Cargo berths, Bulk Cargo Berths, Port Management buildings, Location of Fishing & Small Boats Repairs Facilities, the Port Work Vessels Repair Facilities and an Approach Channel through Manda Bay. The Port area, with its 35km radius, will be managed by a Port Management Body with authority to regulate and control sea-related activities within that radius. It is projected to have 32 berths by 2030. Equipment to be used at the berths include various types of cranes, some of up to 55-85m above wharf level, with lift height up to 40.5m. An 80m high (17 storeys) administration building is proposed in the port area. An Operation Building for General Cargo Terminal was already nearing completion as at January 2014. **The Container Stacking Yard** will house containers are to be stacked up to a maximum of 8 tier containers high. It is planned that the Port will be opened in 2016.
- Port related Industrial Area, (part of the SEZ) will include an Oil refining and Petro-chemical industry, a Food Processing Industry and fruit processing factories, a Grain terminal, a Flour mill, a Live animal quarantine centre, a Wood Processing Industry, a

Textile industry, , a Thermal power plant, Ship repair and building, Material processing for Corridor construction, and a Service base for offshore oil and gas production.

- Urban Development Area (outside the SEZ and under Lamu County Government) which will consist of the Central Business District; eight regional centres (projected 150,000 population catchment); 125 local centres (projected 10,000 population catchment); and residential neighbourhoods.
- Temporary 100km Lamu-Garsen access way is an upgrading of the existing C112 road connecting Garsen with Lamu to facilitate road traffic between Mombasa and Lamu handle and transport the port cargo between the port and hinterland
- The LAPSSET Corridor consisting of Lamu Isiolo Railway, Lamu-Garissa Highway and Lamu-Nakodok Crude and Product Oil Pipelines. At the Lamu end, it consists of:
 - a Terminal and Physical distribution centre, including a Railway Station, with shunting for rolling stock, container handling facilities as well as a container yard and freight stations;
 - An Intermodal Support Service, with container depots, freight stations and warehouses, and Intermodal related industries, with business and industrial activities and freight stations.
 - small and medium manufacturing and business enterprises that support or compliment transportation dependent logistics and manufacturing activities and which may not necessary require direct rail /highway access.
- New international airport which is projected to cater for air passenger arrivals of this city equal to that of the present Moi International Airport at Mombasa.
- Resort city and its Satellites to be situated in various locations in the County, including the Lamu Old Town and other islands of the Lamu archipelago. The core Resort City will consist of a convention centre, main city resort hotel, business centre, shopping mall, health spas, golf course, theme park and accommodation for convention and other visitors. The *Fisherman's wharf* is a residential development consisting of private homes for rental or purchase and linked to other tourist facilities through a combination of water, and land transport (possibly monorail in the long term). It will also provide a fish market and international seafood restaurants and fishing boats for residents and visitors.

The *Cultural centre* is conceived to diversify the cultural experience for visitors to the area and will accommodate environmental and ecological scientific learning institutions for purpose of scientific research into the local ecological systems: mangrove forests, rich marine ecosystems, and the Boni national park. Other facilities will include tradition and modern art galleries, exhibition halls, a specialist East African history library, museums and centres of higher learning linked closely to the cultural heritage

An *Entertainment centre*, located on Manda Island, will include casinos, amusement centre, indoor games, music halls, amusement parks and a second golf course. Support facilities will include hotels, administration areas and club house. Remember the cruise port on manda across from World Heritage property.

Satellite Stations are to be developed in existing settlements in the archipelago; specifically on Lamu, Manda, Pate and Kiwaiyu Islands. It is proposed that to avoid over-exploitation, these settlements will be considered as outposts of the core resort city with limited development and priority given to ecotourism. These satellites stations will provide diversity in tourist attraction through establishment of such

activities as water sports and deep diving in Kiwaiyu, eco-tourism along the northern coast and the islands, wildlife safaris in the National wildlife Parks and marine parks. These centres will be linked by developing safe and effective sea routes for local boats and a special port dedicated to local sea travel. A further connection is foreseen through the development of monorail as the best means of transport. A *Sea Cruise terminal* will also be located at the northern west part of Manda Island, as a strategy to avoid tourists going through Mombasa.

- Fishing port facility (Mokowe) conceived as support for Lamu's fishing industry. It includes the improvement of wharfs, slipway for repairing of fishing boats, fish market facility.
- Thermal Power Station(s) on Pate Island to include a coal based Thermal electric plant with a capacity of 300 MW by 2020, to be increased to 1 GW by 2030, by a Liquefied Natural Gas (LNG) plant. The coal plant will be dependent on the coal production from Mwingi area which is hinterland of Lamu port. The justification for this is to provide power for the crude oil pumping operations, railway and highway operations, industrial and urban activities induced in Lamu and port operations.

Outside of LAPSSSET, the HIA also considered the oil and gas activities in the area, especially the Pate Gas Prospect on Pate Island. This consists of an Initial Exploration Period of 3 years focusing on 2D (Completed in Q1 2013). It is projected that there will be a 20 year production periods for any commerce discovery, which can be extended for a further 10 years.

Impacts

While Lamu Island and the Lamu Old Town World Heritage property is physically removed from the direct project footprint and the likely negative impacts to the tangible attributes of the core zone of the WH property are mostly indirect, there are many direct and indirect impacts effected on the setting of the WH property – the Lamu archipelago cultural landscape - and the cumulative negative effects on the natural and cultural heritage of this cultural landscape will have a permanent high negative impact on the WH property.

One major impact of LAPSSSET, is that it will induce rapid economic growth in the County. This could be both a challenge and an opportunity for the conservation of the WHS and the retention of its authenticity and integrity.

During Planning Phase

Acquisition is necessary to secure the land for LAPSSSET and other associated development. Anticipation of developments in the County has led to the emergence of very complex and opaque land acquisition mechanisms.

Socio-economic and cultural impacts

Land speculation activities will likely create an economic situation for the local communities. If demand outstrips supply, this could induce an increase in the cost of living and place the local communities at a great disadvantage. This could result in further impoverishment. Furthermore, land speculation could also lead to lifestyle changes in an attempt to deal with the new monetary values that will be introduced in the local system.

Planning for the oil and gas sector will particularly affect economic expectations and alter social relationships on Pate Island. The possibility for social tensions cannot be ruled out as locals might be tempted to jostle for positions to maximize personal gains.

Oil and gas prospection has already disrupted economic activities on Pate Island, and also polluted fresh water supplies. The likelihood that this will escalate with increased activity in the sector cannot be ruled out.



Prospection in the area will lead to an increase of visitors and raise “beach boys” activities, with the attendant expectations for easy money, could increase the erosion of traditional values, a lack of interest in acquiring further education. This can ultimately result in reduced competitiveness of the local youths vis-à-vis other economic migrants moving into the County

During Construction Phase

Impacts on Water Quality

- Port development activities such as excavation and dredging can cause water turbidity and also introduce contaminants from port activities and hinterland effluent, particularly from the planned industrial Export Processing Zone (EPZ) and the proposed metropolis development and can cause adverse impacts to the marine ecosystem.

Impacts on Mangrove Forests

- Mangrove forests will be at risk from direct human impacts and port construction. With the influx of population, the risk of Mangroves being felled for commercial and personal use will increase.
- The risk of pollution will similarly increase with the development of the hinterland with attendant effect on the availability of building materials for conserving old buildings and erecting new ones in the WHS and other historic settlements in the archipelago. There is also a possibility of loss of livelihoods from mangrove-related businesses.

Loss of the Iweni Community Marine Conservation Area

- This community conservation area, located in the Manda Channel, will be lost due to dredging. The loss of the Iweni Conservation Area will likely lead to loss of livelihoods for the communities who earn an income from it.

Impacts on Fisheries

- During the port construction, accessibility to fishing grounds will be restricted and fish stocks will likely be affected. Cumulative impacts on water quality may reduce fish stock in the area.

Impacts on Archaeological sites

- Excavation for port construction and other LAPSET components, as well as oil and gas related developments, will likely affect protected archaeological sites such as Mkokoni, Mashundwani, Ungu, Kiliana, Manda, Takwa, Pate, Shanga, Siyu, Bui and on the mainland the ones at She jafari, Mwambore , Mwandoni, Ishakani and Kiunga among others

Impacts on Intangible heritage

- The development of the proposed port and metropolis will lead to an influx of migrant Kenyan and international workers in search of employment and business opportunities. This can cause a “dilution” of the local culture.

Impacts on Air and sound quality

- Construction equipment, truck traffic, work vessels etc may create nuisance, increasing noise levels and causing discomfort through vibration.

Waste management

- Dredging will generate a significant amount of construction wastes. Disposal of dredged material on land may cause destruction of plants, loss of vegetation,

leakage of contaminated materials and salt, odour, an unsightly view and other nuisances to the communities.

Socio-cultural impacts

- Labour from outside may be a possible source of conflict with the local community.
- Possibility for increase in HIV/AIDS prevalence, prostitution, cultural dilution
- Increase in costs of living due to competition for work and resources
- Possible drug related and other vices that follow such set up

During Operational Phase

Any accidents and oil spills, at the port or from proposed industrial developments on neighbouring Pate Island will directly affect the property.

The smoke and smells from the gas and oil operations may still affect Lamu depending on the wind directions. The views and vistas from the world heritage looking into Manda island, and beyond that for centuries has been defined by the greenery of Manda and the blue sky beyond, is now broken by the Port cranes, Container yards, Supertankers and the Port tower building at Magogoni. With the coming of the metropolis, the views and vistas from the world heritage if not addressed will be of iron and concrete and the stars at night would be replaced with the bright lights of the Metropolis. This indeed is a direct impact as it affects the people who own, live in and take care of the heritage properties that constitute the world heritage property. Their love and care for the heritage is what protects the heritage and ensures its authenticity and integrity and any change in mind in terms of ownership due to the changed circumstances could pose a danger in the up keep and in the emotional and spiritual connection to the place. This would further erode the spirit of place. The tranquil, natural and cultural wholeness of the archipelago will change irrevocably into an industrial landscape.

Impacts of shipping traffic and discharges on marine environment

- Oil leakage and oily wastes, if disposed of in the bay/ocean, may cause direct damage to fishery resources, aquatic biota and the coastal habitat and seriously damage marine and coastal ecology.
- Oil and other toxic substances may contaminate fishery resources, including shellfish, may be contaminated by.

Impacts on air quality

- Gaseous pollutants generated by ships during maneuvering and berthing may affect air quality in the archipelago.

Impacts associated with waste management

- Wastes from ships could either be discharged or spilt into the ocean. These wastes cause problems of oil pollution, floating garbage, unsanitary conditions, odour and other degradation of water quality and loss of fauna and flora.

Impacts on cultural heritage resources

- Oil and oily wastes discharged from ships may wash up to beaches in the archipelago and affect recreational and tourism activities, causing serious damage to tourism.
- Dhow fishing and diving will be prohibited in the controlled Port Area, and Shipping traffic may disturb pleasure boat cruising and fishery boat movement and operations.
- The possibility of accidents in the ship traffic is a worry to local people.

Impacts of cargo operations and industrial activities

- Runoff from raw material storage, spills from bulk cargo handling, and wind-blown dust could contaminate port water.
- The proposed factories for the industrial area, are potential contributors to increased pollution in the archipelago as effluent from port industrial activities may include toxic or harmful materials, unsanitary wastes, oily wastes and other hazardous materials.
- Cargo handling and storage may cause runoff, spills or leakage of ingredients, which possibly include toxic or harmful materials, organic matter, or oily compounds. Water pollution and bottom contamination resulting from these effluents lead to deterioration of aquatic biota and fishery resources. Dust dispersion on land may cover plants and change terrestrial habitat.
- Toxic or harmful substances included in dust emissions may endanger the health of port workers and the archipelago's populations.
- Discharge from waterfront industries is a major source of water pollution which, induces deterioration of aquatic biota due to toxic and harmful materials, poor oxygen dissolution and eutrophication of water.
- The proximity of the port to Manda Island, Siyu and Pate villages with their historic sites and pristine natural settings, will impact greatly on their setting.


Impacts of Pate Thermal Plant(s)

- There is a possibility of thermal pollution from the proposed power plant to be located on Pate Island. The discharge of the cooling water could elevate the temperature in the surrounding sea, resulting in damaging conditions for fish larvae. Raised temperature can also affect other organisms around the outfall in the surrounding channels and thus affect the biodiversity in the area.
- Electricity generation may release heated water and sewage treatment facilities produce nutrient salts, organic matter and some hazardous materials.

Mitigation

Mitigation during planning stage

Land tenure and security

 Land use and planning is critical to achieving desired conservation results in the World Heritage property as a unit and on Lamu Island as a whole. It is important that land security be assured for the Island's inhabitants, taking into consideration ancestral land claims will help to forestall land speculation and grabbing. It will also help secure the continued occupation of the Island by a critical mass of Lamuans vital for the survival of the heritage. Issue land titles to property owners in the World Heritage property and on Lamu Island to forestall illegal land grabs and speculation. Creation of a special conservation zone, funded through an agreement between the County Government, vouched for by the NMK, and SEZ authority. The SEZ authority will collect the revenue from various implementing agencies in the zone and put in a sequestered fund for the management of cultural and natural heritage

Integrity of urban and architectural character and quality of the WH property and Lamu island

- Strengthen and enforce existing planning regulations in the Lamu Old Town World Heritage property and extend heritage related planning regulations to the entire Lamu Island, with special recognition for the limitations of the land especially as concerns fresh water supplies, food security, as well as informal settlement.
- Strengthen and enforce existing planning regulations establishing controls on architectural attributes on the Island such as building height, details, material use.

Regulations should establish conservation benchmarks on the Island to allow for architectural variations taking into consideration the relationship of all other settlements on the Island to the WH property. A flexible approach is needed to ensure that pressure is taken off the WH property by the other settlements which accommodate crucial services for the WH property. This can include guidelines on materials, construction methods, height restrictions, urban patterns, as a function of location and proximity to the WH property.



Mitigation during construction

Some of the mitigation measures described below will be implemented by contractors and must thus be included as clauses in contractual documents.

Mitigation for Intangible heritage

- Extend government and corporate support to local cultural events as part of the development of the tourism industry and the branding of the World Heritage property
- Provide support mechanisms to ensure that the local values remain: eg education, language, cuisine,
- Promote livelihood activities centered around the traditional cultural industries

Socio-cultural mitigation

- Establish a social inclusive mechanism to prevent conflicts between local communities and migrant workers
- Reinforce the implementation of the national HIV/AIDS program for construction workers and local communities
- Develop resilience mechanisms for the local communities to deal with the realities of induced rises in costs of living due to competition for work and resources
- Establish anti-drug awareness programs for the youths
- Establish a permanent exhibitions of dhow building techniques, wood working and carpentry, centred around live demonstration of these crafts
- Establish businesses centred around traditional crafts and knowledge.
- Develop required social and urban services necessary for long term sustainability of the tourism market in Lamu Old Town.



Livelihood mitigation

- Apart from the proposed fishing ports, develop new fishing ports to replace those that will be destroyed by the port development.
- Monitor established businesses and ensure that they are adaptive to the demands of the market, while respecting the underlying cultural values.



Overarching mitigation for the Lamu cultural landscape

Land tenure and security

Land use and planning is critical to achieving desired conservation results in the County as a whole. It is important that land security be assured for the archipelago's inhabitants, taking into consideration ancestral land claims. Inclusion of the local communities through land adjudication will greatly facilitate their ownership of the changes in their landscape.

The pressure on land resources needs to be urgently addressed in order to ensure land security for the archipelago's communities.


The establishment of a special conservation area, through an inter-ministerial approach, is crucial for the effective integrated conservation of the sensitive natural ecological landscape of Kenya's northern coast as well as its cultural landscape. Doing this will enable the



conservation of not only the valuable ecosystem services of the natural environment, but also the cultural resources, inclusive of heritage. It is suggested that a special integrated conservation authority whose primary function shall be that of strategic and effective management of the County's cultural and natural resources. The Special Conservation Authority shall be responsible for land use management in the archipelago as well as the sequestered Trust Funds set up for its function. Funding for the Trust Funds shall be negotiated with the SEZ authority based on the "polluter pays" principle as stated in the *Environmental Management and Coordination Act of 1999*.

- Issue land titles to property owners in the archipelago to forestall land grabs and speculation.
- Ensure that compensation is paid to project-affected communities in line with the outcomes of the land surveys and reports held in 2013/2014.

Quality and integrity of regional character of the archipelago

- 
- Develop a management plan that is clear about the instruments of integrated management (for example the UNESCO HUL approach), better control of development, settlement boundaries, land use rights and land ownership on the island, as well as the delineation of a more effective Buffer Zone (as agreed to re the UNESCO Decisions) to counter pressure due to the anticipated migration wave. The management plan will be more effective if it forms an integral component of County Urban and Planning guidelines and regulations;
 - Define the southern limits of the Metropolis to confirm a suitable distance from the WH property that will ensure here is no visual contact and enforce an effective 'no-build' and no development buffer area between the southern limits of the metropolis.
 - Define a height limit for buildings in the metropolis that will ensure that the city is not visible from a viewcone at the WH property towards the protected skyline.
 - There must be no land bridge between the mainland and Manda island.
 - Provide alternative design for the Metropolis - move those components of the metropolis that are not directly essential to the Port management and operation northwards along the Corridor.

Cultural dilution

- Promote and develop livelihood activities centered around the traditional cultural industries such as cuisine, straw weaving, wood carving, boatwhrighting, carpentry, etc
- Develop local cuisine by promoting local food production and identifying opportunities for sustainable entry into the commercial supply chain for tourism and future markets in the County.
- Identify the possibilities of extending existing homestay practices and establish a plan to put in place the required social and urban services necessary for long term sustainability.
- Place limitations on land ownership by non-island inhabitants.

Visual quality of Lamu archipelago cultural landscape

- Explore possibility of positioning and creating vegetative cover or land-scaping to screen off the visual effects of container handling equipment on the protected Manda skyline. A careful selection is required to determine which indigenous tree species can successfully create the desired effect.
- Provide alternative design for the Metropolis - move those components of the metropolis that are not directly essential to the Port management and operation northwards along the Corridor.



Thermal Plants on Pate Island

- Explore alternative locations for the thermal plant(s) on Pate Island with a view to concerting environmental management that efforts all around the archipelago.
- Carry out thermal dispersal studies and simulation to determine long term environmental effects of locating such a facility in this sensitive ecological system.

Mitigation for Mangrove Forests

- Port and metropolis development should include conservation efforts to protect mangrove forests.
- Initiate mangrove afforestation programme and involve communities through financial incentives to plant and manage mangroves
- Explore possibilities of mangrove recovery for commercial purposes in other areas of the coast.

Mitigation for the Kiweni Community Marine Conservation Area

- Identify a suitable area to compensate the loss of the Kiweni Conservation area, both for fishing stocks and for the conservation of sea turtles.

Mitigation for Fisheries



- Compensate lost fishing grounds by identifying and developing offsets
- Protect local fishermen from competition from foreign trawlers and improve their access to fishing stocks beyond the continental shelf. Provide appropriate equipment adapted for deep sea fishing (motorized boats etc) and provide training for beneficiaries to operate new equipment
- Contribute to the value chain by (i) assisting fishermen in the identification of new markets and the development of business skills (ii) establishing a medium-size fish-processing industry.
- Provide market facilities by creating an advantage for local fishermen in the new metropolis
- Investigate the possibility of marine fish farming and provide financial support to local fishermen to enable them kick start their own businesses.

Mitigation for Archaeological sites

- Compensation for moving graves or sacrificial rituals for the dead,
- Compensation for loss of valued resources by secular activities
- Avoidance of archaeological sites of interest (where technically possible)
- Voluntary Burial (a layer of soil is placed on the site if the planned infrastructure are temporary)
- Develop chance finds procedures for implementation in the event that archaeological heritage is disturbed (see ANNEX 4)
- Carry out archaeological excavations in priority areas to record maximum information on the sites: (i) inventory of sites, objects and data collected, (ii) description of the sites and artifacts (iii) radiocarbon dating, (iv) data analysis, (v) safeguarding the vestiges of the National Museum of Kenya, (vi) publication of data.
- Provide necessary support for LIDAR mapping of the area to determine trace layers of land use and occupation
- Provide necessary support to the NMK to enable it carry out its functions in this regard as part of implementation of proponents' environmental management plans. Ensure the presence of archaeologists at project sites during excavations for all projects.

CONCLUSION

The Report has found that the significance of the natural and cultural heritage of the Lamu archipelago cultural landscape is very high, with a high degree of remaining authenticity and integrity.



The impact assessment has concluded that the severity and significance of the impacts on the tangible and intangible natural and cultural heritage of the Lamu archipelago cultural landscape are high and permanent. While some of the impacts are permanent and irreversible, some of the impacts may be avoided through revision of the project or lowered through mitigation.

The risk for the World Heritage status is high, but with redesign and mitigation of the development projects this may be lowered.

The oil and gas extraction projects are non-sustainable industries with high environmental impact – the pursuance of this industry in the delicate archipelago will also negatively affect the WH property and the area's potential as a tourism resource.

LAPSSET is a Greenfield operation that presents a great opportunity to put in place visionary measures for sustainable environmental and social management in Lamu County. Its implementation in Lamu's sensitive landscape should be precautionary, based on the best international practices in planning, construction and operation with a view to optimizing environmental and social advantages as part of responsible infrastructural development. Currently, the tourism sector contributes a large share to Kenyan GDP and it is important to keep this sector solvent in the Lamu archipelago, especially as the earliest anticipated economic benefits from LAPSSET might not come on-stream for at least three years.

Additional to the need for a self-chosen tempo of cultural evolution and change, and self-directed regulation of rapid cultural change and shifts in power-knowledge, there is a need for the ability to regulate space and place according to self-chosen regulations that are regulated by the local religious traditions and dogma.

While the Port development is geared to develop long term growth in Kenya, the destruction of the delicate balance of the human and natural environments of the archipelago will affect GDP growth. The Port operations and other associated developments are unlikely to begin before 2016 and the destruction of the tourism asset that the archipelago represents will no doubt have a long term implication on GDP in the short and long term. Economic considerations and the desire for poverty eradication are understandable motives, and the precautionary principle must be applied as required by Kenyan law and its international obligations under the Nairobi Convention. These resources that are currently under pressure if lost, can never be recovered and no amount of economic prosperity can recover the loss of identity and the uniqueness that the Lamu archipelago contributes to national identity. The communities have generally expressed their support for the project and also desire the prosperity that the new Port will likely bring. However, they have genuine fears and the lack of communication on the exact nature of the project, the manner in which certain concerns will be taken into consideration, the lack of dependence on local knowledge in project development, have all led to a wave of rumour mongering engendering unreasonable fear and social tensions.

LIST OF ACRONYMS

| | |
|---------|---|
| CBO | Community Based Organisation |
| DoF | Department of Fisheries |
| EA | Environmental Assessment |
| EIA | Environmental Impact Assessment |
| EMCA | Environmental Management and Coordination Act |
| ESIA | Environmental and Social Impact Assessment |
| HIA | Heritage Impact Assessment |
| ICCROM | International Centre for the Conservation and Protection of Cultural Property |
| ICOMOS | International Council on Monuments and Sites |
| IUCN | International Union for the Conservation of Nature |
| KFS | Kenya Forest Service |
| KMFRI | Kenya Marine and Fishing Research Institute () |
| KPA | Kenya Ports Authority |
| KWS | Kenya Wildlife Service |
| LAPSSET | Lamu Port – South Sudan – Ethiopia Transport (LAPSSET) corridor project |
| LCDA | LAPSSET Corridor Development Authority |
| MLHUD | The Ministry of Land, Housing and Urban Development |
| MOEP | Ministry of Energy and Petroleum |
| MoT | Ministry of Tourism |
| MoTI | The Ministry of Transport and Infrastructure |
| MPB | Metropolitan Plannign Board (of Lamu County) |
| NEMA | National Environmental Agency of Kenya |
| NGO | Non Governmental Organisation |
| NMK | National Museums of Kenya |
| OUV | Outstanding Universal Value |
| RAP | Resettlement Action Plan |
| SEZ | Special Economic Zone |
| SOC | State of Conservation Report |
| SoOUV | Statement of Outstanding Universal Value |
| UNEP | United Nations Environmental Programme |
| UNESCO | United Nations Educational and Scientific Organisation |
| WHC | World Heritage Committee/Centre |
| WHS | World Heritage Site |
| WWF | World Wildlife Fund |

1 BACKGROUND, MANDATE, TERMS OF REFERENCE, SCOPE AND DELINEATION OF THE HIA

1.1 Introduction

This Heritage Impact Assessment, to assess the possible impacts of the proposed LAPSSET project on the Lamu Old Town World Heritage property, was carried out in response to various requests from the World Heritage Committee and in compliance with Kenyan Environmental regulations. The study was carried out in collaboration with the National Museums of Kenya. It was also carried out within the context of Decision 35COM 10A in which the Committee noted the States Parties' request for concerted efforts to address the conflicting interests of conservation and development needs. The object of the present study, ie. the impacts of the LAPSSET new Lamu Port with the full scope of all its associated components, as well as the Gas Prospect in Lamu, on the OUV of the Lamu World Heritage property, its setting and surrounding area, is challenging given its scope and the environmental and socio-cultural issues, but presents an opportunity for the State Party of Kenya to innovatively establish a heritage sensitive development model for not only the country but the region as well.



1.2 Background, Mandate, Terms of Reference, Scope and Delineation

1.2.1 Background

A history of the World Heritage Committee's requests towards disclosure of developments affecting a World Heritage property, required as a response to the UNESCO *Operational Guidelines* paragraph 172, and subsequent assessment of impacts on the property, is presented below:

The Committee's attention was first drawn to the development challenges around the site at its 32nd session when the State Party's State for Conservation (SOC) report (WHC-08/32.COM/7B) drew its attention to proposed plans for oil and gas exploration and a new port facility in Lamu County. **Decision 32COM7B.48** called on the State Party to inform the Committee of any potential impacts on the property.

At the Committee's 33rd Session, the State Party's SOC report highlighted concerns about uncontrolled development on the property, specifically encroachment on the sand dunes that are the main source of fresh water supply on Lamu Island. Concerning port development, it reported that an agreement had been reached with the Ministry of Transport and Communications that the Ministry of National Heritage and the National Museums of Kenya would be consulted and an assessment of impacts on cultural resources would be carried out (WHC-09/33.COM/7B). In its Decision **33COM 7B.44**, the Committee stressed that the State Party should involve the National Museums of Kenya (NMK) in the planning process for the proposed Lamu Port). The Committee further urged the State Party to invite a joint WHC/ICOMOS/ICCROM reactive monitoring mission to assess the state of conservation of the property.

In 2010, the report (Bakker et al, 2010) of the reactive mission was presented to the Committee at its 34th session. The Committee requested the State Party to, in accordance with Paragraph 172 of the Operational Guidelines, inform the Committee of their intentions "with regard to the proposed port project and to provide the necessary details of the project for evaluation by the Advisory Bodies, including a full heritage impact assessment of the potential impact of the project on the Outstanding Universal Value of the property, before any formal commitment to the project has been made". It further requested the involvement of the National Museums of Kenya in the heritage impact assessment" (**34COM 7B.46**).

At the Committee's 35th session in 2011, the State Party reported (WHC-11/35.COM/7B) that the Japan Port Consultants (JPC) was carrying out a feasibility study for the new Lamu Port at Manda Bay, north of Lamu Island. It further reported on the progress of its work on defining the boundaries of the property and buffer zone. Concerned by the non-provision of basic information on the port project, the Committee reiterated (Decision 35COM 7B.39) its request to the State Party to "to confirm that the National Museums of Kenya will be fully involved in impact assessments of the Port project and that a Heritage Impact Assessment will be carried out to assess its potential impact on Outstanding Universal Value in line with 'ICOMOS Guidance on Heritage Impact Assessments for Cultural World Heritage properties'"

The Committee further expressed similar concerns in 2012 (Decision 36COM 7B.43), requesting the State Party to halt further construction on the project pending:

- a) A comprehensive Environmental Impact Assessment (EIA) and Heritage Impact Assessment (HIA), in conformity with the ICOMOS Guidelines on Heritage Impact Assessments for World Heritage Cultural Properties, to assess the project's potential impact on the Outstanding Universal Value including its social, cultural and religious impacts, have been carried out by independent experts in collaboration with the National Museums of Kenya (NMK),
- b) These EIA and HIA have been submitted to the World Heritage Centre for examination by the World Heritage Centre and the Advisory Bodies,
- c) Appropriate solutions to ensure that the Outstanding Universal Value of the property is fully preserved, have been identified and agreed upon;

In 2013, the Committee reiterated its request (Decision 37 COM 7B.40) for an HIA to be carried out by the State Party, which led to this HIA Report.

This Decision was also necessary since, while Section 5.13.1(9) of the LAPSSET Corridor Feasibility Study (2010) pointed to the need for an EIA and indicated impacts on World Heritage attributes (eg. Items 4.3.2(1), 4.8.2 (4) and 11.1.3), and other tangible and intangible heritage resources in the target area (eg. 4.8.10), it only referred to the need for AIA prior to construction (eg. Items 3.3.3 (5); 4.8.2(4); 4.8.4(9); 5.10.3; 6.5.1; 7.6.1; 7.6.3 and 13.4.1), and not specifically for HIA.

This omission in the Feasibility Study, i.e. of the legal requirement for HIA in and EIA related to World Heritage, resulted in the subsequent *EIA for the first three berths of the Lamu Port* (Heztech. 2013) not dealing with impacts on cultural heritage adequately. Surprisingly, while it did indicate (Heztech. 2013: iv) a further need for AIA and HIA in the future, the EIA came to a positive recommendation for the project, despite not understanding the cultural resource and therefore having no basis for assessing impact and designing mitigation.

While Annexure 2 of the ICOMOS *Guidance* (2011: 13) indicates that the 'developer' should be responsible for producing the scoping report, this is not usual in most countries with an established EIA system, where rather it is normal that the designated Environmental or Heritage Authority performs this task, based on the information on the nature and extent of the proposed works received from the 'developer'. In case of this HIA, the LAPSSET Project Feasibility Study provided the required detail on the nature and the extent of the proposed project, but while it presented matrices for various components, including heritage and archaeology, the heritage and archaeology components were never assessed.

1.2.2 Mandate and Terms of Reference

The main objective of this HIA is to respond to the Committee's request to the State Party, in Decision 37 COM 7B.40, which in Item 5 states that the World Heritage Committee (WHC):

5. Requests that the State Party urgently carry out a full Heritage Impact Assessment (HIA) which focuses on potential impacts on the OUV of the property following ICOMOS Guidance, covering not merely the first three berths of the Lamu Port, but for the full scope of the project; the HIA should focus not only on the possible impacts on the built

heritage and natural environment of the property, but also on the social, cultural, and religious impacts to the property and its surrounding landscape and setting;

This Request by the WHC was acceded to by the State Party and included in the wording of the Terms of Reference of the work that UNESCO undertakes on its behalf:

In line with the request of the World Heritage Committee, UNESCO with financial support from the Netherlands Funds-in-Trust, will carry out a comprehensive Heritage Impact Assessment of Lamu World Heritage Site and its environs in order to identify potential threats posed by the envisaged Lamu Port and its associated infrastructure developments to the Outstanding Universal Values of Lamu World Heritage Site. (Contract with HIA consultants: Terms of Reference, Item 1)

The mandate of the impact assessment is the evaluation of the likely impacts of the proposed Lamu Port – South Sudan – Ethiopia Transport (LAPSSET) corridor and the new Lamu Port with the full scope of all its associated components, including the Gas and Oil Prospect, on the tangible and intangible attributes of the Outstanding Universal Value (OUV) of the Lamu Old Town World Heritage property, its setting and surrounding landscape.

The OUV of the Lamu World Heritage property has been inscribed under the following three cultural criteria (ii), (iv) and (vi).

Criterion (ii): *The architecture and urban structure of Lamu graphically demonstrate the cultural influences that have come together there over several hundred years from Europe, Arabia, and India, utilizing traditional Swahili techniques to produce a distinct culture.*

Criterion (iv): *The growth and decline of the seaports on the East African coast and interaction between the Bantu, Arabs, Persians, Indians, and Europeans represents a significant cultural and economic phase in the history of the region which finds its most outstanding expression in Lamu Old Town.*

Criterion (vi): *Its paramount trading role and its attraction for scholars and teachers gave Lamu an important religious function (such as the annual Maulidi and Lamu cultural festivals) in East and Central Africa. It continues to be a significant centre for education in Islamic and Swahili culture.*

The Statement of Outstanding Universal Value (SoOUV) that is based on these criteria becomes the basis for heritage management in the World heritage property and as such is also included in the Study.

The terms of reference for the HIA that was included in the WHC Decision was further refined in detail in the contract with the consultants:

1. Be part of the Team of 3 experts to undertake a Comprehensive Heritage Impact Assessment on Lamu World Heritage Site and its environs in line with Kenyan legislations and the World Heritage character of Lamu World Heritage Site.

In this regard:

2. Undertake desk review as follows:

(i) Use the ICOMOS Guidance on HIA for cultural heritage in WH properties);

(ii) Perform desk-based research based on the various documents already published on the proposed projects and on the Heritage Site including E/As and management plan for the Site; Identify shortcomings in the EIA for the LAPSSET Project Berth 1-3;

(iii) Identify relevant local, national and international legislations and Statutory Requirements concerning the property and proposed development, as well as any compliance issues.

3. Carry out consultation meetings with stakeholders as follows:

(i) Engage and discuss with the various stakeholders and parties involved in and concerned with the development projects Lamu Port, LAPSETT and LPMDP (construction, operational and financial) especially the Kenyan regulatory institutions and stakeholders in Lamu and Nairobi; as well as Lamu World Heritage Site management;

(ii) In consultation with national authorities, contribute to and attend meetings with local communities members to discuss issues related to conserving the property and to ensure buy-in into long term conservation measures;

(iii) Provide input into planning of, consultation meetings with stakeholders and local communities being organised by National Museums of Kenya/Ministry of Culture, and assist in recording, filing, and assessment of data emanating from those consultations.

4. Site visits as follows:

(i) Undertake site visits, and carry out field survey and interviews, building on the results of the socio-economic assessment of the ES/A and addressing the major issues linked to the property's value;

(ii) Assess the existing condition of Lamu Old Town and its relationship with the surrounding natural environment through written and photographic documentation.

Also assess the state of conservation of the property in terms of previous changes to the physical fabric, its attributes, tangible and intangible values and significance to establish a baseline;

5. Analyse the information from desk review, consultation meetings and site visits in order to:

(i) Understand the proposed development (LAPSSET and LPMDP) as a sum of its individual parts/projects, and how these could potentially affect the existing cultural and natural landscapes as well as its adherence to existing regulations, guidelines and standards, and proposed management before, during and after construction and during operation;

(ii) Identify sources of potential direct and cumulative impacts on all aspects of OUV - whether tangible or intangible - at pre-construction, construction, post-construction and operational phases;

(iii) Assess the severity of potential impacts on individual attributes and overall OUV/Significance, as far as is possible in the absence of an ES/A for the complete development. Provide an evaluation synthesis and advisory containing a summary of potential impacts;

(iv) Assess, with the national institutions, possibilities for alternative options, mitigation measures and conservation methods in order to avoid or limit the negative potential impacts on the property, at specific and overarching levels. Consult the existing the management plan for an understanding of current conservation methods;

(v) Clearly identify, and engage with the parties responsible for each mitigation measure and receive input with regard to impact of such measures; Provide a summary of mitigation and monitoring measures with an advisory on the implications of inaction, the risk to protection status, potential benefits if the recommendations of the CHIA are carried out;

(vi) Develop input for cultural heritage considerations for future integration into the overall Environmental Management Plan (EMP) for the project(s);

(vii) Provide relevant maps pertinent to the interplay between the development projects and the property, photographic illustrations and all references concerning the interviews and sources consulted.

The above Terms of Reference were used to formulate the components of this HIA, and which are discussed in greater detail in Chapter 2 – Methodology.

1.2.3 Scope and spatial boundaries of the HIA

Based on the Brief, the study focuses particularly on the Lamu Port and the associated components of the LAPSSET corridor – new Lamu Industrial City with all its industries, the Lamu Metropolis, Lamu International Airport, Lamu Resort city, and the Lamu Oil refinery – as well as allied industries like the Oil and Gas Prospects, to be located in the Lamu archipelago and offshore.

The impact analysis focuses on the possible impacts on the tangible attributes of the cultural and natural environments of the property, as well as the intangible attributes of these environments, - ie. cultural attributes including religion, local knowledge systems, customs, festivals etc, as well as attributes like scenic value, spirit of place, wholeness – that are present at and contribute to the OUV of the World Heritage property as well as on its surrounding landscape and natural setting, but also including other, locally significant, heritage also present.

The **delineation** of the limits of this study includes the **spatial limits**, as well as the **range of heritage** to be assessed. Based on the UNESCO Decision 37 COM 7B.40, it is clear that there is a requirement that the assessment goes beyond the boundaries of the World Heritage property, and has to include all tangible and intangible attributes and associated aspects related to the Outstanding Universal Value of the property.

The widest context used for this HIA is the regional of East African aspirations for development growth and increase in quality of life for its peoples, and within this wider context, the national imperatives of developing Kenya as a country. A locally delineated context is that of the Lamu Archipelago as an important biophysical resource, identified in itself as having potential OUV;

Within this bio-physical environment, a unique human culture originated and evolved, precipitating in the Lamu Archipelago Cultural Landscape containing many settlements that interact with the local sky, the mainland, the sea and the archipelago, as well as other cultural enclaves further afield – it is important to note that this cultural landscape hosts a currently living culture; As a unique component of this cultural landscape, Lamu Old Town and its setting has been inscribed as a heritage resource that belongs to the whole world, and as such is managed nationally to satisfy the World Heritage Convention 1972 and the allied UNESCO *Operational Guidelines*. A further context layer is the role that all heritage of this cultural landscape (ie. the World-, national-, regional- and local- heritage) has to play, as an important vector for the sustainable development of the area.



The **delineation** of the limits for this study therefore includes Lamu Old Town, all the islands of the archipelago and their tangible immovable cultural and natural heritage, the water landscape of the archipelago and its tangible immovable cultural and natural heritage, the coastal strip with archaeological remains and farm landscape connected to Lamu archipelago culture, the relevant portion of Ocean landscape connected to the Lamu archipelago, as well as all the historic and current people related to and in the Lamu archipelago, with their historic and current intangible living culture, as well as its associated tangible moveable heritage.

The above delineation includes also the result of the relevant humans' specific interaction with this particular bio-physical environment over time – for the purposes of this study the above-delineated area is defined as 'The Lamu archipelago cultural landscape', which term is defined in more detail in Chapter 3.

The Lamu Archipelago cultural landscape is a key environment regarding understanding the origins and evolution of Swahili culture in its broadest sense, but also for the conservation, research and advancement of the specific strands of regional Swahili culture that have emerged from the relationship between peoples and between peoples and their bio-physical environment.

This Study will focus on specific components of the Lamu archipelago cultural landscape, which will be in interaction with the components of the LAPSET project, including the Gas Prospect, that are effecting changes in the existing cultural and bio-physical environment that support the OUV of the Lamu World heritage property.

Lamu Old Town World Heritage property occupies roughly 10% of the land mass of Lamu Island, is designated as the Core Zone of the inscribed property, while the currently gazetted Buffer Zone includes the dunes at Shela as well as the view of mangroves and the skyline from Lamu town. This Study will however refer to the State Party's intention since 2004 to widen this area to include the whole Lamu archipelago.

1.3 Study Limitations

Due to the delineation in the UNESCO decision, that required that the HIA “ *focuses on potential impacts on the OUV of the property following ICOMOS Guidance, covering not merely the first three berths of the Lamu Port, but for the full scope of the project; the HIA should focus not only on the possible impacts on the built heritage and natural environment of the property, but also on the social, cultural, and religious impacts to the property and its surrounding*



landscape and setting; “, the inclusion and assessment of significant heritage resources that are related to indigenous societies on the mainland, and that were not directly related to the OUV of the World heritage property, were excluded on a contractual basis; The rectification of this important *lacuna* regarding impacts that are related to the LAPSSET project, is addressed in the Recommendations of the HIA.



While the mandate of the HIA team was primarily to analyse the impacts of the LAPSSET development on a cultural resource with natural components, the fact that the HIA was not earlier integrated in the framework of an overarching Environmental Assessment (EA) made it a complex venture. Furthermore, the fact that the ESIA for the first three berths was poorly done and does not deal with the project envisaged in its fullest 2030 format, made it all the more challenging to fully comprehend and gather information on impacts of the projected, fully completed LAPSSET project on the natural environment and subsequently extrapolate these to the cultural environment. Given the HIA team’s composition of cultural heritage experts only, it was necessary for the team to apply itself to acquire an understanding of the property’s natural environment.

2. METHODOLOGY

2.1 Introduction

In accordance with Decision 37 COM 7B.40 of the World Heritage Committee (See **ANNEX 5**), this Heritage Impact Assessment was carried out using the ICOMOS *Guidance for Heritage Impact Assessment for Cultural World Heritage Properties*¹ adopted in 2011 (hereafter the *ICOMOS Guidance 2011*). This was acceptable to the State Party as complementary to national regulations.

This Chapter elucidates the methodology that is attached to the use of the ICOMOS Guidance (2011).

2.2 Methodology

2.2.1 The application of the ICOMOS Guidance for Heritage Impact Assessment in Cultural World heritage properties (2011) and its status

The ICOMOS Guidance was written to be used in countries where HIA is not yet required under environmental or heritage legislation, where there is no regulatory framework within which it can operate, where it is not yet part of the environmental management tool set and also to provide guidance on how the Outstanding Universal Value of a World Heritage property must be included in assessments that have hitherto not included such.

The capacity of heritage authorities varies globally and some are not strong within the national government structures. In some countries there are strong environmental systems that provide a basis for EIA, but the heritage elements (including World Heritage) are underdeveloped or non-existent. In others, HIA are undertaken but the identified 'triggers' for their use are often basic (usually in the form of lists of activities, or age). (ICOMOS 2011: 1)

The above citation has reference on the project at hand – in Kenya, while the cultural environment is included in all EIA work done under NEMA, there is as yet no specific provision for World Heritage in terms of impact assessment legislation in Kenya. While the Heritage legislation makes provision for the conduct of Environmental Impact Assessment, it does not have any specific reference to assessments in World Heritage context.

In terms of the status of this HIA relative to the ESIA for the 3 Berths of the Lamu Port, as well as future EIA's for the other components of the project, the ICOMOS Guidance (2011: 4) provides the following directive:

Where statutory environmental impact assessments apply, the cultural heritage sections must take account of this ICOMOS guidance where the EIA relates to a WH property. An HIA undertaken as part of an EIA in these circumstances is not additional to normal EIA requirements, but uses a different methodology which clearly focuses on OUV and attributes that convey that OUV. The HIA should be summarised early on in the Environmental Statement, and the full technical HIA report should be included as a technical appendix. The requirements should be made clear at the planning or scoping stage. ICOMOS and the World Heritage Centre will encourage States Parties to ensure that HIAs in line with this guidance are undertaken in line with best practice. Where cultural heritage sections of EIAs clearly do not focus on the attributes of OUV, they would not meet desired standards in managing change at WH properties.

NEMA accepted this approach in discussions in January 2014. Submitted by the NMK, this HIA can be considered an annex to the existing ESIA for the first 3 Berths of Lamu Port that already recommends that an impact assessment on heritage resources be carried out.

¹ The ICOMOS Guidance can be downloaded at <http://openarchive.icomos.org/266/>



Furthermore, the recommendations of this HIA will also be taken into account in the overall ESIA Recommendations, and EAs for the other development projects (Oil and Gas exploration and future components of the LAPSSET project) in the Lamu Archipelago and County will include HIA based on this present model.

The ICOMOS Guidance (2011: 4) is very clear that it can be adapted to context:

There are many ways of assessing impact on heritage assets, some formalised in law, some very technical and sophisticated, others less so. This guidance sets down some principles and options. But whatever route is chosen, the assessment must be 'fit-for-purpose' – suitable for the WH property and for the changes proposed, and suitable to the local environment. It must provide the evidence on which decisions can be made in a clear, transparent and practicable way.

In the case of the LAPSSET project, it has been accepted by the NEMA that this HIA will be a model for use in all the components of the project over time, in a context that includes World Heritage and its setting, as well as regional and local heritage that is either part of that heritage or is unique to itself – in all of this, the HIA must provide for holistic understanding of the fullest extent of the affected heritage resource, and remain a tool for understanding impact from individual as well as from multiple sources in an integrated and cumulative manner, and for integrated mitigation of individual as well as multiple sources of, and cumulative impact. For the LAPSSET project and all its allied components and related activities, this HIA will clearly expose the fullest extent of the attributes of the cultural landscape that is the “[World Heritage] property, its surrounding landscape and setting” as requested by the UNESCO WHC Decision 5, in 37 COM 7B.40 (2013). This implies that the HIA cannot be limited to the boundaries of the Lamu World Heritage property (also see sections below).

2.2.2 Impact assessment in a World Heritage context

Within the framework of the 1972 UNESCO World Heritage Convention, the State Party has subscribed to the UNESCO WHC *Operational Guidelines for the implementation of the World Heritage Convention* (Current version) for the protection of the Lamu World Heritage property.

The Statement of Outstanding Universal Value (SoOUV) is a requirement of the *Operational Guidelines*, paragraph 154-5. The SoOUV provides the basis from which the protection, management, and development of a property proceeds and the baseline these are tested against. The ICOMOS *Guidance* is:

intended to help to States Parties, heritage managers and decision-makers or others in managing their WH properties in circumstances where some form of change may affect the Outstanding Universal Value (OUV) of those sites. (ICOMOS 2011: 2).

Because the HIA is undertaken in a context of World Heritage, it acknowledges that the:

OUV [of the inscribed property] is reflected in a range of attributes, and in order to sustain OUV it is those attributes that need to be protected. Thus the HIA process needs to consider the impact of any proposed project or change on those attributes, both individually and collectively, rather than on a standard range of receptors. (ICOMOS 2011: 1).

While the ICOMOS *Guidance* is pertinent to cultural heritage in World Heritage properties, there may also be additional heritage resources that, either as scheduled or unscheduled heritage, possess attributes having various levels of national, regional or local significance, while not having been included as attributes having Outstanding Universal Value (OUV), do in reality exist within the World Heritage property, its setting and surrounding area, and which attributes help to enrich, sustain and protect the OUV, and which in turn determine that the HIA must also from necessity include such cultural heritage in the assessment, and apart from the ICOMOS *Guidance*, draw on best-practice for assessing such heritage.

This scenario is present in the Lamu Archipelago Cultural Landscape, where the OUV of the Lamu Old Town World Heritage property and its setting has come about, and currently exists as a residue of the evolving relationship between a specific living culture and a particular bio-physical environment that is the Lamu Archipelago. In terms of the the OUV as baseline for the HIA, the *ICOMOS Guidance* states:

When describing WH properties, it is essential to start by describing the attributes of OUV. This is the 'baseline data' against which impacts must be measured, and includes both tangible and intangible aspects. A statement of condition may be useful for each key attribute of OUV. However, while the SoOUV is an essential starting point, sometimes they are not detailed enough in terms of attributes to be directly useful to impact assessment work. Each property will need to be assessed and where necessary, the attributes may need to be more specifically defined during the HIA process. (2011: 7).

In the case of the Lamu World Heritage 'property, its setting and surrounding area', the Lamu Old Town Nomination Dossier (2000) for the property, as well as the Management Plan (2013) for the property, were the basis for listing attributes, but they did not contain a full and rich enough definition, "...a clear and comprehensive text description of individual and/or groups of heritage attributes, which sets out their individual and/or collective condition, importance, inter-relationships and sensitivity, and possibly also an indication of capacity for change..... accompanied by appropriate mapping" (2011: 8), to enable the HIA to proceed without further defining the attributes during the HIA process, as suggested by the *ICOMOS Guidance*. Further definition and understanding of the heritage resource therefore involved a lot of additional work, preceding the actual assessment phase.

Different from certain EIA approaches, the *ICOMOS Guidance* requires that the cultural heritage attributes, and the environment they exist in, not be disaggregated and the impacts on them not be assessed separately through discrete receptors – rather, the overall ensemble of attributes are assessed holistically and impacts are seen through the lens of, and tied directly to the attributes of OUV (*ICOMOS* 2011: 1).

Paragraph 15 of the *Operational Guidelines* states that while the *Convention* respects the Sovereignty of the State Party,the State Party takes on all the responsibilities defined in the *Operational Guidelines* for the protection of the inscribed World Heritage, while recognizing the collective interest of the international community to cooperate in the protection the Heritage.

In managing World Heritage, the HIA methodology must draw from, and perform in a manner to satisfy, pertinent aspects contained in other pertinent conventions, doctrinal documents, papers and recommendations.

2.2.3 Implementation of the HIA study

In line with the World Heritage Committee's Decision 37 COM 7B.40, the World Heritage Centre appointed an independent team of three consultants - two international and one national – to carry out the study in December 2013. The team carried out its assignment in collaboration with the National Museums Kenya (NMK).

2.2.4 Steps/tasks carried out as part of the HIA

The UNESCO Recommendation set out the basis of the HIA Brief in the Decision 5 of 37 COM 7B.40 (2013) which the State Party accepted.

The *ICOMOS Guidance* provides further detail on either Scoping, or the HIA Brief:

A Scoping Report (or HIA brief) should be agreed with all relevant parties, the State Party, regional or local government, heritage advisors or managers, local communities or others as necessary. The scoping report should make it clear what is to be done, why and how, when and what are the expected outputs. It is important to include an

agreed calendar between all stakeholders and the development programme (2011: 5).

For this HIA a Brief was defined in the WHC Decision (See Chapter 1), and then expanded in more detail between the WHC and the State Party for use in the Terms of Reference of the HIA contract.

Subsequently, the HIA Brief was discussed with stakeholders at a meeting in Lamu on 4 January 2014, and also with key government stakeholders in Nairobi on 6 January 2014. The agreed to timeline for the HIA was also put to all stakeholders, and alterations to this timeline were subsequently also communicated to stakeholders. There were no objections to the Brief.

From the HIA Brief and subsequent ToR, it was understood that the basic task of the assessment process was to understand what is the heritage that is at risk, why it is important, to understand how it contributes to OUV, how the proposed change/s or a development proposal/s will impact on the OUV and how these effects can be avoided, reduced, rehabilitated or compensated for?

Referring to the ICOMOS *Guidance*, in this HIA this task is set out in basic subsequent steps, as follows:

- Establish and define the assessment area;
- Establish the scope of the assessment;
- Data collection and collation – establish Baseline;
- Describe and characterize the heritage resource;
- Perform a significance assessment of the heritage resource;
- Define proposed change to the assessment area;
- Perform an Impact Assessment;
- Perform a Draft Mitigation Design and Draft Recommendations;
- Consult with stakeholders - moderate Draft Mitigation and Recommendations;
- Final Reporting to designated authority.

These steps/tasks of this HIA are mentioned in more detail in the section below.

Note: Additional to the HIA, the consultants are required to assist in the drafting of a special Chapter in the existing Management Plan of the Lamu World Heritage property guide the State party and relevant stakeholders in the management of the property in relation to the proposed changes in property. – this component does not form a part of this HIA.

Establish and define assessment area

The delineation of the Assessment Area was stated in Chapter 1, as a response to the understanding off the Heritage resource and using accepted methodology within World Heritage management.

Careful research and analysis of a heritage resource and its wider contexts reveal the extent of the environment that it is related with, in terms of its layered meaning and significance, and this helps to delineate the assessment area.

There is international consensus that a heritage resource is part of a cultural and natural environment that includes cultural discourses and expressions, includes tangible and intangible attributes, with subsequent layers of history and change.

Establish the scope of the assessment

The scope of the HIA has to systematically include all aspects of significant heritage, cultural and natural, tangible and intangible, and considering a historic layeredness of the physical and social setting.

As mentioned before, apart from the cultural and natural tangible and intangible heritage resources that form part of the inscribed World Heritage property and its setting, there may also be additional heritage resources that, either as scheduled or unscheduled heritage, possess attributes having various levels of national, regional or local significance, and while not having been included as inscribed attributes having Outstanding Universal Value (OUV), these do in reality exist within the World Heritage property, its setting and surrounding area, and which attributes help to enrich, sustain and protect the OUV.

This HIA therefore must include all tangible and intangible cultural and natural heritage resources that are deemed to interact with and sustain the OUV of the Lamu World Heritage property.

Data collection and collation – establish a baseline for the study

Within the defined scope of the assessment, there is need to identify the specific heritage resources and values that interact with and sustain the Lamu World Heritage property, as indicated in its Statement of Outstanding Universal Value (SoOUV), as well as that of the setting and surrounding area, and to define the baseline for the study.

The data was obtained through:

- Data made available by the commissioning authority
- Desk-Based Research
- Data Sources
- Published works
- Unpublished works
- Databases
- Archives
- Visit(s) to the assessment sites
- Additional data collection: site surveys, interviews and field work.

In many cases of performing an HIA there is a dearth of baseline data which results in the HIA consultants having to dig very deep to identify and access the required data – in this HIA a large percentage of the data was identified and sourced by the HIA team which added time to the process.

Characterize the heritage resource - Define and evaluate attributes of the heritage resource

Once the heritage resources have been identified it is necessary to define and evaluate the attributes of each heritage resource and to understand its current authenticity and integrity;. Reference can also be made to the implementation, if any, of recommendations of previous UNESCO missions to the property. The attributes are correlated to other attributes that convey the Outstanding Universal Value of the inscribed World Heritage property and its setting.

Key in this section will be the criterion for inscription and the property's Statement of OUV, and the property's authenticity and integrity.

The Report will describe the attributes of the property, its setting and related area of Lamu archipelago, through the use the obtained data that define the surviving heritage attributes of the World Heritage property, inclusive of the intangibles (the historic local way of life, religions, indigenous knowledges, artisanal skills, customs etc) and the tangibles (buildings, structures, urban features, agricultural features, features connected to fishing and trade, as well as the moveables, like culturally significant objects).

It is required that this section also include any nationally or locally designated sites, monuments or structures as well as non-designated sites, set out the historical development of the assessment area, and describe its character, such as the historic landscape, including

patterns, boundaries and extant and lost historic elements of the landscape and cultural heritage. It should describe the condition of the whole as well as of individual components and attributes, and evaluate the physical characteristics, intangible characteristics and associations which may relate to attributes.

Significance Assessment

The identified and characterized heritage resources must be evaluated in terms of their levels and type of significance, relating to the criterion for inscription as World Heritage and its related Statement of OUV, as well as other criteria for significance developed as part of the particular assessment area and scope of the HIA.

The assessment of the type, significance and levels of impacts caused by the proposed change in the assessment area, rely on the levels and type of significance.

Define proposed change to the assessment area

This action involves the identification and understanding of the proposed change introduced in the assessment area due to the proposed LAPSETT development project and related projects, analysis of their relationship with the assessment area.

A definition of the expected sustainable social and economic benefits to be derived from the proposed development is also included in the definition..

In terms of the LAPSETT project, and particularly the Lamu Port project, the content, scope and scale as well as expected benefits can only defined in the terms of a project at its feasibility stage, i.e. final designs will only come about once the Terms of Reference of the components of the project are put out to tender and once the design of the winning bidders, often a variation on the proposed project, is accepted. As far as the Lamu Port project is concerned, the HIA team were instructed that they must respond to the project content, scope and scale precisely as defined in the *LAPSETT Corridor Development Alternative Plans Report (2010)* – while the document's definition of the project is very limited, it does provide the opportunity for timely identification of impacts, mitigation and alternatives re components of the project.

Impact Assessment

This task involves the identification of the potential impacts – direct and indirect - positive and negative – cumulative or residual – physical or not (visual, economical, societal) of the LAPSETT and Port development projects, as well as associated projects - on the tangible and intangible components of the cultural and natural heritage that sustain the OUV of Lamu Old Town, its setting and surrounding area. It should consider all impacts on all attributes: Professional judgement will be used in presenting the information in an appropriate form to assist decision-making.

Potential impact at all stages of the project lifespan (pre-construction to, and including operational stage) must be clearly indicated. It should include an evaluation of the individual impacts, as well as the overall impacts. The assessment may include an assessment of how the changes may impact on the perception of the site, locally, nationally or internationally.

It should also include an evaluation of the overall significance of effect .– overall impact - of the proposals for development or change on individual attributes and the whole WH property.

The assessment may also need to include an assessment of how the changes may impact on the perception of the site locally, nationally and internationally.

a) Direct impacts: The ICOMOS Guidance 2011 defines Direct impacts as “para 5-3: "Direct impacts are those that arise as a primary consequence of the proposed development or change of use. Direct impacts can result in the physical loss of part or all of an attribute,

and/or changes to its setting - - the surroundings in which a place is experienced, its local context, embracing present and past relationships to the adjacent landscape."

b) Indirect impacts: The ICOMOS Guidance (2011: para 5-5) defines Indirect impacts as "Indirect impacts occur as a secondary consequence of construction or operation of the development, and can result in physical loss or changes to the setting of an asset [resource] beyond the development footprint. For example, construction of related infrastructure such as roads or powerlines that are required to support the development."

c) Scale/severity rating: The scale or severity of impacts or changes can be judged taking into account their direct and indirect effects and whether they are temporary or permanent, reversible or irreversible.

d) Significance rating: The significance of the effect of change .– i.e. the overall impact - on an attribute is a function of the importance of the attribute and the scale of change.

e) Evaluation of Individual impacts

The scale of severity of the identified impacts and the significance of the effects of change, ie overall impact, are assessed. These impacts are also assessed for their impact on integrity and authenticity, measured against baseline statements regarding integrity and authenticity at the time of inscription – in the case of this HIA the asset is also evaluated in terms of its original state and subsequent evolutions.. The Benefits and dis-benefits – or adverse effects – of the proposed project, are considered, taking into account the benefits from conserving the resource as well as the financial consequences of the assessment.

f) Evaluation of Overall Impact

The ICOMOS Guidance (2011) explains that the evaluation of the overall significance of the effect (overall impact) is a function of the heritage value and assessment of scale of changes and impact.

g) Benefits/de-benefits: Benefits and dis-benefits will be considered, and also the question of who receives the benefits (or misses out through the benefits).

Draft Mitigation Design, Summary and Recommendations

This action involves the initial Draft level - for purposes of moderation by stakeholders – identification of mitigation measures to avoid or reduce the potential direct and indirect negative impacts on the property and where avoidance is not possible, to mitigate or rehabilitate these impacts and to offset or compensate any residual impacts that cannot be avoided/minimized, and of potential direct and indirect positive impacts and benefits that add and improve the heritage site and add to the asset value.

The Mitigation design will specify those mitigation measures to be implemented before the change proceeds, during the change and after the change is brought about.

The Report will specify Overarching Mitigation for the heritage as a whole, including the Scheduling of the mitigation and Identification of the responsible party.

The Report will specify Attribute-specific Mitigation including the Scheduling of the mitigation and Identification of the responsible party.

The Report will specify Further Investigations and studies required to implement the mitigation recommendations.

Consultation with stakeholders

Consultation with stakeholders is an important part of this HIA. The UNESCO Operational Guidelines as well as the NEMA are followed in this regard.

As the relevant State Party institution, the NMK was responsible for the organization of the stakeholder consultative meetings. It conducted these meetings either solely or in partnership with the UNESCO-commissioned team. .

Consultations were held with various stakeholders, including local communities in the project area, government institutions, as well as those closely involved in directing the LAPSSET, at various stages of the HIA process.

The first of four consultations, organized by the Lamu office of the National Museums of Kenya, were held in various towns around the Lamu archipelago in December 2013. The results of these consultations are presented in **ANNEX XXXXX**. These meetings were an opportunity for the NMK to have exchange with the stakeholder communities about the proposed developments, the HIA Brief, timeline and and process.

In January 2014, the UNESCO-commissioned team undertook a mission to Kenya for the second round of consultations. It held several meetings with various stakeholders in Lamu and Nairobi (the results of these meetings are presented in **ANNEX XXXX**), mainly to present the HIA brief and some early realisations from the desk survey. In Lamu, the team met with the NMK, a cross section of Lamu community representing gender, business, religious, youth and women's interests. It also met with CBOs and NGOs active in the Old Town. The team visited Matandoni village, Pate village, and the site of the port building construction at Kililana, on the mainland. In Nairobi, the team held meetings with officials of the National Museums of Kenya (NMK), the Ministry of Lands and Urban Development, National Environmental Management Agency (NEMA), Department of Culture, LAPSSET authority.

A third follow up consultation with government departments involved in LAPSSET was held in Nairobi on 14 February 2014 (**ANNEX XXXX**) to engage with the various actors in the project on the contextual nature of the World Heritage property and to together consider mitigation measures.

The draft HIA report was subsequently produced and publically disclosed in Kenya ahead of final consultations.

The final consultation meetings are to be held in early May 2014, with stakeholders in Lamu and Nairobi. As explained in 2.2.4.8 above, the consultation is focused on putting forward the draft assessment, mitigation, recommendations and conclusions of the HIA report for the stakeholders to comment, moderate and contribute towards improving the report (After completion this outcome of consultation will also be added to the Annexes). The stakeholders will have a 14 day period to peruse the Draft document and make written comment, as well as verbal comment at the scheduled stakeholder meetings.

Final Report

On completion of the stakeholder meetings focused on the Draft assessment, mitigation, recommendations and conclusions of the HIA, the stakeholder inputs will be studied and added to the final work.

On completion of this the last action is the drafting of a Final HIA Report, providing the detailed summary of Impacts, Mitigation, Benefits and Recommendations, inclusive of a plan for monitoring the recommended Mitigation, and together with a concluding advisory statement on the effects on the Outstanding Universal Value of the WHS, its integrity and authenticity, and the risk to the Inscription of the site as a WH property,

The Final RHIA Report will be delivered to UNESCO who will hand it to the State Party for inclusion in the larger SEIA and EIA process for a Record of Decision which will be disclosed to stakeholders according to the local provisions.

3. LEGISLATIVE, NORMATIVE AND PLANNING CONTEXT

3.1. Legislation and Statutory Requirements

3.1.1 National Heritage and Environment Legislation

The designation and inscription of the Lamu World Heritage property is made possible because the State Party of Kenya is a signatory to the 1972 World Heritage Convention. Like any other State Party to the Convention it is expected to enact laws that domesticate the convention once it becomes a signatory to it.

In addition to that Kenya, as a democratic state, has in place active and effective structures and institutions that ensure laws are enacted that take care of the interest of the country including the health and welfare of the people and the environment.

Kenya has been in the forefront in Africa in developing relevant environmental and heritage laws and setting in place relevant structures and institutions to ensure their implementation.

The relevant Environmental and Heritage Acts in this case include the National Museums and Heritage Act (NMHA) of 2006 through the National Museums of Kenya (NMK), the Environment Management Coordination Act (EMCA) of 1999 through National Environmental Management Authority and others. The relevant laws being in place, the government of Kenya is therefore expected to be bound by and get guidance from the same, and any developments that take place where such laws apply, should similarly abide by them.

3.1.2 Compliance with National Acts and Regulations

The State Party of Kenya is bound not only to its obligation as signatory to the 1972 World Heritage Convention, but also by its own Kenyan environmental legislation which requires compliance concerning the consideration of cultural resources in the environmental assessment process.

According to the Kenyan Environmental Management Coordination Act (EMCA) of 1999, every Kenyan *“is entitled to a clean and healthy environment and has the duty to safeguard and enhance the environment.”* This entitlement includes access by all Kenyans to *“the various public elements or segments of the environment for recreational, educational, health, spiritual and cultural purposes”*. In the event of any perceived contravention against an individual Kenyan, the Act makes provision for legal redress¹.

The Kenyan Environmental Regulations of 2003 require that a proponent shall prepare a report stating the taking into consideration of “the economic and socio-cultural impacts to the local community and the nation in general” (Section 7(1)(i)).

Under this Act the following Acts, Regulations and Guidelines become enforceable:

¹. to “prevent, stop or discontinue any act or omission deleterious to the environment; compel any public officer to take measures to prevent or discontinue any act or omission deleterious to the environment”

(d) require that any on-going activity be subjected to an environment audit in accordance with the provisions of this Act; (e) compel the persons responsible for the environmental degradation to restore the degraded environment as far as practicable to its immediate condition prior to the damage; and (f) provide compensation for any victims of pollution and the cost of beneficial uses lost as a result of an act of pollution and other losses that are connected with or incidental to the foregoing (EMCA 1999 Section 3, subsection 3).

| | |
|---------------------------------|---|
| General Laws/Regulation | Environmental Management and Coordination Act, 1999 |
| Environmental Impact Assessment | <ul style="list-style-type: none"> • Environmental Impact Assessment Guidelines and Administrative Procedures, 2002 • The Environmental (Impact Assessment and Audit) Regulations, 2003 • The Environmental (Impact, Audit and Strategic Assessment) Regulations, 2009 |
| Air quality | <ul style="list-style-type: none"> • Draft Air Pollution Regulations |
| Energy and Petroleum | <ul style="list-style-type: none"> • Energy Act, 2006 |
| Water quality | <ul style="list-style-type: none"> • Environmental Management & Coordination (Water Quality) Regulations, 2006 (Legal Notice No.120) |
| Noise and Vibration | <ul style="list-style-type: none"> • The Environmental Management and Coordination (Noise And Excessive Vibration Pollution) (Control) Regulation, 2009 Legal Notice No.61 |
| Waste Management | <ul style="list-style-type: none"> • Waste Management Regulations, 2006 Legal Notice No.121 |
| Controlled Substances | <ul style="list-style-type: none"> • The Environmental Management and Coordination (Controlled Substance) Regulation, 2009 Legal Notice No.61 |
| Coastal Zone | <ul style="list-style-type: none"> • The Environmental (Preservation of Pollution in Coastal Zone and Other Segments of The Environment) Regulation, 2003 |
| Wetland | <ul style="list-style-type: none"> • (Wetland, River Banks, Lake Shores And Sea Shore Management) Regulations, 2009 Legal Notice No.19 |
| Biodiversity | <ul style="list-style-type: none"> • The Environmental Management and Co-ordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006 Legal Notice No.160 |
| Wildlife | <ul style="list-style-type: none"> • Wildlife Conservation and Management Act 1989 |
| Forest | <ul style="list-style-type: none"> • The Forest Act, 2005 |
| Water | <ul style="list-style-type: none"> • The Water Act, Cap 372 |
| Resettlement | <ul style="list-style-type: none"> • Land Acquisition Act (Cap 295) The Fisheries Act (Cap378) |
| HIV/AIDS | <ul style="list-style-type: none"> • ACT NO. 14 of 2006 - HIV and AIDS Prevention and Control Act Kenya National HIV/AIDS Strategic Plan MOT Policy on HIV/AIDS (Draft) |
| Cultural and Historical sites | <ul style="list-style-type: none"> • National Museum and Heritage Act of 2006 |

The *Environmental Management and Coordination Act (EMCA)* of 1999 requires (in Section 5) adherence to the principles of sustainable development through public participation in the development of policies, plans and processes for environmental management .It further prescribes the application of relevant traditional cultural and social principles by any Kenyan community for the management of the environment or natural resources, consistent with national law. The EMCA recognizes the principles of intergenerational and intra-generational equity, a precautionary approach to development and recommends the “polluter-pays principle” to address development impacts on the environment.

The *2003 Environmental Regulations* requires (in Section 16) that impact assessments take into consideration environmental, social, cultural, economic and legal issues by identifying the anticipated impacts and their scale, proposing mitigation measures to be taken, during and after project implementation. It also prescribes (in Section 23) that the National Environmental Management Authority (NEMA) base its license decision-making by first taking into account the validity of the project “with emphasis on the economic, social and cultural impacts of the project”.

3.1.3 Institutional framework for heritage management

The National Museums of Kenya (NMK)

In terms of the Lamu World Heritage property, the National Museums of Kenya (NMK) is the principal authority enacting the State Party's obligations under the 1972 *World Heritage Convention* under the *National Museums and Heritage Act* (NMHA) of 2006, being the Act that domesticates the Convention within the local legal framework.

The NMK is as good for the cultural environment as NEMA is for the total environment. There is no doubt that the two are crucial in ensuring that the natural and cultural environment of Lamu World heritage property and the Lamu archipelago are not impacted negatively. This however is a daunting task as the two are institutions of the same government that is spearheading the LAPSSET project and considers it a priority. However, it is hoped that the government will be amenable to the recommendations and advice from the institutions that they have invested with ensuring the implementation of the various legal frameworks meant to protect the heritage resource and the peoples' interests and wellbeing.

The legal instrument that governs the conservation and management of Kenya's heritage is also the legal instrument that governs the functions of the NMK. The Act calls for the establishment, control, management and development of national museums and for the identification, protection, conservation and transmission of the cultural and natural heritage of Kenya.

As a World Heritage property Lamu is under the guardianship of the NMK, who works in close collaboration with the Lamu County where the heritage is located and that administratively, should be responsible for the wellbeing of the heritage. The NMK has offices to advise, plan and administer matters related to the World Heritage property. The NMK has to regularly update the management plan for the World Heritage property to include any new considerations for the property. It also has to actively coordinate with other sectoral institutions, the Lamu community and community based organisations to ensure the smooth management of the property.

The NMK is also responsible for the conservation of the 40 other protected sites in Lamu County.

Range of the Heritage

Lamu's heritage does not only consist of major tangible cultural works such as monuments and works of art (doors and plaster works), but also smaller, everyday objects, as well as the property's related natural environment, i.e. those cultural and natural elements which perhaps individually bear no significant message but together contribute to make the whole.

Though it is part of the tradition to select what heritage to be conserved for future, the legal instruments that govern the management of cultural landscapes consider no limits to territorial application of conservation.

The legal instrument of the various arms of the Kenya Government recognizes that conservation:

- Not only looks at single works of art and single monuments but includes groups of buildings to entire historical areas; to organize the historic landscape in a more sustainable manner;
- Acknowledges the fact that historic centers are important, must be seen as historic urban landscapes that exist within the much larger context of an entire city and its region, including its more modern parts (which may have important value of their own for the inhabitants), its peripheries, its cultural landscape, and its neighboring rural settlements, very much in line with the *Istanbul Declaration on Human Settlements* which came out of

the *Habitat 11* Conference and recently the UNESCO *Recommendation on Historic Urban Landscape* (2011).

3.1.4 UNESCO World Heritage Statutory documents

World Heritage is offered to the world, and while it is protected, conserved, developed and used under National Legislations, it has to be simultaneously cognizant of the requirements and obligations under:

- 1972 World Heritage Convention (See below), and
- Operational Guidelines for the Implementation of the World Heritage Convention
- Charters, Recommendations and Guidelines of the World Heritage Centre and its Advisory Bodies (ICOMOS, ICCROM and IUCN). (See below)

The 1972 World Heritage Convention

Kenya is a signatory to the 1972 World Heritage Convention that governs pertinent matters pertaining to both natural and cultural World Heritage.

The most significant feature of the 1972 World Heritage Convention is that it links together in a single document the concepts of nature conservation and the preservation of cultural properties. The Convention recognizes the way in which people interact with nature, and the fundamental need to preserve the balance between the two (<http://whc.unesco.org/en/convention/>).

Under the *Convention* and the *Operational Guidelines*, the State Party is contracting to commit fully to the protection, preservation, heritage-based development and responsible use of the heritage for the benefit of future generations, Inclusivity of participation in conservation and management (para 12). The World Heritage Committee, through the WH Centre, and with assistance from its Advisory Bodies (ICOMOS, ICCROM, IUCN), contracts to commit fully to the provision of Advice and Assistance, and to monitor the contractual commitments of the State Party under the *Convention* and *Operational Guidelines*.

Some of the State Party responsibilities under the *Convention* are:

- Identification, nomination, protection, conservation, presentation, transmission of the heritage;
- Policies to give the heritage a function in the community;
- integration of heritage protection into comprehensive planning programmes;
- services for the protection, conservation and presentation of the heritage;
- Studies /actions to counteract dangers that threaten the heritage;
- legal, scientific, technical, administrative, financial measures to protect heritage;
- centres for training in the protection, conservation and presentation of the heritage and scientific research in these fields;
- not take any deliberate measures that directly or indirectly damage the heritage;
- provision of information to the World Heritage Committee on the implementation of the *World Heritage Convention* and state of conservation of properties;

The relation of these responsibilities to this development project and related HIA are immediately apparent.

The 2003 Convention for the Safeguarding of the Intangible Cultural Heritage

Kenya is a signatory to the 2003 *Convention for the Safeguarding of the Intangible Cultural Heritage*.

The purpose of the *Convention* (2003: Article 1) is to:

- to safeguard the intangible cultural heritage;
- to ensure respect for the intangible cultural heritage of the communities, groups and individuals concerned;

- to raise awareness at the local, national and international levels of the importance of the intangible cultural heritage, and of ensuring mutual appreciation thereof;
- to provide for international cooperation and assistance.

Due to the inscription of the Lamu World heritage property on the basis of intangible heritage (inter alia) the relation of the 2003 Convention to this development project and related HIA are immediately apparent.

Operational Guidelines for the Implementation of the WH Convention

The *Operational Guidelines for the Implementation of the World Heritage Convention* is the rulebook for managing inscribed World Heritage.

It is a co-constructed document, ratified by and containing inputs from all Parties to the Convention, it is continuously updated from global experience in conservation, and it is meant to be a facilitative instrument aiming to facilitate the implementation of the *Convention concerning the Protection of the World Cultural and Natural Heritage* (ie. 'the Convention') by setting forth the procedure for:

- a) the inscription of properties on the World Heritage List and the List of World Heritage in Danger;
- b) the protection and conservation of World Heritage properties;
- c) the granting of International Assistance under the World Heritage Fund;
- d) the mobilization of national and international support in favour of the *Convention*.

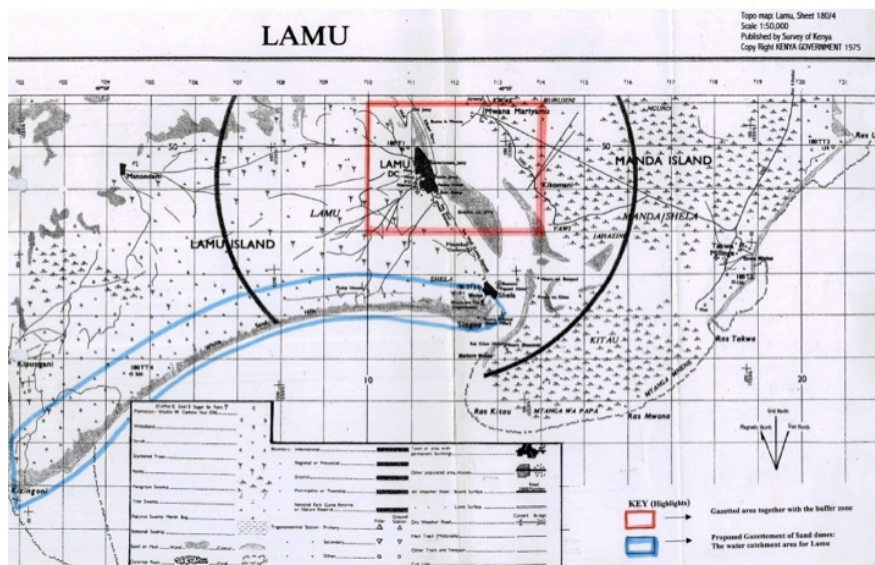
Because the *Operational Guidelines* underlies all management in World Heritage properties, the State Party is bound to the application of its requirements and is thus applied in the approach and thinking inherent to this HIA.

Paragraph 172 of the *Operational Guidelines* is particularly relevant to the current HIA: The World Heritage Committee invites the States Parties to the *Convention* to inform the Committee, through the Secretariat, of their intention to undertake or to authorize in an area protected under the *Convention* major restorations or new constructions which may affect the Outstanding Universal Value of the property. Notice should be given as soon as possible (for instance, before drafting basic documents for specific projects) and before making any decisions that would be difficult to reverse, so that the Committee may assist in seeking appropriate solutions to ensure that the Outstanding Universal Value of the property is fully preserved. Because impacts on the setting of World Heritage properties can constitute direct impacts on the property, and if this procedure would have been followed by the State Party at an early stage the process of mitigation design could have started at the time of the project initiation.

WHC and State party decisions regarding the boundary of the property

It is relevant to highlight various aspects included in State of Conservation (SoC) Reports of the World Heritage Centre and its Advisory Body ICOMOS since the date of Inscription of Lamu as World Heritage, and related decisions and recommendations by the World Heritage Committee.

The World Heritage Nomination Documentation for Lamu (2001) includes a map (see below) indicating the footprint of the town in black, a proposed Buffer Zone in red, and the sensitive Shela Dunes area in blue:



From the initial period after Inscription as World Heritage, the finalization and gazettement of the boundaries of the property has led to a long process of interaction between the WHC and the State Party.

In the SoC of 2004, the results of a Monitoring Mission by the WHC and ICOMOS came to the conclusion that the area of conservation should include the whole archipelago:

Current demarcation of the Lamu core World Heritage Town needs rethinking. It ends abruptly leaving outside significant historic buildings. The mangrove screens of Manda and other islets of the archipelago, though nationally protected, are not part of the World Heritage Site, though without them – at least visually – the Lamu town would be radically changed. Then there are the unique sand dunes also nationally gazetted but outside the World Heritage Buffer zone. Ideally they should have been merged into one. But such vast expanse of nature and culture to be effectively controlled by poorly equipped and staffed Lamu Museum and the County Council may make it practically unrealistic. One possible solution is the gradual assimilation of the whole island and the archipelago into the World Heritage zone. Meanwhile, IUCN should be requested to study the natural values of the sand dunes as suggested in the mission report. (WHC 2004 SoC Report)

Following this, Decision 28 COM 15B.39 recommended the enlargement of the protected area to include the dunes and mangroves, but these were not immediately forthcoming. In the next Session of the WHC in 2005, in Decision 29 COM 7B.35, the same recommendation was made. Decision 30COM7B.41 of the 2006 Session of the WHC recommends that the progress reports be delivered on the Decisions of 2004 and 2005.

In 2007 the *Lamu World Heritage Site Management Plan* was finally published. Regarding the Shela Dunes area it mentioned the gazettement (item 9581a) that was completed; The document (2007: 49) reports that the status of gazettement of the Manda-Kitau skyline was 'awaited'; Regarding the extension of the Buffer Zone, it was reported that they were 'awaiting gazettement' there as well, reasons being that all stakeholders had not yet approved the proposal, that there was a frequent changeover of Ministers and heads of parastatals, and that local leaders who were beneficiaries on the plots to be included, had politicized the extension.

However, in the Objective 4 of the Management Plan (NMK 2007: 49), the objective was defined as: "Extension of the World Heritage site to include the greater Lamu Archipelago

and the adjoining mainland coastline". The reason for Objective 4 was "because their historical development was contemporary with Lamu and their destruction will make the Lamu archipelago and the world in general lose an important chapter in the early formation of globalization".

It is important to note the reason given for planning the buffer zone extension, and to note that the State Party has remained focused on the intention to do so, except that it was only delayed.

In the 2007 Session of the WHC the SoC states that:

Although the buffer zone has been extended to include the Shella water catchments, it does not include the two complementary areas of Ras Kitau and Manda Island, and the Shella water catchment area is marred by illegal sales of over 20 parcels of land to private investors. (WHC 2007 SoC Report)

It also states that a key objective of the Management Plan for the property should be to:

(iii) Draw up a Condition Survey of proposed buffer zone by June 2009; this will include the buildings of Pate and Siyu and the costing of rehabilitation and stabilisation; survey to be carried out by National Museums of Kenya (NMK); grants to be applied for subsequent work.

(iv) Draw up an extension of the World Heritage site to include Pate, Manda Island, Shella and the adjoining coastline by December 2007 (WHC 2007 SoC Report).

This very important recommendation was followed through in Decision 31COM7B.50.

Following this, in the 2008 Session of the WHC it was recommended that:

In regard to the gazettment of the Manda – Ras Kitau area as an extension to the buffer zone, this is considered a very important step in protecting the outstanding universal value of the property. The State Party indicates that there are some difficulties being encountered due to the multiple responsibilities of various state institutions. This overlapping authority requires careful discussions with all interested parties to ensure proper protection. The State Party indicates that a concept paper has been prepared and negotiations are ongoing with the other government authorities regarding the extension of the buffer zone. (WHC 2008 SoC Report)

This very important recommendation was followed through in Decision 32 COM 7B.48 where the WHC "Strongly urges the State Party to continue work on the extension of the buffer zone and the protection of the property".

The State Party SoC Report of 1 Feb 2009 states that:

The Ras-Kitau-Manda skyline area was gazetted in April 2008 as an extension to the buffer zone. Proposals to extend the buffer zone to the whole of the Lamu archipelago have been included in various discussion papers including the development of cultural heritage assets on Pate Island. (In WHC 2009 SoC Report)

The WHC includes the following in Decision **33COM7B.44**:

- 6. Also requests that the proposal to extend the buffer zone to cover the Ras-Kitau-Manda skyline be submitted to the World Heritage Committee for approval;*
- 7. Urges the State Party to continue with its exploration of a wider extension of the buffer zone to cover the Lamu peninsula and the wider water catchment area supported by the Donor Conference;*

In 2010 the SoC Report of the WHC, especially in the light of the foreseen developments of Lamu Port, stated as follows on the issue of expanding the Buffer Zone of the World Heritage property:

At the same time, there has been ongoing discussion as to the necessary boundaries of the buffer zone in order to protect the Outstanding Universal Value of the property.

The original nomination submission indicated a red square around the property as the buffer zone but this did not correspond to any geographical features. From the time of inscription there have been several requests from the World Heritage Committee to extend this buffer zone to offer more effective protection to the property. The request has changed over time with variations including requests for the buffer zone to include the whole of Lamu Town, Shela and the sand dunes; the whole island of Lamu; the mangroves of Manda Island, Ras Kitau and Manda Island; and also all the islands of the Lamu archipelago inclusive of Paté Island. The recommendation of the mission was that the best solution would be to have the buffer zone expanded to include all of the islands of the Lamu archipelago. This larger buffer zone would ensure the integrity of the property. If that does not prove feasible, the mission considered that at least the whole of Lamu and Manda islands should be included. The whole of Lamu Island should be a part of the buffer zone to protect the fragile sand dunes and to better help control unplanned development around the property, and Manda Island should be included to protect the visual integrity of the property, and natural features such as the mangrove ecosystem which are important to Lamu's role as a port. Further complicating the issue, the National Museums of Kenya has indicated that it has enlarged the buffer zone, but has not informed the World Heritage Centre of this larger area.

The World Heritage Centre and Advisory Bodies concur with the results of the mission, and consider that an extension of the buffer zone could help the State Party to better plan for the protection of the property, especially in the light of the potential large developments being discussed.

Flowing from the above, the WHC Decision 34COM7B.46:

encourages the State Party to resolve the issues related to the enlargement of the buffer zone to include the whole of the Lamu Archipelago, and at a minimum the whole of Lamu and Manda Islands, and to submit the agreed upon area for examination by the World Heritage Committee as a minor modification.

In the State Party SoC Report of 1 Feb 2011 it is stated that:

The NMK has initiated consultations with the District Development Committee and other stakeholders on the proposed extensions to the buffer zone, requested by the Committee.

The WHC followed through on this statement in Decision 35COM7B.39 by requesting that "...the State Party provide the requested maps showing the precisely boundaries of the property and its buffer zone.

However, in the WHC SoC Report of 2012 it is reported that, despite repeated requests, the State Party has not provided maps with the exact boundaries of the property and gazetted buffer zones. In Decision 36 COM 7B.43 the WHC reiterates its request to provide the requested maps, showing the precise boundaries of the property and the buffer zones areas, indicating those gazetted at present as well as those planned to be gazetted in the near future, for review.

In the SoC Report of 2013 the WHC, in referring to the repeated assurances by the State Party that the Buffer Zone is in the process of being expanded, notes that:

Despite requests from the World Heritage Committee in Decisions 36 COM 7B.43, 35 COM 7B.39, and 34 COM 7B.46, the State Party has not submitted the requested maps showing the precise boundaries of the property and buffer zone. Clarification on this issue is crucial given the large scale developments foreseen.

The updated Lamu Old Town World heritage Site Management Plan 2013-2017, the Strategic Objective 4 is stated for:

The need to extend the conservation area to include other parts of the Lamu archipelago such as Pate Island, Manda Island, Shela on Lamu Island and the mainland coastline because of their historical relationship with Lamu World Heritage site. ...

The target date for completing the map for this extension was set for the inauguration of the County Government in March 2013.

While a map for the extended boundaries for the property and the buffer zone has been put forward to the County Government (See below), the map has not yet been promulgated. It appears that the solution put forward by the WHC as early as 2004, of providing suitable protection through assimilation/ inclusion of the island and archipelago into one World Heritage zone, a position the State Party has during the years always committed to enact, has unfortunately still not been realized.

Indicators for the HIA Report: The State Party received indications very early after inscription of Lamu Old Town on the World Heritage list that the Buffer Zone needed to ideally include the whole archipelago, due to the interdependency of components and to ensure effective protection of the OUV of the inscribed property, especially in the light of future development of the area. Over the years the State Party has strongly indicated its intentions to the WHC that it is committed to expanding the Buffer Zone, a commitment also made in the Management Plan, but that has so far never transpired in legislation to that effect. The gazettement of the area that can be shown to support and sustain the OUV of the World Heritage property, and for reasons included in the Management Plan itself, remains a critical component in the effective protection of the OUV, and retention of authenticity and integrity of the World Heritage property. With the proposed Lamu Port these reasons have become even more compelling and their resolution critical. It is important to receive and include any work in this regard that has already been done by the State Party, together with the various WHC Decisions, as data for the deliberations around this HIA.

3.2 Other Conventions

In addition to compliance with UNESCO Conventions, the State Party also has obligations under other international Conventions, to which it is signatory and whose areas of concern also overlap with the LAPSSET development.

Biodiversity: Convention on Biological Diversity (1992)

The coastal biodiversity will be affected by LAPSSET and other development components. Kenya ratified the Convention on Biological Diversity in 1992 and is committed to its objective which includes “*the conservation of biological diversity, ... taking into account all rights over those resources and to technologies, and by appropriate funding*”. While the government has the “*sovereign right to exploit (its) own resources pursuant to (its) own environmental policies*”, this comes with “*the responsibility to ensure that activities within (its) jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.*”

Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region, 1985 (Amended Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Western Indian Ocean, 2010)

Kenya is a contracting party to this Convention that provides a mechanism for regional cooperation, coordination and collaborative actions in the Eastern and Southern African region. It enables the Contracting Parties to harness resources and expertise from a wide range of stakeholders and interest groups towards solving interlinked problems of the coastal and marine environment including critical national and trans-boundary issues.

Under this Convention, Kenya has obligations to ensure the adequate protection of its marine and coastal protection by preventing pollution from ships, dumping, land-based resources, seabed activities and airborne pollution. In addition, it is obliged to “take all appropriate measures to protect and preserve rare or fragile ecosystems as well as rare,

depleted, threatened or endangered species of wild fauna and flora and their habitats” (Article 10).

The Convention also requires that, as part of environmental management policy, Kenya develop technical and other guidelines to assist in the planning of major development projects such as to prevent or minimize harmful impacts on coastal areas. To this effect, “each Contracting Party shall assess, within its capabilities, the potential environmental impacts of major projects, which it has reasonable grounds to expect may cause substantial pollution of, or significant and harmful changes”.

The Contracting Parties to the Convention also have the obligation to “establish by law ... requirements for environmental impact assessment on the possible direct, indirect, immediate, long term, cumulative or trans-boundary effect of the programmes, projects and activities being planned or undertaken, as appropriate, that are likely to pollute or degrade the marine or coastal environment of the Protocol area.”

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| Hazardous Waste | Basel Convention on the Control of Trans boundary Movement of Hazardous Wastes and other disposal (1989) |
| Oil Spill | International Convention on Oil Pollution Preparedness, Response and Cooperation (1990) |
| Disposal of waste Material | <ul style="list-style-type: none"> • London convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matter (1972) • International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978 (MARPOL) • Protocol to the Convention on Prevention of Marine Pollution by Dumping Waste and Other Matters |

3.3 Best practice

3.3.1 Best practice for private and public sector developments

A development of this scale will involve a complex network of investors. Many corporate, bilateral and multilateral investment bodies are often guided by best practice which should be complied with in the design and implementation of LAPSSET.

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| <i>International Best Practice and Guidelines for private and public sector developments</i> | |
| Environmental Assessment | <ul style="list-style-type: none"> • World Bank Operational Policy 4.01 (Environmental Assessment) • World Bank Operational Policy 4.11 (Physical Cultural Resources) • World Bank Group Environmental, Health, and Safety Guidelines for Ports, Harbors, and Terminals (2007) • IAIA Principles of Environmental Impact Assessment Best Practice • International Finance Corporation Sustainability Framework (2012) • China Ministry of Environmental Protection, Technical Guidelines for Environmental Impact assessment – General Programme (HJ 2.1-2011), 2011 |
| <i>Bilateral partners and lending institutions</i> | |
| African Development Bank | Integrated Safeguards System: Policy and Operational Safeguards (2013) |
| China Export and Import Bank | Guidelines for Environmental and Social Impact Assessments of the China Export and Import Bank’s (China EXIM Bank) Loan Projects |
| Equator Principles Association | Equator Principles Risk Management Framework for financial institutions (2013) |
| European Investment Bank | Environmental and Social Handbook 2013 |

3.3.2 HIA in World Heritage: Best Practice

Whereas EIA has become entrenched around the world, Heritage Impact Assessment as a speciality has, only emerged, late in the last quarter of the 20th Century. The development of a standardized methodology emerged from early deliberations by the International Association for Impact Assessment, especially in the 1990 Session, and was further elaborated during the 1992 Rio de Janeiro Earth Summit.

The USA and many countries in Europe recognize that consideration of impacts on cultural heritage resources should form an integral part of the EA process. The use of HIA is spreading worldwide, but there are many countries where this is still unknown.

ICOMOS became concerned about the absence of, or neglect of, heritage impact assessment in EIA's performed in World heritage properties. In 2011 ICOMOS published the *Guidance on Impact Assessments for Cultural World Heritage properties*, and UNESCO World Heritage Centre has since made its obligatory for World heritage in countries that do not have HIA included in their environmental management legislation.

Apart from excellent HIA in countries with a longer history of use (by professionals like Patricia O'Donnel, Katri Lizitsin, Richard Engelhardt, Ayesha Pamela Rogers, Ana Pereira-Rodgers to name a few), the use of the ICOMOS *Guidance* has from 2011 also brought about examples of Best Practice of HIA in World Heritage properties. The HIA for the Mambo Msiige in Zanzibar by Karel Bakker and George Abungu is an example.

A Mini Conference on HIA was held at Hong Kong University by eminent HIA practitioners (including Engelhardt and Rogers representing ICCROM), which has led to refinement of the HIA process. These were tested at an International Workshop on HIA in Lijiang China, where Engelhardt, Rogers and Bakker also trained practitioners from the Asia and Pacific region. Many of the realisations and advances at these activities have informed this report.

3.4 Guidelines and Standards

3.4.1 National

As a democratic state guided by the rule of law and governed by a parliamentary system of governance, Kenya as a state subscribes has but in legal frameworks that protects both the rights of individuals as well as communities. Kenya also subscribes to the international Convention such the 2003 Convention for the Safeguard of Intangible Heritage, Charters such as the UN Human Rights Charter, the various UN and other declarations for example of freedom of speech, association etc. It is therefore bound by these instruments.

Of even more importance is the fact that as a free democratic state has enshrined the various freedoms and protection of the interests of its citizens in the recent promulgation of the new Constitution on 27 August 2010. The Constitution is the supreme law of the land and in it is enshrined the right of all, its citizen as equal and deserve equal protection is. These rights include the rights of the minority communities to their resources, heritage and way of life in general.

The intangible heritage of the marginalized communities, are also protected where they are associated with sites, monuments, landscapes that have been declared national heritage by the National Museums and Monuments Act 2006. Further, the intangible heritage of all communities that are deemed national assets are protected and promoted by the Department of Culture of the Ministry of Sports, Arts and Culture

Where these rights are not respected, the said victims have recourse to justice through the courts of law including to the highest court, the Supreme Court of Kenya. A good example of a case is where the Ogiek community took the Kenya government to court (2014) for evicting them from their ancestral lands in the Mau forest in the name of protecting water catchment and won the case.

There are similar cases of potential victimization or of squeezing the marginalized communities out of their ancestral lands either through relocation or through mass introduction of new and outside population near and or within the area of the LAPSSET project. This is in relation to the Boni and Dodori forests. There is therefore a need to ensure this does not happen.

3.4.2 State / Local

While the above protection also applies at the state and local level throughout the country, the Counties would also be expected to come with policies and guidelines on how they treat their minorities with a few to safeguarding their way of life and their heritage.

3.4.3 UNESCO Recommendations and Guidelines

The General Conference of Member States of the UNESCO have ratified various UNESCO Recommendations over time, all geared to guide the management of World Heritage properties. Recommendations are non-binding, 'soft' instruments, but the inclusion of these Recommendations provide for a more effective management of the environment with outcomes in favour of the protection of OUV and use of heritage in development of the world, a nation or society at large.

The list below is particularly relevant to the assessment site and thus used in the deliberations of this HIA.

UNESCO Recommendation concerning the Preservation of Cultural Property Endangered by Public or Private works (1968)

This UNESCO Recommendation (adopted by the General Conference of UNESCO in 1968) is particularly apt to the need for protection and salvage due to the proposed LAPSSET project as well as the Gas and Oil drilling operations in the Lamu Archipelago.

The HIA Report will refer to Clauses of this Recommendation, and as Section III Clause 13 states, to ensure that this is performed by specified means, "the precise measures to be determined by the legislation and organizational system of the State".

While the intention of Recommendation is wholly relevant to this HIA Report, there are some Clauses that deserve special mention:

The Definition of 'Cultural Property' in Section I, Clause 1 (a, b) includes the scheduled and unscheduled/unclassified movables and immovables, as well as the setting of such property.

In including the setting of cultural property, the intangible aspects of a setting are also implied, inclusive of that culture that formed, or still sustains, the property as well as a 'spirit of place'. These aspects are better captured by the UNESCO *Recommendation on Cultural Landscapes* and the ICOMOS *Quebec Declaration* of 2008 (see below).

The emphasis on the relative significance of cultural property in determining the extent of preservation and salvage required as a result of the effects of public and private works, stated in Section II, 5 (a) is an important principle within heritage management that also forms an important component of this HIA.

Clause 8 (h) of Section III on Protection and Salvage Methods, is particularly relevant to the LAPSSET project in referring to the need for preventive and corrective measures to be aimed at protecting or saving cultural property from public or private works likely to damage and destroy it, such as those "required by the growth of industry and the technological progress of industrialized societies such as airfields, mining and quarrying operations and dredging and reclamation of channels and harbours".

Clause 19 is also very pertinent to the touristic attributes of Lamu Archipelago when it states that "National or local authorities, as well as private owners, when budgeting for the preservation of cultural property endangered by public or private works, should take into

account the intrinsic value of cultural property and also the contribution it can make to the economy as a tourist attraction.” In terms of the principle of the ‘polluter pays’, Clause 27 (a) states that “Whenever possible, restoration of the site or structure at the expense of those responsible for the damage to it”.

In 2011, UNESCO’s General Conference adopted the Recommendation on Historic Urban Landscapes as an approach to understanding that the historic urban landscapes are the results of “historic layering of cultural and natural values and attributes, extending beyond the notion of “historic centre” or “ensemble” to include the broader urban context and its geographical setting”.

Other bodies within the United Nations have also produced documents relevant to the HIA, like the UNEP *EIA Training Manual* (2002).

3.4.4 Guidelines from the Advisory Bodies to UNESCO

Furthermore, there are Charters and Guidelines from the Advisory Bodies to UNESCO World Heritage Centre, namely ICOMOS, ICCROM and the IUCN. The method of assessment is consistent with the approach and guidance contained in various relevant ICOMOS Charters and Guidelines, eg the 1987 Washington Charter, the 1999 ICOMOS Australia *Burra Charter* – apart from these the following are particularly relevant to this HIA:

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| International Council on Monuments and Sites (ICOMOS) | <ul style="list-style-type: none"> • International Cultural Tourism Charter - Managing Tourism at Places of Heritage Significance (1999) • ICOMOS Xi’an Declaration on the Conservation of the Setting of Heritage Structures, Sites and Areas (2005) |
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3.5 LOCAL PLANNING AND DEVELOPMENT

Due to the fact that some national powers have been devolved to Local Government level, the last few years have seen a spate of new local planning and development instruments that have a direct bearing on the planning and development environment in which the Lamu World Heritage property, its setting and surrounding areas is imagined, managed and developed.

Because this HIA will also have an influence in the augmenting of the Management Plan as it relates to the LAPSET project and its related projects, it is important to understand how these planning and development instruments should better relate to the requirements posed by the SoOUV of the World Heritage property, and how the property can make a greater contribution to the sustainable development of the County and all its citizens.

3.5.1 Local Government Act Cap 265 – Lamu Local Planning Commission

This Act establishes the Local Planning Commission and provides a legal framework through which the relevant government regulatory agencies can harmoniously invoke the provisions of their specific rules for the purposes of implementing or solving specific issue pertaining to the World Heritage Site. The Commission also advises the County Authority on salient issues pertaining to the protection and preservation of Lamu as a Cultural Heritage site. The main function of the Commission is to review proposals for the alteration, extension and construction of new buildings within the WHS and its buffer zone.

3.5.2 Devolution of powers: The County development planning context

The country is undergoing evolutionary changes after the promulgation of the new Constitution on 27 August 2010.

The Lamu County will eventually have new devolved powers. The County Government Act, 2012, section 104 (1), states that, “a county government shall plan for the county and no

public funds shall be appropriated without a planning framework developed by the county executive committee and approved by the county assembly". It also states that the county planning framework (as in the definition above) shall integrate economic, physical, social, environmental and spatial planning. In addition to an integrated county development plan, each county is expected to have the following plans which are the basis for all budgeting and planning in the County:

- i. A County Sectoral Plan;
- ii. A County Spatial Plan; and
- iii. A City and Urban Areas Plan.

In the interim, under the Transition to Devolved Government Act (2012), the Transition Authority is expected "to provide mechanisms for capacity building requirements" of the new county authorities to prepare the appropriate plans and budgets".

The Lamu District Regional Physical Development Plan was published in 2009 before the LAPSSET project was officially started and before the new Constitution 2010 and the County Government Act 2012 were promulgated.

Indicators for this HIA

- The above implies that the complex integration of, for instance, the protection of the OUV of the Lamu World Heritage property, its setting and the significant heritage attributes of the greater Lamu Archipelago, in relation to the Feasibility Study for, and the subsequent initiation of the LAPSSET project, has, and is at present, happening in an interim phase of devolution of powers and responsibility at County level in which there is not yet an integrated approach to understanding the inscribed values of the Lamu World Heritage property, its setting and surrounding area within the County.
- This means that this HIA should comment on ways in which these values must be understood, protected and developed within an integrated national and county development environment, and included in the suite of statutory Plans within which development is directed and controlled.
- It is important to note for this HIA Report, that Lamu County is only currently in the process of drafting a County Integrated Development Plan, and does not yet possess the Sectoral, Spatial and City and Urban Areas Plans.

3.5.3 The Lamu District Regional Physical Development Plan (LRPDP) 2007-2037

The Department of Physical Planning at the Ministry of Lands has produced the *Lamu District Regional Physical Development Plan* (Hereafter LRPDP) of 2009, which will guide development for the next 30 years and provide the:

development framework that will identify the regions resources, their potential and levels of utilization. The region's existing problems and opportunities will be identified and a framework provided for developing short and long term sectoral and other plans, programmes and projects. (Physical Planning Department (PPD) 2009: 3, 15)

A very important point to note is that the LRPDP (PPD 2009: 4, 18) was drawn up **after** the inscription of Lamu as a World Heritage property, and is seen as

an addition to the measures ... put in place by ... UNESCO, the World Wide Fund, the Council, National Museums of Kenya and others.....to ensure increase in economic returns and sustainability of Lamu as a whole (PPD 2009: 4).

It was a participatory process with extensive stakeholder input and support. It is therefore necessary to continuously match the measures in the LRPDP with those required to ensure the protection development of the values of the World Heritage property and that there is integration between the goals, planning and management of the property and the County.

The LRPDP (PPD 2009: 13-4, 16) proposes the drafting of an Integrated Development Plan that will be a merger of three regional spatial growth scenarios, namely:

- Agriculture and Rural Development,
- Natural Resources and Cultural Conservation
- Urbanization and Industrial Development,

It provides the guiding framework for locating development activities in order to maximize on existing opportunities for balanced and sustainable development of the region. The Objectives, Strategies and Key Actions for each regional growth scenario are contained in the Plan (PPD 2009: 238-259) and will be referred to in this HIA Report.

The main regional opportunities identified (PPD 2009: 16-7) that may be employed to achieve the vision and objectives are the:

1. *Oldest living historic city in the country with over 500 years of history*
2. *Rich Swahili culture amongst other diverse cultures found in the area*
3. *A 130 km coastline with fine beaches, white sand dunes and*
4. *Potential for agricultural production with arable land contributing to 81% of the total district area.*
5. *Large presence of wildlife inhabiting the national game reserves which take up 38% of total land area in the district*
6. *Strategic location of Lamu island in relation to Southern Sudan, Somalia and Ethiopia which are potential regional markets waiting exploitation.*

The LRPDP contains Integrated Development Plan Objectives and Strategies for the main Zones 1-7. These will be referred to in the HIA Report in terms of the, Impacts of the proposed Changes, the Mitigation and Recommendations.

Two very pertinent Key Actions of the Integrated Development Plan Objectives and Strategies for Zone 7: 'Islands' (PPD 2009: 282-4; provided below for easy reference) is that the conservation area be extended to cover other parts of the Archipelago and the mainland that have a 'historic relationship with Lamu World heritage site' and that a Heritage Conservation Management Plan [CMP] must be prepared that includes the management of the Lamu Old Town as well as the 'entire islands'. This HIA Report will bring this component in relation with the historic intention since 2004 to increase the buffer zone boundaries of the World Heritage property to ensure proper protection from, and guidance and control for development.

Extract from the LRPDP

2.7 Zone 7: Islands

2.7.1 Strategies

Strategy- 1: Conserve and Sustaining Natural Resources

Key Actions to support the strategy

- Identify, document and conserve turtle breeding grounds and endangered species
- Adopt and enhance an integrated „ecosystem“ approach to conserving natural resources
- Utilize natural resources in a manner that will not impinge on cultural values, compromise the quality and value of the resource, or degrade the carrying capacity of supporting ecosystems, in accordance with the principle of sustainable use
- Promote meaningful participation of citizens of the islands in integrated natural resources conservation and management
- Domesticated Multilateral Environmental Agreements (MEAs) for better conservation and management planning, implementation and decision making processes

Strategy- 2: Promote and conserve national heritage and indigenous cultural values

Key Actions to support the strategy

- Develop an integrated conservation plan that identifies all the heritage resources and values in the islands so that emerging developments, which are expected to increase, are not intrusive to the historical and archaeological setting
- Demarcate and issue title deeds to monumental sites
- Document and maintain all monuments to ensure their existence and posterity for future generation
- Develop cultural centre in identified areas of the region
- Develop partnership programmes in primary, secondary, tertiary and informal education to incorporate indigenous communities' heritage, language, culture and traditional practices
- Prepare a detailed heritage conservation management plan for the entire historic Lamu archipelago to not only address the management of the World Heritage site of Lamu Town but the entire islands
- Exploit and make full use of the potential of the Lamu archipelagos' rich natural and cultural resources to address the widespread poverty amongst the people of Lamu

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| <ul style="list-style-type: none"> • Extend the conservation area to include other parts of the Lamu archipelago such as Pate Island, Manda Island, Shella on Lamu Island and the mainland coastline due to their historical relationship with Lamu World Heritage site • Sensitize and involve community in the conservation and management of the heritage resources • Develop an integrated marketing strategy for Lamu Archipelago with the view to promoting both the cultural and natural heritage resources for eco-tourism • Develop rehabilitation program of important structures like the Siyu Fort and Faza colonial buildings among others <p>Strategy- 3: Enhance linkages between Islands and Mainland</p> <p>Key Actions to support the strategy</p> <ul style="list-style-type: none"> • Rehabilitate and improve the jetties at Mokowe and Lamu • Construct a bridge between Manda and Mokowe to connect the island with the mainland • Construct Mtangawanda- Faza road • Construct jetties at Mtangawanda, Faza, Nda, Mkokoni and Pate • Provide regular, reliable, safe, affordable sea transport within the islands and mainland • Dredge the channel connecting Faza for accessibility during low tides <p>Strategy- 4: Develop and manage coordinated infrastructure</p> <p>Key Actions to support the strategy</p> <ul style="list-style-type: none"> • Upgrade Manda Airstrip • Provide water, electricity and sanitation facilities in all the Islands – Kiunga ,Mkokoni beach stretch, Tenewi areas • Conduct environmental impact assessment for all new projects especially in Islands • Include and promote Lamu in the main tourism circuits • Build and maintain jetties at Mokowe, Manda, Faza, Mkokoni, Nda, Kipungani • Dredge the areas where the jetties are left by sea water during low tide |
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Table X. Integrated management Plan Zones of Specialization: Zone 7 ‘Islands’ – Strategies and Key Actions (PPD 2009: 282-4).

Of note is that the Strategy 2 does not include for intangible values and components of heritage, point to the potential threats to heritage inherent to the building of a bridge to connect Manda with the mainland and enlarging the Manda airstrip, and the need to demarcate and ensure the full public accessibility to the areas’ beaches.

The Integrated Development Plan ends with a suggested Implementation proposal. In the Medium Term Implementation Matrix (Chapter 15 of the LRPDP (PPD 2009: 336)), as part of the Goal to have ‘sustainable utilisation of resources’, there is the Objective to prepare ‘Rural Implementation Development Plans for all divisions to integrate the new Proposed Port’ between 2009-2012, with ‘orderly development’ as an outcome. Such a plan is urgently needed – in its absence though any mitigation that may be recommended in this HIA may yet be included in development plans for integration with the new Port.

Within the Goal’ of ‘Poverty Reduction’ (PPD 2009: 344) and its the Strategic Objective to ‘Initiate Integrated Lamu Development programmes’, the objective is to ‘To alleviate poverty through employment creation’ and ‘to develop a framework for orderly development’ through construction of the total Lamu Port project and its allied functions. It is extremely important to note that the strategic objective is to provide employment and have a framework for orderly development. This means that all actions within this project have to be tested to these main strategic objectives and outcomes. (Question; here is the origins of the large workforce and their impact on the archipelago including on its culture and demographic composition). Is it something sustainable without socially and culturally seriously impacting on the local?

Another Objective of the Medium Term Implementation Matrix (PPD 2009: 337, 340), is to ‘undertake water Resources development, Conservation and Management around the new port area’ and also to ‘Undertake Studies on Viable location for large dams to serve the Ranching and proposed settlement areas for irrigation’. The new Port project needs a sustainable source of potable water as well as irrigation water because the Lamu Archipelago lacks a sustainable water source for a large population and large scale agriculture – the continued lack of certainty about the source of water supply of the Port project and subsequent impacts raise serious concerns about enormous demands on the scarce water resources of the islands of the Lamu Archipelago. (Water can always be brought in from the Tana River at Kipini as it enters the sea and this is one area that we note has been under discussion before. If this were to be the case, it is recommended that the river should not be tapped on upper limits before the mouth to the sea, but at the entrance to the sea to avoid interfering with its functions of life support before it reaches the sea. This

alternatives also needs to be researched to ensure that there is no negative impacts on the marine life that depends on the fresh water at the entrance to the sea and especially on the mangrove life, that also sustains the marine life).

Another Objective (PPD 2009: 337, 340) is to 'Prepare comprehensive renewal plans for Witu, Lamu Island and the rest of the Islands to conserve and promote Tourism', to 'Link the island plans as part of tourism circuit to complement resort cities in South and North Coast', to 'Identify and prepare Development plans for Eco-Tourism Centres' and, as part of the strategic Objective to undertake Tourism Development and Natural Resource Conservation, to 'construct eco-Tourism centres' and to 'undertake forest resource conservation' to ensure increased forest cover.

Another Objective (PPD 2009: 342) within the Strategic Objective to Enhance community Support and Empowerment Programmes, is the 'Promotion of Fish production, storage and marketing' and reduce poverty levels through 'Sensitising fishermen on effective fishing methods. By 'Providing modern fishing gear', by 'Constructing cooling plants' by 'Securing and improving landing beaches' and by 'Constructing fish processing plant'.

Indicators for the HIA

- There is unfortunately no reference to an existing Eco-Tourism Development Plan that has the Port project included in the environmental scenario and that is cognizant of the current quality of the cultural and natural resources of the Archipelago, no reference to the requirements of protecting the OUV of the World Heritage property, the need to be based on sound projections on tourism demand and market potential, the need for responsible tourism and the need to protect the current ecology of the Archipelago to be able to have an Eco-Tourism economy at all.
- In terms of the promotion of fish production, there is no reference to the interaction between this activity and the new Port project and the impacts the new land use will have on movement and on fish production, which is a livelihood in the archipelago that also supports attributes of local heritage and that of the WH property.

3.5.4 The 2013 Lamu County Development Profile (CPD)

The purpose of the County Development profile (CDP) "is to provide comprehensive baseline information on infrastructural and socio-economic characteristics" of the County and provide the "basis for preparation of the CDIP's that would be used in allocation of scarce resources to priority projects and programmes as determined by the counties" (Ministry of Devolution and Planning [hereafter MDP], 2013: xv).

Indicators for this HIA

- The Report does not mention the future impacts of the LAPSSET or Pate Gas Prospect projects under this heading – it is important to note (MDP 2013: 35) that the environmental quality and sustainability baseline, before these two major projects, is already very degraded, with pollution through uncontrolled waste deposits, threats to groundwater supply and uncontrolled development, and that this must be accounted for in assessing the cumulative impacts of further large developments.
- The major development challenges mentioned in the Report (MDP 2013: 36) are relevant to this HIA in the sense that these already place the World Heritage property, its setting and surrounding area under stress, and that there is no realization that the challenges affect the values of the property.
- In terms of the Lamu World Heritage property being a significant asset of the County, the Report does not identify the value of, and subsequent need to resource the protection, maintenance and management of the tangible attributes of Lamu Old Town and other significant heritage sites of the Archipelago. It also does not identify the value of, and subsequent need for protection and management of the intangible attributes, the unique

Lamu culture, as developmental challenges. This oversight is identified as a great lack of, and risk for the development profile of the County.

- In terms of Environmental Management as a cross-cutting issue, the Report (MDP 2013: 41) does not offer solutions for resource exploitation (clearing of forests for agriculture [which is a historic cultural practice] and cutting of trees for charcoal, building and firewood, destructive fishing practices and minimal control and surveillance, uncontrolled development planning and zoning, inadequate infrastructure, poor solid and waste management and lack of land use plans) which all affect the quality of the Lamu World heritage property.
- The Report did not perform a SWOT analysis of the Tourism Industry.
- The Potential Strategic Policy Thrusts designed to tackle identified issues (MDP 2013: 45-53) in Lamu County seems generic because no strategies are proposed that are identified as specific for the Lamu County – additionally, there is no mention of World Heritage per se, no mention of increase in funding for existing centres, eg Lamu World Heritage property, and no participative structure to decide on what constitutes ‘positive and negative cultures’ and what they are.
- The Development Priority Programmes and Projects (either ongoing, stalled or new) for the County (MDP 2013: 57-91) include interventions in the fields of fisheries, fish ponds, agriculture, water and sanitation, environment and mineral resources, livestock, education, flagship projects, national heritage and culture as well as LAPPSET, provide wide ranging proposals – however none of the proposals are aligned to ensure that the values of the World heritage property and its setting are specifically protected and sustained. Where World heritage is mentioned, the response is inadequate (i.e. stabilise dilapidated monuments, hold cultural events yearly, observe World Heritage day and World Museums Day).
- It is clear that the County Development Profile (CPD) does not fully grasp and take on board what is required to protect, maintain, sustain, present and promote the Lamu World Heritage property and its setting.
- It is also clear that the County Development Profile does not foresee the tremendous impact on bio-physical and cultural environments, and proposes no specific Development Priority Programmes or Projects to preempt possible impacts of the LAPSSET and Pate Gas Prospect projects on the bio-physical environment, and local culture, fisheries, tourism etc.
- For the joint, integrated management of the World Heritage property and its buffer (current and extended) and the Port Area and Gas Prospect the Lamu CPD need to be updated to ensure proper integration between its Policy, MDG's, Programme and Projects of objectives relative to the required level of protection and sustainable development of the values of the World Heritage property, its setting and surrounding area.

3.5.5 The Draft First Lamu County IDP

Note: The document is not yet in the public domain – it is still a Draft copy and the consultants are still collecting views from different stakeholders including residents of Lamu County. The HIA Team cannot have access to the document for inclusion in this phase of consultation with stakeholders.

It is hoped that the team will have access to the CIDP before the finalization of the HIA - it will be beneficial to this Report to have the document in order to make suggestions towards the revision of the Lamu Management Plan as it relates to the LAPSSET and the Gas Prospect projects.

It is further hoped that this HIA will direct the CIPD to ensure that, in the use of the WH property and other significant resources of the archipelago, there will be a realization that the protection and development of the significant cultural resources is a required project, and that the World Heritage property, its setting and related areas of the Lamu Archipelago is a management entity that has a very high status in the CIPD with its own needs, a need for specific attention and resources.

4. DESCRIPTION AND SIGNIFICANCE OF THE HERITAGE RESOURCE

4.1 Introduction

Lamu is one of the oldest, if not the oldest, continuously existing town on the Swahili coast of East Africa. Commonly referred to by its inhabitants as Amu, the Lamu people speak one of the three major Swahili dialects in the region called *Ki-Amu*, (Allen 1970; Gaidan 1976). The town of Lamu is located in one of the islands with the same name (Lamu) within the Lamu archipelago, the other islands being Pate and Manda.

Lamu Island is approximately 311 square kilometres in size and home to four historic settlements: Lamu, Matondoni, Kipungani and Shela. Lamu town is the largest and the oldest of these settlements and its population is currently estimated at 20,000, the majority of whom occupy the stone town or Old Town (Abungu and Abungu: 2009). Although Lamu's origins date back to around the 10th century, the first written record of the town is thought to have been by the Arab traveller Sheikh Abu al Muhasini in 1441 (Allen, 1970: 1993).

Lamu archipelago, with its Swahili old town settlements, is considered the **cradle** of the Swahili people and civilization. Among the surviving village towns that date to the first millennium AD are Pate, Siyu, Shanga, Faza (Rasini) Chundwa, Mnyabogi, Mwajumwale and Kizingitini. Other important settlements that form the cluster of the Northern Swahili coast include Kiunga, Ndau, Ishikani, and the long abandoned ones like She Jafari, Mwandoni, Mwambore.

Today, Lamu is also the name given to one of the 47 counties, or administrative units, in Kenya, within which Lamu Town and the settlements named above fall. Lamu County is subdivided in Lamu West (Amu, Hindi, Mpeketoni and Witu Divisions) and Lamu East (Faza, Kizingitini and Kiunga Divisions). As is expected all the islands contain historic settlements of great significance, particularly in connection to the origins of the Swahili, their civilization and their influence that spread all the way to Central and Southern Africa.

4.2 The origins and character of the Lamu Archipelago cultural landscape

The history of Lamu town is long, complex and exciting and is indelibly intertwined with that of the entire East African coast. Despite its checkered history with periods of growth, prosperity and political independence as well as domination by foreign powers, the town flourished and remained a thriving *entrepot* with rich immediate hinterland where wealthy slaver owners possessed large plantation farms (*shamba*) until the end of the 19th century. A combination of trade and agriculture contributed to Lamu's prosperity and defined its position as a regional powerhouse on the East African coast (Abungu and Abungu 209: 11-13; Allen 19970).

Lamu was both a witness and participant in the European power struggles, that began around the 16th century with the arrival, of the Portuguese along the East African coast. It was also witness to the competition for supremacy between the Portuguese and the Omani Arabs. Lamu, like other parts of the East African coast, became an integral part of Zanzibar under Omani rule until the arrival of the British and Germans colonists at the end of the 19th century.

Lamu's rivalry for local political influence with its neighbor, Pate, is legendary, Pate that had allied itself to the Mazrui clan in an attempt to suppress Lamu lost in the 1813

Shela battle that left Lamu as the regional powerhouse and the hitherto Pate sinking into historical obscurity. Its loss of power and status was mainly due to: the abolition of the slave trade and slavery, which left the rich plantation owners with no workforce to cultivate and maintain the vast mainland plantations upon which Lamu depended. The second factor was its relegation to a minor sub regional port with the development of Mombasa Port as Kenya's primary port. However this same historical fate ensured Lamu's isolation and subsequently leaving it out of the 20th century development mainstream in Kenya. Lamu's cultural assets were thus left intact well into the 21st century.

This isolation and the attendant integrity of the town's cultural assets made it attain World Heritage status in 2001. Lamu Old town was inscribed notably because of its rich heritage and the fact that it is the oldest and, best preserved Swahili settlement in East Africa. Its outstanding unspoiled beaches, medieval ambience, architecturally magnificent Old Town, and gracious population have ensured its reputation as "Kenya's enchanted island". Lamu's spirit of place is defined by the raised voices of handcart operators at the pier, the melodious call for prayers by the muezzin (*muadhin*), the laid back character of people and place, the intoxicating friendliness, the powerful but pleasant smells of fresh foods emanating from the rooftop kitchens of the houses as well as the all powerful aromatic jasmine smell along the narrow streets at nightfall. (Abungu and Abungu (2009).

This spirit of place has thrived as a result of the location of the archipelago in a deep natural harbor and in the interconnectedness of the various islands and their people.. This archipelago including its deep as well as shallow harbors provided an ideal setting for millennia for the creation of a vibrant Swahili community, with its urban and rural settlements, thriving trade and agricultural activities, unique architecture, rich cultural assets. This spirit of place developed and nurtured over millennia is now threatened by a proposed new port and metropolis development in Lamu County. These developments are dependent on exploiting the one feature, the natural feature: its natural deep and sheltered harbor.

The Lamu archipelago is home to the Swahili, a people found all along the East African coast from southern Somalia to northern Mozambique. Their first language is Kiswahili, and they are adherents of the Islamic faith.

For hundreds of years the Swahili interacted with people from the African hinterland as well as mariners and traders from Arabia, Persia, India, Europe and China. In the process they often intermarried thus developing a distinct mixed culture as a result of this. While Kiswahili is basically an African Bantu language it has had the benefit of loan words from many other languages (Abungu and Abungu 2009:15; Allen 1993; Horton 1986).

The Swahili of Lamu have traditionally been fishermen, farmers, traders and skilled craftsmen in leather, wood and metal. Most of the traditional stone houses and mosques that still stand today were built, in the 18th and 19th centuries, with coral stone and mangrove timber from the archipelago. The people of Lamu have retained many of their traditional activities within a changing environment. The master craftsmen such as the boat builders of Matondoni and Kizingitini, masons, jewelers and woodcarvers of Lamu, leather workers of Siyu, all play dignified roles as creators and molders of heritage. Transfer of creative knowledge and skills to young people continues through the age-old practice of apprenticeship. Lamu youth learn traditional crafts, become masters themselves and ensure not only the survival of the heritage but also its appreciation and sustainability. It is this very heritage that the outside conceived and introduced development could be threat to.

Lamu Old Town has striven over the centuries to maintain its treasured traditions through carefully monitored change. The primary means of transportation remain by

foot, donkey or boat. Of the three vehicles found in the island, one is for official use by the District Commissioner, and the other two are a tractor belonging to the Lamu County and an ambulance. These can only travel the short distance on the seafront promenade, the one road enough to accommodate them. The community has objected to efforts to construct a connecting bridge to the mainland as part of its strategy to forestall foreign “contaminating” influences. This very rich tangible heritage of architecture and town planning, the boats and the water, spatial organisation, religious spaces, restaurants and shops, the town square (*Mkunguni*) where they sit and discuss all are deeply embedded in the intangible that give them meanings. The language, the ceremonies (both religious as well as cultural), the songs, the knowledge systems, habits and practices, beliefs and behaviors all come together to nurture and ensure the sustainability of this cultural landscape.

4.3 The Lamu archipelago cultural landscape as cultural attribute

The larger Swahili cultural landscape contains subsets of cultural landscapes, like the Lamu archipelago cultural landscape. This means that a large impact on the Lamu archipelago cultural landscape, like the LAPSSSET project, interacts with the cultural ecology residing in this cultural landscape as well as the larger cultural landscape/s, and which interactions will be observable in terms of change/s.

Bitá (2011: sp) indicates that:

“Historical records by Arab travelers and geographers in [the] mid 900s AD mention thriving maritime communities along the east African coast. These records are correlated with data coming from terrestrial archaeological investigations at many sites on the Swahili Coast.”

These settlements took the form of trading entrepôts, with allied workshop towns and farming activity.

“The surviving towns and ruined sites of the East African coast are heirs to a distinctive urban tradition that is over a thousand years old. This tradition generated a town building activity which has left over eighty sites, half of them on the Kenyan coast. A few of these, like Mombasa, Malindi, Witu, Faza and Lamu continue to exist, but the majority have disappeared, some hardly leaving any traces (Hindi, Famao); others are recognised by substantial remains (Gedi, Ungwana, Pate Old Town). The overriding function of the towns was trade. Some settlements, like Mombasa and Lamu, were harbour entrepôts, others, like Pate, appear to have been workshop towns; Gedi was probably a resort, and Takaungu [author: south of Malindi] and Hindi plantation centres. All of them retain evidence of an evolved urban culture formed by the African environment, and influenced by input from trade contacts and immigration from across the Indian Ocean” (Gaidan, 1976: Preface).

The trade with and from the Kenyan coast was both continental, and global in its reach. Bitá cites research that indicates the long culture of marine trade to and from the Kenyan coast:

.....Communities who settled along the Swahili coast have had a history of long and continuous interaction with not only the hinterland communities but also across the Indian Ocean seaboard. This Ocean has permitted a close network of sailing routes between its surrounding continents based on regular and predictable monsoon winds (Hall 1996). These winds allowed the Kenyan coast, being part of the WIO, to be visited by seafarers from distant lands: Greece as early as 2000 Before Present¹ (BP) (Coupland 1938; Inghams 1962:1-2; Freeman-Grenville 1975:1-4, 14-24, 50-112; Hourani 1963), China and Persia in the 900 – 1400 AD (Boxer 1960; Chittick 1979:273- 277; Sutton 1990). These visitors left material remains such as ceramics and shipwrecks that are reported in the seabed of Kenya. Local fishermen have reported features on the seabed along many parts of this coast and collected and

handed to the National Museums of Kenya pottery, stone anchors, cannons and canon balls (Bitu and Wanyama 2007; Bitu 2008; 2009a). Recent archaeological and non-archaeological expeditions have yielded significant materials that are confirming this historical AFRO-SINO-ARABO connection (Bitu and Wanyama 2007; Bitu 2008; 2009a; 2011a).” (Bitu, 2011: sp).

This evaluation of the significance of the Kenyan Swahili settlement history is valorised in the Comparative analysis in the Justification section of the Nomination Dossier for Lamu Old Town (NMK 2001: sp; Item 2(b)), which also notes the significance of Lamu, as remaining testimony of an indigenous, living settlement, in the history of African pre-industrial urbanisation.

The Nomination Documentation also provides a short history of Lamu, which serves to provide background for the surrounding area with which Lamu is connected.

Historically, Lamu was not an isolated entity but connected to various trade centres and political systems. Its position in the Lamu archipelago also means that it is an important part of an integrated bio-physical system and cultural enclave.

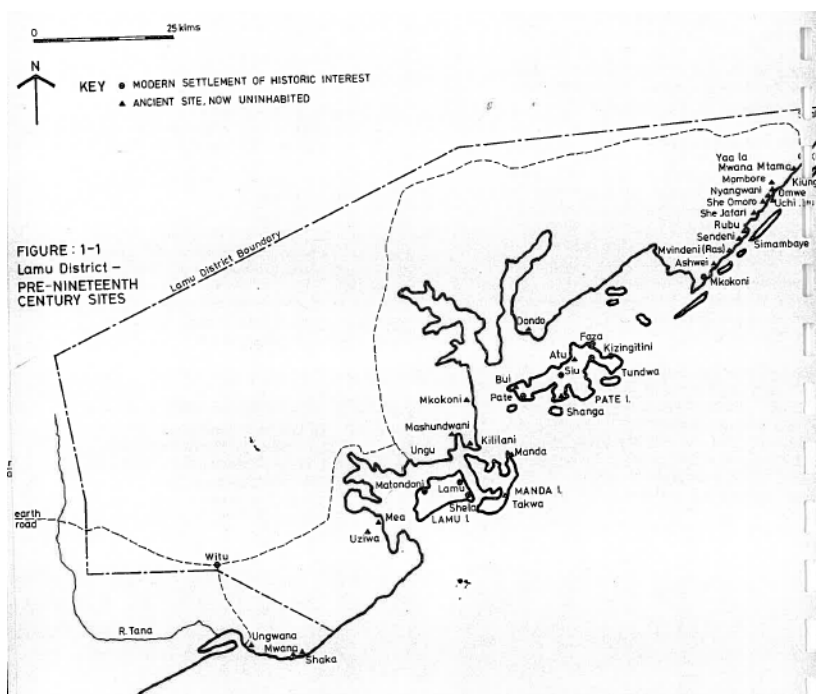


Figure. Lamu District – Pre-Nineteenth Century settlements (Gaidan, 1976: Fig.1-1, p.3).The location of the islands, waterscape, coastline and hinterland of the Lamu archipelago, relative to the mainland and larger Kenyan coastline, is clear. Note: Hindi is not located on this map.

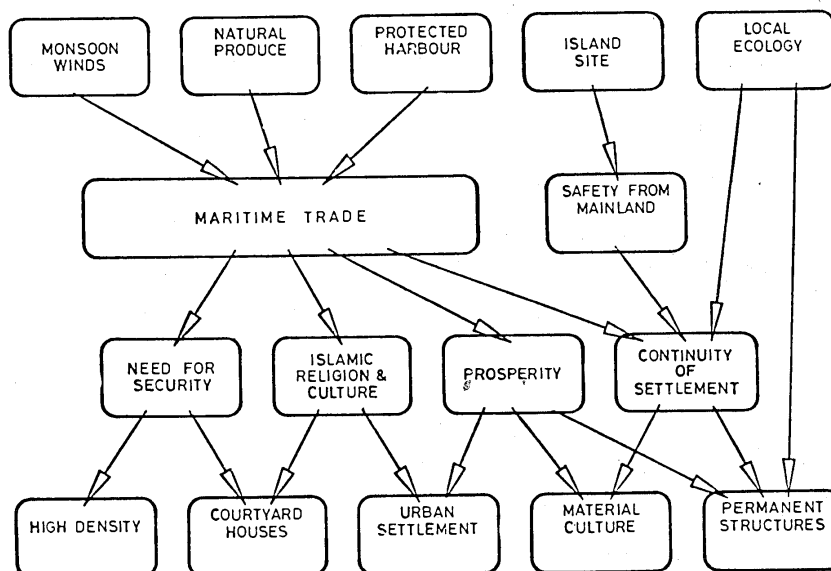
The decline of Lamu population since the ascendancy of Mombasa as a port after 1901 turned around after the 1960's due to immigration from the countryside along the Somali border, due to violent political problems. The town's population doubled, between 1985 and 1995, up to 25,000. This resulted in urban sprawl, with the development of low-income settlements, around the historic town, also putting pressure on the historic resource (Yavus, 1995). The current population of Lamu Old Town is estimated at 20,000. As earlier stated, Lamu's economic base waned with the development of Mombasa as a modern port city. Furthermore, the regional shift of Kenya's economic base from the coast to upcountry after WWII was a big blow to Lamu that up till then had dominated the entire north coast economic activities. The Lamu area has faced much travail since then, but lack of development and its remoteness did result in the conservation of its rich traditions.

In the biophysical sense the Lamu archipelago is part of the larger Lamu-Kiunga archipelago (UNESCO 2012: 99).

In cultural landscape terms, Lamu archipelago as a cultural enclave has various layers that are rooted in its origins, evolution and current composition, and that centre around the West Indian Ocean, the Lamu archipelago waterscape, its hinterland along the mainland coastline (Note: where indigenous mainland pastoralist and agriculturalist societies lived, and where the island societies' cattle and plantations centres (e.g. Hindi) were located (Gaidan 1976: Preface)), and its main, historically inhabited, islands, i.e. Lamu, Manda, Pate, Ndau and Kiwayu islands.

These islands and towns were intangibly related to one another in a political, economic and religious system, while they all used the waters of the archipelago and land around the towns and in the hinterland for transport, agriculture and animal husbandry.

Gaidan (1976: 46, Fig 2-4) demonstrates these interlinked relationships as follows, which helps us understand the causal relationships of the urban development of a town like Lamu – the importance of 'Trade' is clear:



All the main islands of the Lamu Archipelago have ancient towns (Many were actually city-states) that are named after the islands. Evidence shows that Pate island harbours the oldest traces of occupation on the African East coast:

Pate is significant because it was among the earliest sites founded upon the East African coast (Wilson and Omar 1997:31-76; Kusimba 1999:). Previous research has indicated that Pate fully participated in the development of the Swahili culture from these beginnings and grew to be one of the most politically influential and economically prosperous communities on the Swahili coast (Wilson and Omar 1996:453-554; Wilson and Omar 1997:31-76; Abungu 2006)

Despite being the oldest settlement, Pate (Horton 1986) lost supremacy to Lamu, whose high point was in the 18-19th Century.

The towns of the Lamu archipelago are uniquely linked to their sites and historic circumstance, of tangible and intangible culture (Gaidan 1976: 43):

The Swahili town is the joint product of trade and Islam modified by the environment. The first provided wealth, the second incentive for permanent settlement reflected in the requirement of Islamic canon law that the Friday noon prayer be held in a permanently settled location. The monsoonal winds supplied the energy that the ships needed; and the building materials, coral and mangrove, were available on the shores. The preferred siting for towns was on islands which protected them from external attack.

The Nomination Dossier (NMK 2001: sp) provides the Statement of Significance of Lamu:

Lamu Old Town is the oldest [author note: surviving] and best-preserved example of Swahili settlement in East Africa. It has maintained its social and cultural integrity, as well as retaining its authentic building fabric until the present day. While built using traditional Swahili techniques, the unique character of the town is reflected in the architectural forms and spatial articulation. Once the most important trade centre in East Africa, Lamu has exercised important influence in cultural as well as technical aspects. It has retained an important religious function and is a significant centre for education in Islamic and Swahili culture.

The settlement of Lamu town, its setting, urban structure, architecture, people and distinct culture, have thus been inscribed as a World Heritage property, because it is unique and rare: It is the **oldest** - and **best preserved** - **remaining**, and **continuously inhabited** ('living'), example of a distinct Swahili settlement in East Africa, because the phase of international trade and cultural interaction from the seaboard of East Africa with the African hinterland finds its most outstanding expression in Lamu Old Town, as well as due to its significance as a centre for education in Islamic and Swahili culture due to its paramount role in trade and religious life and scholarship.

The question of distinctness is of particular importance to this report. The Nomination Dossier (2001: sp) states that:

The Swahili culture thrived along the coast of East Africa and there are some similarities in the dialects spoken, the architecture, religion and many other aspects of culture in the coastal towns of this region. However, regardless of the common Swahili culture, geographical and historical circumstances have helped in the development of isolated cultural particularities in each of the coastal towns."

Despite some underlying communalities, it is impossible to define and understand the physical and intangible attributes of the Lamu archipelago, or of Lamu town, or any of the settlements in the archipelago, without understanding their distinct peculiarities, through the interrelated nature of relationships between all settlements in the Lamu archipelago. This includes the relationships between historically rooted peoples and a unique habitat, the ocean, the towns, the islands, the coral reefs and sand islands, the archipelago waterscape with its mangroves, creeks and navigable channels, as well as the hinterland and the interior of the continent, which relationships resulted in a unique cultural expression that has evolved uninterruptedly up to this present day.

This understanding can only come about if the cultural ecology of the Lamu archipelago is located within time, and space – with the cultural ecology being located in its cultural landscape, as well as the evolving stages and layers of that cultural landscape over time.

The Lamu archipelago cultural landscape is a series of interconnected ecologies that interact and overlap – the cultural and the natural ecologies – and within each are interconnected sub-ecologies and their systems. Over time these have evolved, and evolved with a consistent sense of 'wholeness'. The indigenous people of the wider Lamu area, on the mainland and in the Lamu archipelago, therefore may be said to

have produced a unique culture in the area in which the natural resources have been used as the means of production of a rich culture in which everything is interdependent.

The World heritage property therefore exists in relationship to its wider setting, which is inclusive of a larger physical terrain, as well as being embedded in an intangible realm of evolved local knowledge and skills, religious dogma, lifestyles, traditions and *praxis*, which have a simultaneous local, regional and global *locus*.

Indicator for this HIA

- The significance of the Lamu archipelago as a cultural landscape is very high.
- The uniqueness and significance of the Lamu World Heritage property and setting are bound to the culture and the bio-physical environment of the Lamu archipelago and mainland that gave rise to it, and cannot be understood or protected without understanding and protecting the larger cultural landscape within which it has meaning and value.
- The Lamu archipelago is a highly significant international, African and Kenyan cultural resource, it is unique, and components thereof have rarity value due to being the 'best' or oldest, only remaining example of a specific cultural attribute.
- This evidence indicates that, apart from the Lamu Archipelago islands themselves, the beds, reefs, creeks and channels of the archipelago waterscape are the containers of potentially rich but still unearthed finds of culturally highly significant archaeological remains and yet delicate and irreplaceable, and that require protection.

4.4 The bio-physical environment as significant component of the Lamu archipelago cultural landscape

Note: The HIA team members are not experts in defining and assessing the content and quality of a natural ecology. The comments below are therefore not meant to be definitive but rather to understand the role of the biophysical environment as part of the Lamu archipelago cultural landscape.

Review of the ESIA for Berths 1-3 indicates that the definition and assessment of the biophysical environment in that document is selective and incomplete.

4.4.1 Geography

Lamu County lies between zero and 50 meters above sea level. The area is generally flat and characterised by low, almost level plain with exception of the coastal sand dunes and the Mundane sand hills. Few of the slopes of these hills exceed 5°. Because of the low level of the land, large part of the district is susceptible to flooding. Some parts of the coastal line become flooded during high tides. Lamu District has several islands such as Lamu, Manda, Pate, Ndau, Simba Mbaya and Kiwayu, Manda Toto among others. Rock outcrops occur in the islands of Manda and Kiwayu. These rock outcrops are important for coral building blocks (GoK, 2009). Generally, the archipelago is sited in a very fragile ecosystem.

4.4.2 Climate

The climate is conditioned by biannual movement of the inter-tropical convergence zone and the two monsoons, namely North Eastern (*kaskazi*) and the South-Eastern (*kusi*). These important winds control movement of goods and services in the ocean especial with small sea vessels and activities such as fishing. They were responsible for the annual sailing between the Arabian peninsular and East Africa that partly contributed to the growth and development of the Swahili towns.

The rainfall pattern in the county follows the strong seasonal pattern of the monsoon Winds. The long rains fall throughout the county from mid April to the end of June with light showers in July. May is the wettest month while the driest month is February. The short rains fall between November and December and January to March are usually dry months.

The Mean annual total rainfall ranges from 508mm in the drier northern hinter land to over 1,016mm in the wetter months. The degree of reliability of the short rains decreases from South to North with the amount of long rains decreases from a strip of about 10km from the coastline to the hinterland at a rate of about 100mm per 15km. The highest annual rainfall above 1000mm occurs at about 20km inland.

Temperatures throughout the County are usually high ranging from 23° to 32° with a mean temperature of 27.9°. The coldest months are May to July while the hottest months are December to April (see figure 2.6). The county mean humidity is 75%. Evaporation values are highest in March and September with an annual average rate of 185.6 mm.

4.4.3 Hydrology and drainage

The Lamu archipelago is located within a natural bay fed by seasonal streams. The archipelago shelters an extensive system of creeks, channels and mangrove forests and the marine ecosystem incorporates a chain of about 50 calcareous offshore islands and coral reefs (WHP32: 99). The hydrology of the archipelago is characterized by a lot of semi-permanent wetlands that dry up during the dry periods of the year.

There are two permanent rivers that drain into the Indian Ocean in Kenya, the Tana and the Sabaki. The river Tana has an annual discharge of $4.7 \times 10^9 \text{ m}^3$ while the Sabaki has a discharge of $1.3 \times 10^9 \text{ m}^3$ per year (Kairo, 2001). During the SE monsoons, the long rains increase the discharges of the Tana and Sabaki Rivers nearly four fold. Although there are no large rivers that drain into the mangroves north of Lamu, it is highly likely that sediments discharged by the River Tana, Sabaki and Dodori are transported northwards and deposited into the mangroves during the SE monsoons.

The continental shelf is narrow, generally 5 to 10 km wide, with depths dropping below 200 m in under 4 km of the shoreline (Samoilys et al, 2011). Further north in the Kiunga Marine Reserve the continental shelf narrows with a series of small bays, beaches, pockets of mangrove forests, islets and an offshore submerged rocky – algal reef which runs into Somalia

The Lamu archipelago system consists of the sandy islands of Lamu and Manda with their extensive dunes and sandy beaches, and the coral islands of Pate, Ndau and Kiwaiyu. The sand dunes on Lamu Island assist in the retention of freshwater tables protecting against saltwater intrusion and are the island's sole source of fresh drinking water. The long sandy beaches of Lamu and Manda islands are important turtle nesting beaches.

4.4.4 Flora

Mangroves are found in the saline swamps extending from Kiongwe in the southwest of the mainland to Kiunga to the north east of the archipelago. Mangrove forests occupy a total area of 46,230 (ha) of which 42.3% can be exploited for commercial use while 33.2% cannot be exploited. The rest 24.5% is non-forested land (GoK, 2009). The protective buffer of help shield coastlines from storms and wave action, minimizing damage to property and losses from hurricanes and storms. Mangroves provide essential stability essential for preventing shoreline erosion. By acting as

buffers that catch materials washed downstream, they help stabilize land elevation by sediment accretion, thereby balancing sediment loss. The mangroves of the Lamu archipelago represent 60% of Kenya's mangrove stock.

Mangrove wood is hard, heavy and resistant to termite attack. It is also highly favoured for charcoal production because of its high calorific value and little smoke. These characteristics make it suitable for use in construction and production industries as well as domestic use.

Mangrove forests serve as spawning grounds for fish, crustaceans (eg prawns and crayfish) and for endangered fauna such as sea turtles. They also protect the shore of estuaries and lagoons against erosion and control floods. They can be regarded as the 'restaurants' and 'runways' of numerous migratory birds with the detritus from mangrove forests to offshore waters forming an important source of food for microscopic organisms (Kairo 2001).

In total, there are five different types of Mangrove in the Northern Swahili coast from Tana River delta to the border with Somalia, the highest concentration one can get in one restricted area like this. Talking about the role and importance of the Indian Ocean and the role and importance of the Mangrove Abungu and Abungu (2009; 23) have stated that "the same warm waters of the Indian Ocean that nurtured the Swahili language are also the perfect stimulus for the dense mangrove forests, that ring the Lamu archipelago, creating a vital ecosystem that has potential to ensure a healthy ocean in the years to come. Comprising more than five species the lush forests are home to a dizzying array of fish and shellfish including crab, shrimp and spicy lobster. This vast assortment, unrivalled in quality, makes its way daily to the markets of Lamu where the evanescent whiffs of sea salt mesh almost seamlessly with the more aromatic fruits and vegetables that line the market stalls". Thus mangrove forests are the source of food for the archipelago including the source of food for the important tourism industry that sustains the heritage property. The health of the mangrove forests is therefore important for the health of the Lamu people and the tourism industry.

4.4.5 Fauna

The coastal waters of Lamu sustain a great variety of ecologically important species, including 350 species of fishes and 40 classes of corals, 5 species of sea turtles, and 35 species of marine mammals, including whales, dolphins, and the endangered dugong.

The waters of the Lamu archipelago, with patchy but diverse coral communities, support fish communities that are generally more abundant and larger than other parts of the Kenyan coast (Malleret-King et al, 2003: 15-6). These waters are also an important nursery ground for prawns and crayfish.

Coral reefs are home to one quarter of the ocean's biodiversity. Like the ocean, reefs have immense economic value for local communities who depend directly for the fish that swim in or around reefs and indirectly on them for eco-tourism. They are also important fishery and nursery areas and provide protection from erosion to coastlines and sand for beaches. The coral reefs and their associated ecosystems of sea grasses, mangroves, and mudflats are sensitive indicators of water quality and the ecological integrity of the ecosystem - sandy beaches, rocky shores, and sea grass beds. Sea grasses form important foraging grounds for endangered species such as dugongs and marine turtles. The coral reefs of the Iweni Community Conservation Area are located just east of Manda Island.

The archipelago is also home to various bird species and the WWF (2011) reports on the presence of unique sea birds like roseate terns, which sometimes make up a

breeding colony of more than 10,000 birds, Osprey and Pelicans. The Lamu Archipelago is one of the most important feeding and nesting grounds for Sea Turtles in Kenya (WWF 2009: 1-2; 2011: 22) and five endangered or critically endangered (IUCN Red List) species of sea turtles feed/nest in these waters.

4.4.6 Value of the bio-physical environment as a Marine Environment

In 2012, UNESCO designated the Lamu-Kiunga Archipelago as a 'Potential marine site of outstanding Universal Value' - as having World Heritage potential – on account of its rich ecological value. This area is part of a broader geological and ecological unit representative of the entire Northern Monsoon Coastal Current eco-region in Kenya (WHP32: 71; 99-101).

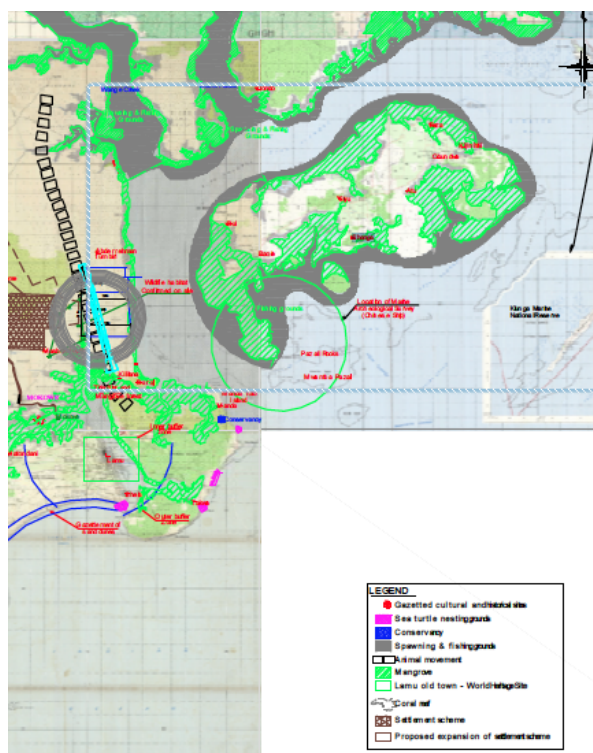


Figure. Portion of natural resources in the Lamu archipelago, showing mangroves, fishing sites, spawning areas, sea turtle nesting areas, coral reefs (JPC 2011: Fig. 15.1-28).

Indicator

- The significance of the Lamu archipelago biophysical environment and its components is very high in terms of its relation to the Lamu archipelago cultural landscape. It has been awarded 'Potential World Heritage status' by the WHC.
- The sampling and assessment of the bio-physical environment contained in the ESIA for Berths 1-3 is selective and incomplete and should be completed to cover the entire archipelago and in terms of the total LAPSSET Port and allied development – this should be a participative process with conservation groups in the area.
- The Iweni Coral Community Reserve Area is under threat of disappearing due to the Approach Channel and effects of the Port development.

4.4.7 The bio-physical environment and human dependency

This HIA will demonstrate the extent and type of interdependency between people of the Lamu archipelago cultural landscape.

The archipelago has provided ecosystem services to its human populations from time immemorial: its natural resources have provided livelihoods, food and water supplies, building materials and shelter, healthcare, sacred spaces, The livelihoods of the archipelago are interlinked and interdependent ensuring the survival of the populations for many centuries.

4.4.8 Significance of the natural environment as part of the Lamu archipelago cultural landscape

The preceding sections, and the sections on the intangible and tangible heritage of the Lamu archipelago, show that the bio-physical environment and its components is an inextricable part of the cultural landscape and has high significance.

4.5 The intangible components of the Lamu Archipelago cultural landscape

Intangible heritage makes up a considerable component of the property's OUV in terms of the criteria for Inscription.

Criterion (ii). Intangible attributes: traditional building know-how related to material supply, processing and construction knowledge. Vistas and views

Criterion (iv). Intangible attributes: oral history associated to the role of Lamu's commercial and trading history, technical know-how associated with the building and sailing dhows

Criterion (vi). Intangible attributes: religious practices, dressing codes, language, culinary knowledge, food selection

The following section will identify the **intangible** components in more detail, and also indicate how the intangible heritage permeates the setting and surrounding areas of the World Heritage property.

4.5.1 The contribution of the Indian Ocean and Lamu waterscape in intangible heritage

Lamu archipelago, with all its component parts, can be described in simple terms as a treasure trove of heritage resources, both tangible and intangible, intertwined. It is also a melting pot of cultures where each combine, to create the whole. The Swahili people, their language and culture is indeed a matrix of many components coming together. Created and molded in the African continent, the Swahili people are distinctively Coastal in origins, speak Kiswahili as their first language and are Muslims. Though there are local and regional dialects, these come together in unity within this East African coastal region and environment. Their contacts with the other parts of the world have contributed to the enrichment of their language, traditions and culture a factor made possible by the Indian Ocean.

The Indian Ocean with its tranquil turquoise expanse of water is among one of the most traversed waterways in the world. It was a bridge, not a barrier, connecting people. For centuries it has served as a major sea route connecting the Middle East, East Asia, Europe and more recently with the Americas with Africa. For over 1,000 years, seafarers traversed the Indian Ocean to land on the Eastern shore of Africa in search of trade goods. In the early years of sea trade, the strong monsoon winds played a large role in the development of commerce. Miscalculation of the monsoons forced some travelers to land or became stranded and temporarily settled on the East African Coast and oral history accounts that many others were drawn to the region to

escape political or religious persecution, natural disasters such as floods, or famine, or even for personal escapes. Once the traders realised the timing and power of the seasonal monsoon winds, they were better placed to plan their trading missions and sometimes waited for more than one season before returning east. The Ocean was a strong force in bringing into contact a myriad of communities through trade, resulting in marriage, immigration and cultural exchange. Thus new centers of power and cultural melting pots for the coast of Africa were created and Lamu was no exception (Abungu and Abungu: 2009: 21).

It is within this context of the sea, the land and the people, joined through trade and others that the origins of the Swahili of the East African coast and of Lamu must be seen and placed.

Apart from holding in trust the heritage of lost ships of trade, Abungu and Abungu (2009: 23) observed that

“the same warm waters of the Indian Ocean that nurtured the Swahili language are also the perfect stimulus for the dense mangrove forests, that ring the Lamu archipelago, creating a vital ecosystem that has potential to ensure a healthy ocean in the years to come. Comprising more than five species the lush forests are home to dizzying array of fish and shellfish including crab, shrimp and spicy lobster. This vast assortment, unrivalled in quality, makes its way daily to the markets of Lamu where the evanescent whiffs of sea salt mesh almost seamlessly with the more aromatic fruits and vegetables that line the market stalls”.

Today however both the waters of this archipelago as well as the mangroves that it nurtures and nurtures it are at risk of major developments that does not only include dredging of berths, cutting of mangrove trees and loss of fishing breeding grounds but also from oil and gas exploration that with attendant facilities threaten to turn this paradise of culture and nature into potential wasteland. The dizzying array of fish and sea fish in the form of crabs, shrimp and spiny lobster could soon be but a thing of the past, an act that would not only undermine the health of environment but also the markets of Lamu and the tourism industry.

Today,

the Mangrove forests around Lamu are crisscrossed by narrow channels, some leading to ancient and ruined settlements – such as Takwa, Manda and Shanga – before ultimately opening up to the unsheltered ocean. The brackish channels have been used for centuries and are still in use today as fishing grounds, a source of mangrove, shortcuts to open sea at high tide, and more importantly for everyday travel among the islands of the archipelago. Island life revolves around the ocean and is dependent on the knowledge of her oscillating tides, which transport not only the people of Lamu, Pate and Manda, but, their fishing and farming as well. The Swahili, through centuries of seafaring experience, have come to have deep respect and understanding of cosmology, and how it affects the sea, to the extent that they can predict tides for months in advance (Ibid: 23).

Many factors come into play here from the probable loss of indigenous knowledge system, loss of traditional routes and fishing ground, potential loss of heritage place to exposure to unfamiliar tide condition that could be a threat to people’s safety with the opening up the new places.

Baseline condition

Currently the ocean connected to the Lamu archipelago and the connected waters of the Lamu archipelago are undisturbed by development and almost exclusively there for the use of the people of the Lamu archipelago – the manner of use and the

feelings about these attributes are an important part of the evolved culture of the archipelago.

Majority of the fish comes from the north-eastern part of the coast around Faza and Kizingitini where small fishing boats feed the larger boats with ice coolers for days - These boats then transport the fish catch to Lamu through the traditional and sheltered route between Pate Island and the mainland through Mkanda channel.

Critical (vulnerable) heritage

The historic and current use of the waters of the archipelago bay and the Ocean (particularly the sheltered and less turbulent part) by local inhabitants are threatened by the industrialisation of the area.

Indicators for this HIA

- The significance of the intangible components of the Ocean and waterscape of the Lamu archipelago is very high, and also an important attribute related to the OUV.
- The cultural ecology of the Lamu archipelago has a unique relationship with the ocean – large scale intrusions of an industrial nature will affect this understanding and use of the ocean.
- The proposed Lamu Port will open up the Lamu archipelago in the manner that the historical trading ports of the archipelago did, but the difference is that in the new dispensation the historic communities will not be the masters of the decision making, development and interaction related to the Port.
- There is therefore a potential of not only marginalising the community but total disruption of a tradition and all sustaining traditional lifestyle developed and nurtured over millennia with attendant loss of their heritage

4.5.2 Identity

The Lamu archipelago has a long history of interaction with the outside world just like the rest of the Swahili coast. Due to this long interactions there have been close intermarriages between peoples of different backgrounds. Notably are the Arabs who for hundreds of year have been frequenting this coast where by some settled and intermarried with the locals. However from the 1st century AD there is clear information on the inhabitants of the coast of East Africa, referred to as the Zinj, in the lands of the Zinj. Even the Arab scholars and travellers referred to them as such. Thus the coast was not empty when the Arabs arrived but was inhabited by black African people whom they traded with. These could be considered as the ancestors of the present Swahili.

While many have found it difficult to describe the Swahili, the Swahili themselves have not had that problem defining who they are. They are not Arabs and they are not foreigners. The Swahili are African, Muslim communities who inhabit and have always inhabited the coast of East Africa. They speak an African (Bantu) language with loan words from Arabic due to long interactions. They also have had long interaction with the Arabs and many have intermarried and are of mixed origins. However that does not make them less African.

Among the Swahili are also various groups/ethnic depending on their area of origin such as Lamu, Pate, Faza or Mombasa (where there are also various groups). The northern coastal Swahili prefer to call themselves as *Bajuni* as opposed to Arabs (*Washiri*) or other coastal groups such as *Pokomo* or *Mijikenda*. They are distinguished by their dialects, which, basically point out their origins within the coastal landscape. Thus the Swahili from Lamu would qualify as *Wa-Amu*, and Faza as *Wa-Rasini* or *Wa-Faza* etc.

In addition to their language, the Swahili are connected to their land and their sea resources. Their settlements dot the East African coast with the highest concentration on the Lamu archipelago where their footprints are today marked by some vestiges of important settlements, of coral rug and mortar, dating to as early as the 8th century AD and before (Allen 1970; 1993; Horton 1986; Abungu 1989, Kusimba 1999).

Baseline condition

The Lamu archipelago is host to a particular regional Swahili identity, to be understood through cultural expressions like language, religion and custom – this sustenance of this identity is connected to the continuity and stability of the Lamu archipelago cultural landscape.

During the stakeholder meetings on 28 Dec 2013, and subsequent stakeholder meeting on 14 Jan 2014, the great pride of the Lamu archipelago communities in their distinct cultural expressions and identity was expressed repeatedly.

Critical (vulnerable) heritage

- Loss of or decrease in identity through rapid acculturation.
- Loss of farms/land of the ancestors and cultural displacement
- Loss of historical context through the destruction of spaces that their identities are tied to such as their old settlements
- Loss of language/dialects/place of origin

Indicators for this HIA

- The significance of the identity of the people of Lamu archipelago and the place is very high, and also an important attribute related to the OUV.
- There is need for a self-chosen tempo of cultural evolution and change, and self-directed regulation of rapid cultural change and shifts in power-knowledge.

4.5.3 Religion (dogma, scholarship/education, festivals, rituals and spiritual practices)

Lamu's isolation due to its location and the historical factors of the shift of power and importance down south to Mombasa did not result in the loss of everything. To the contrary Lamu's heritage including its festivals remained intact and its leaders turned it into a thriving centre for religious and cultural celebrations, preserving its fascinating history and many of the unique customs.

One of the most important religious festivals in Lamu's calendar is the *Maulidi*, the annual commemoration of the birth of the Prophet Mohamed, which attracts hundreds of visitors from all over Eastern, Central and Southern Africa. Riyadhha Mosque, founded by the devout Muslim Scholar and direct descendant of the Prophet, Swaleh ibn Alwy ibn Abdullah Jamal al Lail, commonly known as Sharif Habib Swaleh is central to the Maulid celebrations. It is also one of the earliest and most important centres for Islamic Studies in Eastern Africa, one of the attributes in which Lamu's OUV is based. Habib Swaleh who came from Comoros introduced in Lamu a joyous and festive Maulidi, which strengthened the cultural ties of Lamu's diverse communities. He united the islands communities, breaking any barrier by inviting people from every strata of society irrespective of ethnic origins or creed to dance at the mosque. The inclusive spirit lives on today, over one hundred years after his death.

The dances that vary from town to town and island to island within the archipelago are often slow and methodical. The *Kirumbizi* or stick dance however appear violent has been handed over from generation to generation and is among the earliest types of

traditional dances from the islands. A kin to marshal art, it is loved by the youth who show off their skills and prowess and acts as means of gaining respect from peers with its mastery where one can easily reach a state of trance. There are, however no harm realised that demonstrate the performers remarkable skills. Accompanying the lovely dance is singing, clapping and music to cheer the dancers, with the instruments that include drums, tambourines, and the *mzomari* horn (Abungu and Abungu:2009: 176)

Maulidi is a time of giving, sharing and eating together. Although it traditionally involved donations of food and money, today even doctors give free medical attention. During the *Maulidi*, night after night for a week Lamu becomes a sea of celebrations that range from dances to calligraphy competition and intricate body decorations to boat racing, swimming and donkey races. It is a time of bonding across ages, cultures, traditions, languages, regions and others.

The climax is the Friday procession – long celebrations starts from Riyatha Mosque to the Tomb of Habib Swaleh and back to Riyadhha mosque. Every town and mosques in the archipelago is, represented by its own official group led by flag bearer holding high a colourful banners. These unique symbols of ancient power signify a town's status as a once independent city-state. Every group tries to outshine the other with moving songs and dance (Ibid: 177).

This event can be seen as a way of ensuring the safeguard of the common heritage, recognising the deep-seated relationships, the competitiveness of the various Swahili towns and the call to common identity, common religion and common destiny. It is also an acceptance of diversity, humbleness and respect for all.

Baseline condition

A unique, vibrant local expression of religion and accompanying ritual is currently present and celebrated as part of World Heritage.

Critical (vulnerable) heritage

Living in an area where the expression of a particular belief system and religious scholarship is a significant part of the cultural landscape and part of ritual expression in daily life, is threatened by an imminent, rapid imbalance in population composition in a particular place.

Indicators for this HIA

- The significance of Religion and its expressions in scholarship, rituals, lifestyle and festivals is very high and are important components of the Lamu archipelago, and also important attributes related to the OUV.
- Lamu and the other centres of religious scholarship in religion in the Lamu archipelago are highly significant in terms of religious cultural expression.
- The OUV of the World Heritage property and its setting and surrounding area are directly part of the intangible heritage.
- A large influx of permanent settlers into the area will place the religious expression in a minority situation where it is currently the expression of the majority. Additional to the need for a self-chosen tempo of cultural evolution and change, and self-directed regulation of rapid cultural change and shifts in power-knowledge, there is a need for the ability to regulate space and place according to self-chosen regulations that are regulated by the local religious tradition and dogma.

4.5.4 Social practices and traditions

Weddings

Weddings in Lamu are some of the most colourful occasions and deeply engrained in the regions cultural practices. “intoxicating scents of jasmine, beautiful gold jewellery, hidden coyly under black *bui bui*, hands and feet resplendent in floral henna decoration, exuberant song and dance – all are vital of a Swahili wedding in Lamu. While weddings throughout Africa are colourful affair whether religious or customary, in Kenya, Lamu’s Swahili weddings are among the most elaborate in terms of rituals, clothing, music, jewellery and body painting. A wedding is not just a family affair, but involves groups of families and friends who come together in reciprocal support (ibid: 143).

While Swahili weddings have their foundation in Islamic customs, they have become a very strong Lamu tradition. They are considered contracts between families and are extremely valuable in creating new relationships, friendships and new business alliances. Despite the practice of arranged marriages giving way to more Western – influenced love marriages, the approval of the family and its role in organising the wedding is still extremely important.

Thus, Swahili marriage is seen as far too important and complex a decision to be left to young people, who traditionally marry between the ages of 15 and 18. It is therefore common for the bride’s mother to have the responsibility of selecting a suitable marriage partner (a man of equal higher status), chosen from the young men in her area or clan, referred to as *ukoo* (ibid: 143).

It is clear from the above that marriage is restricted to ones close relatives., especially given that the parents and community have a say. It is a community issue that goes beyond living together between the two to tackling issues of continuity of the community, harmony and relationship renewal. A threat to this set up through new developments is a threat to the very foundation of the community.

Cultural festivals

An important cultural festival in the Lamu archipelago is the Lamu Cultural Festival which has become an international event. It captivates regional visitors and tourists alike. Held in November, it draws a growing following including from Europe and America.

With many of the activities of the festivals taking place in the narrow streets, the waterfront promenade and the town’s square in front of the Lamu Fort, the monumental building, there is no friendlier place than Lamu to visit at the time of these colourful festivals. “These are times when the population of Lamu swells with excitement, yet pious, visitors thronging the maze of narrow streets to watch the parades, the musical groups or to simply chat with friends. The young, the old, women dressed in black *bui bui* with children in tow, and men resplendent in white *Kanzu* and embroidered *kofia* all turn out in their best clothes to join in the festivities. At times the atmosphere of the normally peaceful town can be electrifying” (Abungu and Abungu 2009: 175).

Baseline condition

A unique, vibrant local expression of local customs is currently present and celebrated by local, regional and international visitors alike.

Critical (vulnerable) heritage

Local customs are threatened by loss of cultural landscape and acculturation due to shifting demographics and rapid modernisation.

Indicators for this HIA

- The significance of the social practices and traditions of the Lamu cultural landscape is very high and part of the OUV of the WH property, its setting and surrounding area.
- The local cultural expressions indicate a unique local culture which is been recognised internationally
- The unique festivals require maintenance of the unique cultural landscape

4.5.5 Language

As the cradle of Swahili culture, the Lamu archipelago is the source of the earliest written Swahili. The *Utendi wa Tambuka*, or *Utenzi wa Tambuka* (The Story of Tambuka), also known as *Kyuo kya Herekali* (the Book of Heraclius), is an epic poem in the Swahili language dated 1728 and one of the earliest known documents written in Swahili - the language used is a northern dialect of Swahili called **Kiamu**. The author identifies himself in one of the final stanzas (1146) as Mwengo, son of Athumani or Osman, and was written in the royal Yunga palace in Pate Town (Knappert 1977:15–16).

The people of Lamu are proud of their language, *Kiswahili*, as well as their religion, Islam. Despite common mistaken perceptions, by some, people their language, has roots in Arabic, Swahili is a distinct Bantu language. As with any language that is widely used it eventually absorbed vocabulary from other languages. In the case of Swahili, centuries of overseas and regional exchanges helped to define it as an important language of trade. Swahili today is the *lingua franca* of much of East Africa..." (ibid: 22 – 23).

Though a regional *lingua franca*, Swahili is also very regionally specific with rich local dialects found in the different regions of the East African coast. For the Lamu archipelago, there are more than three dialects that include *Ki-Amu*, *Ki – Pate*, *Ki-Faza* among others. These are locality specific and define identities although are understandable to one another. There is no doubt that major population shift into the area could lead to the demise of these languages and so the disappearance of these local identities. There is need not only for recording them but, for a strategic move to encourage and protect them against disappearing.

Older people in the Lamu archipelago speak only Ki-amu or any of the other dialects, but the languages may face threat in the face of such massive developments accompanied with large new population movements.

Baseline condition

Early forms of Kiswahili are still spoken as local dialects in the archipelago.

Critical (vulnerable) heritage

Lamu exists as the cradle of Swahili culture, is the birthplace of written Swahili and nurtures old regional dialects of the language, but the regional dialects are under threat by modernisation and globalisation.

Indicators for this HIA

- The significance of the vernacular local dialects of Ki-Swahili as the carriers and expression of culture of the Lamu archipelago is very high, and by definition an important attribute of the OUV of the WH property, its setting and surrounding landscape.
- Rapid inflow of non-Lamu people and accompanying acculturation are threats to the conservation of older versions of Kiswahili that carry culture and tradition

4.5.6 Livelihoods

Livelihood from timber harvesting

In 1975, the then Lamu district had 28000 Ha of mangroves, and, has provided job opportunities through the lively export trade in up to 33816 units of mangrove timber (*boriti*) for the construction industry, and about 1100 cubic meters of firewood (Gaidan, 1976). The livelihoods from the timber harvesting dwindled significantly from the 1980s when the government of Kenya banned the trade in timber in an endeavor to protect the mangrove forests that were threatened from over-exploitation. Currently, livelihoods from the timber industry in Lamu archipelago - timber for construction, boat building and firewood - are dependent on the regulation regime imposed since the ban.

Currently, forestry and agro-forestry industry in Lamu archipelago consists mainly of exploitation of mangroves in Amu, Witu, Mpeketoni and Kiunga (Gok, 2009 – LDRDP). Wood is harvested principally for fuel charcoal, building and furniture materials for Lamu's towns and high population density areas.

The mangroves are also an area of high primary production, serving as nursery grounds for a significant number of marine species, as well as providing the wood used for the Swahili architecture in the Old Town and the surrounding archipelago.

Traditional methods of conservation of the mangrove supply include selective cutting of trees (harvesting only straight trees), shifting harvest areas to allow for regrowth and only using traditional hand tools – these have currently mostly been abandoned. There is currently considerable pressure on the mangrove as the profitable wood fuel, charcoal and timber trade has spurred encroachment onto traditionally reserved forests. In addition, the cutting of poles in fishing in nurseries tend to undermine the sustainability of fish stocks.

Local communities have currently organized themselves into mangrove conservation groups, under the provisions of the Societies' Act. However, registration under this Act, and not as Community Forest Associations under the Forest Act, excludes them from land ownership or recognition by the Kenya Forest Service (Maina et al (2011: 4).

Indicators for this HIA

- The significance of livelihoods based on procuring and shaping mangroves into traditional architecture and boats is high in terms of their role in the significance of the heritage of the Lamu archipelago cultural landscape.
- The loss of mangroves in the archipelago has a negative impact on the natural ecology as well as the availability of poles for the maintenance of historic architecture and construction of new vernacular architecture.
- There is a need for stringent protection of the areas mangrove reserves. While destructive uses must be curtailed, supply for livelihoods related to significant cultural attributes of the area like boatbuilding and traditional architecture should be included in the management of the resource.
- Traditional conservation and harvesting methods need to be included in the management of the resource.

Livelihood from fishing

Traditionally, the Bajun and the Swahili people make a livelihood from fishing (*uvuvi*), and diving for food (Note that some Sanye, Aweer, Orma peoples, through

displacement, are also now more involved in fishing to supplement their traditional livelihoods).

Lamu County ranks high in Kenya for fish production, exploiting only 60% of the available 3,100km² of inshore fishing area (GoK, 2009). Out of the over 3100sq km of the inshore fishing area, only 60% of the existing potential is exploited, producing an average of 13,000 metric tonnes annually representing the bulk of the 15,000 Mt produced in the County (GoK, sine anno: 13).

Lack of refrigeration facilities limits production. The local fish catch is either consumed locally by the population, tourism sector or sold middlemen for onward transport to Mombasa and Malindi and there is wastage due to lack of cold storage facilities.

The fishing grounds for the artisanal fishermen of the archipelago are within approximately 9.3km offshore while industrial fishing operations are carried out beyond this perimeter (MoT ESIA, 2013). Foreign fishing vessels exploit the offshore fisheries resources of highly migratory tuna species. Some of the fish landed in Kenya and transshipped overseas while others are landed directly in the Distant Nations (Department of Fisheries, 2013)¹.

The fishing and marine zone is composed of Amu, Faza, Kizingitini and parts of Kiunga Divisions. Fishing is largely undertaken in traditional wind propelled sailing boats (GoK, 2009, 2013). There are 19 landing beaches in the archipelago (MoT ESIA, 2013). Economic benefits from fishing are not to the advantage of the local fishermen who often have to deal with middlemen to get their fish to the bigger markets in Mombasa and Malindi.

Traditional conservation techniques that are still practiced include using traditional fishing traps and or nets (*nyavu*) that are large-holed (*harife*) to ensure growth of small fish, as well as use of long lines in traditional dhows and line fishing to preserve the coral.

Threats to livelihood from fishing include use of destructive and illegal fishing gears such as beach seines, drift nets, coral mining that cause reduction in available fishing stocks, as well as poaching by outsiders and lack of movement in the archipelago due to security restrictions.

| Year | Number of registered fishing vessels | Estimated Catch in kgs | Source |
|------|--------------------------------------|------------------------|--------------------------|
| 1974 | 486 | 2,441,000 | Gaidan (1976: 47-48) |
| 1981 | 466 (including Tana area) | 1,491,000 | Iversen et al, 1984 |
| 1982 | 466 (including Tana area) | 1,596,000 | Iversen et al, 1984 |
| 2010 | N/A | 1,989,000 | |
| 2012 | 1026 (Lamu County only) | N/A | MoT ESIA, 2013 (134-138) |

Table: Summary of Fishing catch trends in Lamu archipelago

The coastal and marine resources in the archipelago are increasingly under threat from over-harvesting of resources (corals, pelagic fish, marine turtles, invertebrates) and the use of destructive and unsustainable methods for resource exploitation such as beach seining, drift nets and coral mining. To address this, a local community based organization (CBO), Lamu Marine Conservation Trust (LamCOT), established a 57.7ha community-managed marine protected area – Kiweni Community Conservation Area – encompassing ecologically fragile coral reefs, seagrass beds, breeding and spawning sites (Murage, 2012). Kiweni is located at the opening of the Manda Channel. Kiweni supports an eco-tourism business for the local communities.

¹ <http://www.fisheries.go.ke/about/fisheries-sector/kenya-fisheries-resources> (accessed February 13, 2014)

The revenue from the eco-tourism receipts is distributed to the four participating Beach Management Units (BMU), based on identified needs.

Community stakeholder meetings in 2013 showed Dodori and Ndununi covers around 65% of the fishing areas for the fishermen of Matondoni and in the Monsoon time shall be inaccessible if the Port Area and Buyi Channel cannot be entered.

Indicators for the HIA

- Fishing is an important part of local culture, that supports local lifestyle, intangible aspects of culture (beliefs, rituals) as well as local cuisine, which is part of the OUV of the WH property.
- Fishing is one the most prevalent forms of livelihood in the archipelago.
- A threat to the current level of fishing livelihood has catastrophic consequences for the Lamu community.

Livelihood from agriculture

Siravo et al (1986: 19, 21) reported that agriculture, in the form of large plantations using slave labour, had been the most important economic activity of the Swahili settlements up till 1873 Treaty prohibiting the export of slaves from the mainland and the closing of the slave markets, and that the agricultural sector dwindled rapidly after that, up to the 1890 Treaty adding the coastal strip to the BEAC concessions, and until the final abolition of slavery in this region in 1907. Added to this, with the shift of power to Nairobi, the railway transport and with good wages being paid for labour in the new port of Mombasa, the plantation owners could not compete for labour due to the lack of capital that resulted from the end of the slave trade and loss of control over the remaining import-export trade and transport of goods.

Agriculture in 20th C Lamu was therefore a very small scale activity, mainly subsistence. Farming happens on the mainland, but also around the villages of the archipelago, and from evidence heard by the authors in interviews with community representatives of the area, villagers from Lamu and other towns also have engaged effectively in the use of the lands on the littoral of the mainland, exactly where the LAPSET project will be constructed. Even though the traditional farmers cannot show title deeds for these lands, this form of land-use has been passed on through generations, and has left traces in the form of large fruit bearing trees, agricultural lands, graves, small mosques and settlements, and can be corroborated through oral history.

Fresh drinking water is a scarce commodity in the archipelago. The sand dune aquifers on Lamu Island are the main source of fresh water in the archipelago, but it is limited and the island has a limit for development and population growth (NMK, 2008). On Pate island there is also use of groundwater- the subsistence agriculture in the area is highly dependent on the availability of fresh water, that are mostly taken from wells and communally built water catchments.

Fresh water is supplied and managed by Lamu Water and Sewerage Company (LAWASCO) Due to topography and geology of the island, rain water does not collect in any developed drainage pattern. Some of the rainwater sinks into the coral formations while the rest collects into small pools and is lost through evaporation. Much of Lamu Island is sandy. The large sand dunes on the seaward side of the island are the location of 20 wells from which water is pumped to supply Lamu town and Manda. The capacity of these aquifers is unknown but is believed to be much greater than the withdrawal rate of approximately 120,000 litres per day.

From interviews with stakeholders, it is evident that the people of the area have learnt how to live on their landscape sustainably, and have formulated conservation rules that

have come from the ancestors and cultural traditions, and ensure that the natural resource is used wisely and available in the future. There is great trepidation regarding the disturbing of the intricate balance of the environment and the abuse and depletion of this resource.

Indicator

- Farming is an important part of local culture and the history of Lamu, that supports local lifestyle, intangible aspects of culture (beliefs, rituals) as well as local cuisine, which is part of the OUV of the WH property.
- Farming is one the most prevalent forms of livelihood in the archipelago.
- A threat to the current level of farming livelihood has negative consequences for the Lamu community.

Livelihood from building construction

The archipelago is renowned for its architectural prowess, and the Lamu World heritage property is inscribed including for its architecture and urbanism.

There is a lively construction industry in Lamu. Traditional buildings are made of coral rag, stone, sand, lime mortar, mangrove poles and other hardwoods, and palm fronds. This industry supports master craftsmen (masons, carpenters) and unskilled labour. This industry depends largely on the natural coral and mangrove poles in the archipelago for structural building elements. The surge in construction of new buildings in the archipelago, and on the mainland, has boosted the need for supplies of building sand and coral stone. The increase in demand for local building materials is currently putting pressure on this resource and the pits are zones of potential environmental degradation.

Indicator

- Traditional building construction livelihoods are directly connected to the OUV of the WH property.
- Construction of traditional architecture is an important source of livelihood in the archipelago.
- The loss of livelihoods from Traditional building construction will diminish the integrity of the WH property and its setting.

Livelihood from tourism

The inscription of Lamu as a World Heritage property has saved the town from total collapse due to the tourism boom that followed (Management Plan, 2007: 17). Lamu has become one of the jewels in Kenya's coastal tourism and is highly appreciated by independent tourists, away from the mass-packaged tourism of Mombasa's large coastal resorts (World Bank 2010: 14-15). It offers the allure of a relaxed beach experience with the potential for day trips to nearby marine and terrestrial parks and cultural sites.

At national level, tourism is the second highest foreign exchange earner, second only to agricultural (tea and horticulture). In 2012, tourism accounted for 14% of the country's GDP, representing nearly \$2 bn in foreign exchange earnings and \$600 m in capital investment. The sector employed 12% of the country's total labor force or 778,500 direct and indirect jobs in the same period.

Tourism is the highest foreign exchange earner in Lamu County, and plays a crucial role in sustaining Lamu households within Lamu. Tourism activities in Lamu are centred around cultural and natural heritage resources: Lamu Old Town World Heritage site and the living Swahili culture in many of the archipelago's settlements,

various archaeological sites on Manda, Pate, Faza, Kiunga Islands. In addition, the warm sandy beaches provide the backdrop for various sea sports – sailing, yachting, snorkelling scuba diving, sunbathing.

In 2004 Lamu recorded 9,570 foreign tourists this rose to 11,280 in 2005, inclusive of foreign students who visited the town for academic reasons (NMK 2007: 17).

The tourism peak period is from November to March and August to May. July marks a low season and poor performance in tourism and most hotels close during the low season. Economic benefits are generated by the multiplier effect of tourism through indirect services including those of retailers, vendors, farmers, fishermen etc. Local people earn income from the tourism industry by operating small businesses that serve the tourists, acting as guides, boat pilots for eco-tourism. Eco-tourism, focused on the archipelago’s natural environment, has grown with game fishing gaining prominence with the presence of the flagship species such as billfishes (Marlins, swordfish and swordfish), tuna and barracuda².

There are also home stays that are arranged with private home owners. As at 2010, there were at least 90 dhow operators (Moloo 2010) arranging boat and marine trips to the islands of the archipelago.

| | |
|-----------|------|
| 2005/2006 | 7165 |
| 2006/2007 | 6815 |
| 2007/2008 | 6152 |
| 2008/2009 | 6211 |
| 2009/2010 | 6719 |
| 2010/2011 | 7335 |

Table: Summary of visitor statistics to NMK-managed cultural places in Lamu archipelago 2005-2011 (Source: NMK)

However, perceptions of a tourist product are very important for that product to retain its pulling power and sustained a local economy. The perceptions of the quality of a place is in terms of the sustainability of a tourism destination: perceptions of safety, quality of conservation, quality of the hospitality industry, food quality, landscape type and the landscape and environmental quality. This perception has affected tourism in Kenya, and indeed Lamu, in the aftermath of several seemingly unrelated events. Following the September 11 2001 Trade Centre bombings, there was a serious decline of the previously climbing tourism figures, resulting in subsequent loss in financial resources for locals to maintain the heritage attributes. There was subsequent recovery but the post-election violence of 2008 affected the consistent growth in the sector. This period also coincided with the global financial crisis and resulted in charter flight cancellations, and a continuing drop in arrivals as (World Bank, 2010). Security concerns in 2011 have also affected income from foreign tourists.

Indicators

- After the decline of Lamu following the move of the main harbour to Mombasa, tourism based on cultural and natural heritage has become the most important source of revenue of the archipelago,

² <http://www.themajlisresorts.com/activities-fishing.html>

- Any change in character and quality of the Archipelago's cultural and natural tourist product, with its World Heritage label, to an industrial centre and the largest harbor in Africa, will affect the continued protection and development of the attributes that underpin the OUV as well as all other values of the area that underpin the tourism industry, is therefore of critical importance.

4.5.7 Local knowledge

Culinary arts

The Swahili Culinary is exceptional and for Lamu, this is attested by the smells that one experiences when walking on the narrow streets that are the trademarks of the property. The smell of *biryani*, *pilau*, *samaki ya kupaka*, *mchucha wa nazi*, *samaki wa nazi*, *kitumbua*, *wali wa nazi* among other does not make it easy for any body to concentrate on work from 10 am in the morning. These are tried and tested culinary, well known to the international community and a trademark of Swahili life. Lamu is known for its variety of dishes and due to the tourism demands these have continue to evolve including the shell fish that were never party of the diet and the dietetics of Lamu. Today the best crab, prawn, oyster and lobster come from Lamu made in the small but family oriented establishments both at the seafront and at the back on the narrow alleys. It shows the dynamism of the intangible culture to not only cope and adapt to the needs of society but also incorporate the best in Lamu cooking³.

Art and Crafts

The Swahili peoples of East Africa and Lamu in particular are known for the accomplishment of craftsmen and women, who have passed down their skill through generations. The seasonal monsoons that brought traders from the Arab world, India, China and Europe, also spawned the exchange of ideas, materials and techniques. This together with essential influences from the mainland combined to generate creativity in the unique Swahili heritage that is seen today as observed by Abungu and Abungu (2009:87).

The two further go on to state that “the range of arts and craft in the Lamu archipelago is astonishing. It includes the intricate plasterwork decoration of interior wall spaces, carved and inlaid chairs, and elaborately carved doors, beds and chests. The area is also known for finely embroidered traditional hats called *kofia*, wooden mats, as well as stunning metal works, including gold and silver jewellery, often with delicate filigree. Calligraphy remains an important art form and in ancient time was used to embellish the burial tombs of esteemed people in society. Many of these tombs and their inscriptions can be seen in Lamu and at the ancient settlements of Shanga, Manda, Siyu, and Takwa” (Ibid: 87). For more see the same book on Chapter 3 on ‘Arts of Lamu’ (ibid 87- 140). Gaidan (1976: 51, 58-60) provides good detail of the types and quality of crafts.

Scientific and technological knowledge

There are master craftsmen such as the boat builders of Matondoni and Kizingitini, the masons, jewelers and woodcarvers of Lamu, the leather workers of Siyu, who all play their roles with dignity engrained in their status as creators and molders of heritage. Through the age-old practice of apprenticeship, Lamu's youth learn traditional crafts, become masters themselves and ensure not only the survival of the heritage but also its appreciation and sustainability (Abungu and Abungu 2009: 16).

³ For Swahili culinary, see the Friends of Fort Jesus Publication on the same adopted after Amina Said's work on the Culinary of the WaSwahili.

Agricultural practice and husbandry

The Swahili of the northern Swahili coast have always practised mixed economy that includes fishing, farming, animal husbandry, trade (both local and international) and skilled craftsmanship in leather, wood and metal. As opposed to the common belief that Swahili's were much more of traders, they to the contrary balance farming and trading in equal terms. This is shown by their attachment to their lands, carrying out large transhumance farming on the mainland opposite the archipelago and domestic (kitchen farming) on the islands.

It is a well-documented and widely known fact that all the Swahili on the Island had farms on the mainland that they tended every year, spending nearly a half a year on the mainland during the farming season. On the other hand there were Swahili who permanently lived on their farms on the mainland and had no property on the islands. These peoples' farming lives were not interrupted until the 1960s with the emergence the *Shifita* (Somalia) bandits who forced them to move to the islands including Lamu. Today, the majority of these mainland farmers are responsible for the informal settlements in Lamu town where they have been waiting for years for security to be restored on the mainland so they can go back to their lands. These are the first casualties of the new developments.

The Swahili agricultural practices are embedded with rituals and rites that must be performed at every stage from the cutting of the forests, to ploughing, planting to harvesting. These are engrained in old age traditions that tie people to their ancestral lands and to land as the provider of resources for survival and prosperity. It is however the same land that they have lived in for over, a millennia whose ownership still eludes them in terms of title deed holdings, a historical injustice that should have been corrected ages ago. Today therefore, some of the Swahili of the Lamu archipelago are just about to find themselves landless in their own lands devoid of the only thing they know, the tilling of the same

Traditional, artisanal fishing skill and knowledge

The Swahili are known, for their fishing tradition a trade they have perfected over many centuries. With the rich mangrove forest that serves as nurseries for breeding, the Swahili have been masters in the exploitation of the dizzying array of fish and shellfish including crab, shrimp and spicy lobster. This vast assortment, unrivalled in quality, makes its way daily to the markets of Lamu where the evanescent whiffs of sea salt mesh almost seamlessly with the more aromatic fruits and vegetables that line the market stalls. Today these very fishing grounds and fishing nurseries could be under threat and the Swahili of the archipelago who depend on fishing as an occupation could be threatened unless relevant mitigation measures are put in place.

The traditional knowledge includes the making of fishing lines, traps and nets. In stakeholder meetings in Dec 2013 a great fear was expressed that loss of fishing livelihoods will also add to the loss of use of small boats and dhows, and subsequently loss of seafaring culture and allied traditional modes of transport.

Traditional boatbuilding knowledge and skill

The Swahili are skilled boat makers whose deep knowledge of the trade has been sought after for years and by variety of people from different parts of Africa and Asia. In the Lamu archipelago, two village towns stand out as the boat building towns: these are Matondoni and Kizingitini.

Matondoni village on Lamu Island has a population of four thousand people being the second biggest settlement after Lamu town and can be reached from Lamu within ten minutes by speedboat or two hours walking.

Most important is that Matondoni is famously known for dhow making and repair. Most of the biggest dhows (*Jahazi*) found along the coast of East Africa, are either built in Matondoni or by Matondoni dhow builders. The most famous Jahazi ever constructed was the "Hodi Hodi" built in Matondoni by Said Mohammed. Completed in 1967, the Hodi Hodi left Matondoni to sail to Montreal for world fairs. But it was held up in the Suez Canal when the June 1967 War broke out and therefore never saw the Atlantic Ocean. Later the Hodi Hodi sailed to the Persian Gulf where the owner sold it.

The traditional knowledge includes the knowledge of rope and sail making.

Building arts and know-how

Traditional coral rag and lime mortar buildings cannot be repaired by cement technology, and additions in concrete block or structural elements cause damage. It remains difficult to constantly sensitise the community to maintain buildings with traditional methods and materials. If cement products become very available the threats of repair and additions with cement plaster or concrete blocks remains a threat to the authenticity and integrity of the heritage resource. Since 1986 there have been concerted efforts by the NMK, through assistance from UNESCO and other international bodies, to promote the use of traditional material and methods in construction, and to stem the tide of modernisation.

Yavus (1995: 10) reports that in 1995 the NMK Lamu Town Planning and Conservation Office trained 40 young apprentices from the local community in carpentry, masonry, plaster and wood carving, in order to perform the restoration of 10 houses – these trainees have since become employed in the private sector in the area to continue private restoration work, with the carvers particularly in demand in private projects along the Kenya coast.

Metalwork

Metalwork craftsmanship for the making of particular metalwork in the use of traditional architecture of Lamu is still prevalent in the region.

Seafaring knowledge

The peoples of the Lamu archipelago have traditional knowledge of navigation on the seas, which have been passed down from generation to generation. This knowledge includes understanding the winds, the currents, the stars and an intimate knowledge of marine life habits. This knowledge has guided the formation of a prosperous maritime civilization on the east coast of Africa and in Lamu in particular, and is currently still part of the attributes of this area..

Local knowledge Baseline

There is a rich and unique local knowledge system in Lamu archipelago that supports the OUV and other local heritage.

Critical (Vulnerable) heritage

Transference of that local knowledge base to next generations in a rapidly changing environment.

Indicators for this HIA

- Knowledge salvage and documentation of local knowledge is critical.
- Support systems and financial support is required.
- Support for the development of cultural resilience and self-regulation mechanisms is required.

4.5.8 Intangible values inherent to Swahili architecture, urbanism and settlement

The assessment has shown that the Lamu archipelago is to be seen as the founding area for Swahili urbanism that spread to the rest of the eastern seaboard and that the archaeological remains of these cities and their architecture are highly significant in their own right, as well as providing the evolutionary path followed to get to the expression of urbanism and architecture in Lamu old Town, which remains as the oldest, living and best preserved remains of that tradition.

The intangible values include the knowledge of sustainable town planning according to the traditional Swahili approach and methods, and the intangible knowledge in repairing, maintaining traditional architecture and places in the cultural landscape, as well as designing and erecting new buildings that follow age old traditional patterns and technology, as well as the socio-cultural attributes of the archipelago.

Baseline

There is still a majority support for maintain traditional urban form, architecture and place making in the archipelago and a knowledge base to support that..

Critical (Vulnerable) heritage

Knowledge of traditional urbanism and architecture, construction, materials and place making in Lamu town and all towns in the archipelago.

Indicators for this HIA

- The intangible heritage related to urbanism and architecture is of high significance and directly related to the OUV of the WH property.
- Incursion of new urban and architectural ideas, methods and materials, as well as acculturation, is a threat to the maintenance and renewal of the traditional urbanism and architecture that are attributes of the OUV and local heritage.

4.5.9 Ecological wholeness, scenic and visual qualities of the landscape, Spirit of Place

The perception of the Lamu cultural landscape by Lamu inhabitants and visitors will only be fully revealed through specific research – such research is necessary to ascertain those landscape character values that need to be protected from impact by large developmental interventions, and still needs to be undertaken.

However, it is possible to provide a general definition of the landscape character of the Lamu cultural landscape, which exists at this present time before a large-scale intrusion through development.

The Lamu archipelago cultural landscape is dominated by a waterscape attached to but protected from the ocean by coral reefs, the various water areas being connected by channels, and the waterscape host to small islands surrounded by mangroves having river inlets, the islands being host to small, finely grained but dens urban-type settlements, themselves host to a particular lifestyle and ritualized life resulting from historical roots and local conditions, and the settlements attached to agricultural land on the landward side, and connected to the waterscape that is both movement space as well as the space for artisanal fishing and trade as livelihood.

Within this existing landscape there are many components that have specific value to citizens and visitors alike, due to the specific arrangement of elements of the landscape and the settlement therein, as well as the qualities of the components of the landscape – all in their current state before any intrusion by large scale development

The following values are highlighted:

Ecological wholeness value

The current understanding of natural environments as ecosystems that are interdependent and that find levels of homeostasis, intersect with the imbalances wrought on the natural environment through over-exploitation of resources and non-sustainable practices in development, agriculture, etc., and has led to an international awareness of protecting biodiversity, and healing imbalanced ecosystems to ensure sustainable futures and to enhance quality of life.

The Lamu archipelago is a place where the concept of humans in balance with a rich natural environment has historically existed, and can be sustained into the future.

While there are imbalances in the Lamu archipelago natural ecosystem, brought about by overfishing and overexploitation of the mangrove forests, these can be managed to arrive at a sustainable balance, experiments with community conservation groups has shown that this is achievable, and that alternative income sources should also be added to this solution.

While the Lamu Port project will provide alternative sources of income, it will come at the price of a massive disturbance of the current ecological homeostasis, which the archipelago will not recover.

Aesthetic-, Wilderness- and Scenic value

The protected Lamu World heritage property and its setting and surrounding archipelago landscape, has aesthetic value, it has Wilderness value, and it has Scenic value:

However the protected system may also have an aesthetic value linked to the visual nature of the protected ecological or cultural landscapes. It is not only the scenic attributes that make landscape aesthetically pleasing, but also the visual expression of functioning ecological and cultural systems expressed through the distribution of patterns and processes. The aesthetics of a region are of utmost importance in the tourism form of land use. It forms the cornerstone of the wilderness concept, landscapes that appear to be unaffected by the presence of humans. (Breedlove 2002: 105-6).

Local Lamu'ans have written poetry, songs and literature about the aesthetic value of the Lamu cultural landscape, the specific syntax of the cultural and natural elements that make it unique and allows it to be imbued with associative Place values (See Sheikh Nabany's poems in Abungu and Abungu 2009).

The specific cultural system of Lamu inhabitants, which plays itself out daily on the waterways and small dense towns, always in interaction with each other, and the specific natural system in and around the islands, and the interplay between cultural and natural systems, provide the '*esprit de systheme*' or special underlying set of values that characterise Lamu.

Some areas of the Lamu archipelago have a wilderness quality because the landscape has not been touched by organised agriculture, because of the incredible marine biodiversity present in the waterscape, as well as specifically the largeness of the waterscape and waterways and the smallness of the human presence in it, give that quality.

The Scenic value derives from certain 'scenes' or 'vistas' that have formed part of the experience and memory of the Lamu archipelago, and smaller components of the archipelago, over centuries. Approaching the towns from the water and experiencing their silhouettes, viewing outwards to the archipelago waterscape from the town or harbourside, the experience of the sparsely populated coastline with its mangroves,

travelling through a mangrove rivulet or channel with a dhow, the silence of the landscape, the way the sea, land and sky meet, the cleanness of the air, etc

There are important views in the archipelago: The view-cone from Lamu Old Town towards Manda that prevailed at Inscription is protected through Gazettment. Other views include the views towards the waterscape from the villages, and the views towards the islands from boats, as well as the views towards the ocean.

These are values and memory-scapes that Lamu people cherish.

These are also the unique values that foreign visitors have discovered over many centuries, and clamour to come and experience firsthand.

Imagine this landscape character, suddenly ruptured by large industries that belch smoke, pollute the water, kill or damage the fauna and flora and bring a system that is negative towards these values? It is this image that would kill the spirit of the place.

Spirit of place

The ICOMOS *Quebec Declaration on the Protection of the Spirit of Place* states that:

.....spirit of place is a continuously reconstructed process, which responds to the needs for change and continuity of communities, it can vary in time and from one culture to another according to their practices of memory, and a place can have several spirits and be shared by different groups. (2004: Item 3).

The protection and transmittal of the Spirit of Place requires is a vital component of conservation of the cultural and natural heritage values of a Place – the Quebec Declaration states:

Recognizing that the spirit of place is made up of tangible (sites, buildings, landscapes, routes, objects) as well as intangible elements (memories, narratives, written documents, festivals, commemorations, rituals, traditional knowledge, values, textures, colors, odors, etc.), which all significantly contribute to making place and to giving it spirit, we declare that intangible cultural heritage gives a richer and more complete meaning to heritage as a whole and it must be taken into account in all legislation concerning cultural heritage, and in all conservation and restoration projects for monuments, sites, landscapes, routes and collections of objects. (2004: Item 2).

Because the local population of Lamu have been mostly responsible for constructing the Spirit of Place of the Lamu archipelago, and because the future project dictates that they will become a minority group in the area, it is necessary to ensure that the minority that will sustain the Spirit of Place will benefit foremost from the policies managing the future of the archipelago:

As the sharing of places invested with different spirits by several groups increases the Risk of competition and conflict, we recognize that these sites require specific management plans and strategies, adapted to the pluralistic context of modern multicultural societies. Because the threats to the spirit of place are especially high amongst minority groups, be they natives or newcomers, we recommend that these groups benefit first and foremost from specific policies and practices.(2004: Item 5)

Given that local communities are generally in the best position to comprehend the spirit of place, especially in the case of traditional cultural groups, they are also best equipped to safeguard it and should be intimately associated in all endeavors to preserve and transmit the spirit of place.

Values Baseline

The Lamu World heritage property, its setting and surrounding area has an existing spirit of place that currently has special value to a large community as well as an international community, and that has high significance.

Critical (Vulnerable) heritage

The Spirit of Place is a fragile component of a cultural landscape and needs protection based on knowledge and insight.

Indicators for this HIA

- The nature, scale and type of industrial development envisaged in Lamu will irreparably destroy the current spirit of place.
- The landscape character of the archipelago is under threat from large scale industrialisation.
- The wilderness quality of the waterscape is under threat by large scale industrialisation.
- The scenic value of the archipelago is under threat from large scale industrialisation and urbanisation.
- The gazetted viewscape from Lamu towards Manda Island will be lost, as will views from Buyi towards the waterscape and mainland, from Pate town towards the waterscape, views down the Mkanda Channel, views from Manda Island towards the north and east, and all views towards the ocean from Lamu and Manda and Pate islands.
- The Gas Prospect will cause similar losses of views from Faza.
- Careful study needs to be done to identify the most fragile components of the
- 'spirit of place' to ensure the possibility of transference in future constructs of meaning of place.

4.6 The Tangible Components of Lamu Archipelago Cultural Landscape

In terms of the OUV of the Lamu World Heritage property, it is clear that the **tangible** heritage makes up a significant component of the attributes of the property based on the criteria for Inscription:

For criterion ii: - The architecture and urban structure of Lamu graphically demonstrate the cultural influences that have come together there over several hundred years from Europe, Arabia, and India, utilizing traditional Swahili techniques to produce a distinct culture.

Criterion iv: Tangible Attributes - site of historic ports, associated buildings etc, dhows,

Criterion (vi). Tangible attributes: Food preparation and presentation, cultural manifestations and festivals, items of dressing, religious buildings...

The following section will identify the tangible components in more detail, and also indicate how the tangible heritage permeates the setting and surrounding areas of the World Heritage property.

4.6.1 The archaeology and living settlements of the Lamu archipelago in relationship to the OUV of the property

The Archaeology of the Northern Swahili Coast

The Swahili coast is roughly that area between the Southern Somalia coast and Northern Mozambique. This is an area dotted with stone built settlements of domestic houses, mosques, tombs, wells and well planned narrow streets running north south and east west. These settlements were built by the Swahili speaking people of East Africa, a Bantu African speaking peoples who for centuries have traded with the outside world and particularly with the Arab who started visiting this coast as early as the 1st Century or before. In the course of the visits and trade, some settled, intermarried with the locals and became part of the Swahili society. There is no doubt that there has been a long period of intermingling of the various groups on this coast.

Origins

The Coast of East Africa has archaeological evidence dating to the stone Age. The site of Mtongwe excavated by the Japanese scholars in the late 1970 early 1980 produced hand axes dating to the Oldowan and Acheulian tradition of the Palaeolithic period. There are also sites associated with both middle and late Stone Age around the matuga in Kwale areas in the hinterland of Mombasa. Simila material is found along the Tana hinterland and well as the Nyika plateau all the way to the Tsavo National park.

The more recent and more direct archaeological evidence are those of the Early Iron Age, particularly the Kwale tradition known after the type site of Kwale ware, This tradition spread into Tanzania and all the way to the coastal regions. It is probably the precursor of the Swahili peoples of the coast.

Early writings

The earliest written records of about the coast date to the 1st century AD, called the *Periplus of the Erythrean Sea* that was a Greek navigational chart describing the locations, lands and peoples. This, is, followed by a 3rd Century AD Ptolemy's *Geography*. This also describes the land of Eastern Africa with dark people who ride on cows and trade with the Arabs.

There is a pause in literature although trade and other activities may have gone on in the area especially involving forest products such as ambergris from the horn of Africa, animal skins (leopard), rhino horns and elephant tusks, and possibly slaves from eastern Africa.

The next group of writers consisted of Arab travellers, historians and adventures, begging from around the 9th century all the way to the 13th and 14th Centuries. Among these were al Idrisi, Ibn Khaldun and later the prolific Arab writer and traveller Ibn Battuta. They wrote about the western coast of the Indian Ocean (Eastern Africa), its peoples, resources and the thriving trade that went on between the East African coast and the Arabian peninsular. They described the people as black and gentle who occupied the land of the Zinj, war white robes and were welcoming and traded with their Arab colleagues who visited this coast.

The most conclusive work that is also dated was the visit of Ibn Battuta, the great Arab explorer and writer. He visited the coast in the 14th Century and mentions places by name including Mombasa (manbasa), Kilwea and Zanzibar among others. He describes the towns as well organized and deeply involved in trade with the Arabs. He is very specific about the people and states that the Arab merchants did not trade directly with the local population but through their African hosts who lodged them. In Mogadishu he even describes how there was a ruler who presided over judgments of

his people by appearing only to provide judgment and then retreat back into the inner part of the palace. He describes in detail the trading goods including the imports and exports. These are valuable sources for testing the archaeological hypotheses.

Archaeological Sites

Due to scarcity of written material going back over one thousand years ago, and the limited accuracy of oral history after some years, archaeology has proved the most valuable means of reconstructing the history of the Swahili coast going beyond five to six hundreds years. As traders, farmers, fishermen, artisans, the Swahili communities of the coast of East Africa settled into permanent and well structure village towns that subsequently grew into city-states. Their urban settlements date back to the 7th and 8th centuries AD or earlier. The Swahili coast therefore saw some of the earliest development of urban and complex societies in the continent and serve as a window and laboratory into the research into the development of complex societies.

Most of the settlements were located on the mainland coast very close to the sea, or the adjacent islands, a choice that was possibly dictated due to their way of life as middlemen in the Indian Ocean trade, their fishing activities as well as possible security concerns. Ranging from small settlements of a couple of dozen houses, a mosque and a well to large city states they are known for their construction of coral rug and mortar. While today some have been abandoned and serve as a reminder of the past with rich archaeological and historical context, others have continued to the present.

Some of the major city-states in East Africa that were known to have influence beyond their boundaries is Pate, Shanga, Lamu and Manda on the Lamu archipelago, Ungwana, Mwana and Shaka on the Tana Delta, Malindi and Gede on the northern Malindi coast, Mombasa in Mombasa area, Kilwa, Mafia and Zanzibar on the Tanzanian coast and Chibuene on the northern Mozambique coast. All these, sites have, been investigated archaeologically and represent some of the jewel of the Swahili civilization. They traded large and wide with countries in Eastern, Central and Southern Africa.

The majority of the Swahili settlements/towns/villages that represent the development of the Swahili nation are scattered across the coastal region ranging from towns of small to moderate sizes. The oldest of these Swahili settlements according to archaeological records are found on the Northern Swahili coast notably from Northern Sabaki River to Southern Somalia. The Lamu archipelago has produced the oldest settlements ranging from the late 7th early 8th century AD in Shanga, 8th Century AD Pate, 10th century AD Manda and Lamu and numerous 11th and 12th centuries AD sites on the mainland/ hinterland of the Lamu archipelago.

The Lamu archipelago has produced one of the oldest mosques in sub Sahara Africa, in Shanga build in the 8th Century just a few years after the founding of Islam. On the mainland of the archipelago are some of the most architecturally pleasing and significant stone structures in East Africa. The site f Ishakani, dated from around the 13th century has the most appealing, aesthetically striking tombs in the whole of East Africa. The same area in Kiunga division, an area are that is under serious threat from the proposed development has a collection of archaeological settlements whose density are found nowhere else in the whole of East Africa. These include She Jafari, Mwambore, Ishikani, Kiunga, Mwandoni among many others in very restricted area. In addition, it has the the abandoned settlements of all those Swahili communities who moved a way to Lamu on the face of the Shifta manace, of the 1960s but whose dream has been to go back to the land of their ancestors once security is assured.

The question that people ask is why such rich array of Swahili Settlement on Lamu archipelago. The answer is however simple. Apart from the superb conditions

including fertile hinterland for farming and cattle rearing, forests for the exploitation of forest products, rich marine life for fisheries, deep and shallow sheltered waters for harbours and boat repair and careening, and islands located not too far away from the mainland that could serve as security measure, this northern part of the Swahili coast attracted traders who came and went back in the same season. Unlike the southern part including the Tanzanian coast where it was not easy to trade and go back in the same winds, the northern coast because of its proximity to the Arabian peninsula, allowed that. That meant there were more opportunities and more trade and more wealth creation in this part of the Swahili coast.

This coast traded with Arabia and Arabs who were the middlemen with China and other parts of Asia. However, there were also Indians who ventured to the East African coast, traded and even ended up staying. There were numerous trade goods both from the East as well as from Africa. In the archaeological record there are particular trade goods that are symbolic of a period and therefore diagnostic and have been used for relative dating. In short however while the majority of finds were of local material especially pottery, there are huge amounts of imported ceramics, both for domestic use as well as for prestige purposes.

The pottery include Sassanian Islamic that dates to around the 9th and 10th centuries, the Sgraffiato from around the 11th centuries, the various Islamic Monochromes and Polychromes, the Chinese Blue and White that are quite prevalent from around the 13th century, There are also celadon reckoned to have been used by the royalty defend themselves against anybody wanting to harm them. It is claimed that celadon cracks when a poison is put on it and so the royalty used it as the serving plate to avoid being extinguished prematurely.

Other goods of trade that have been found on the various site that have assisted in the reconstruction the Swahili history are the various beads of trade from bones, shell, glass to carnelian. The Indian red and carnelian was particularly prevalent at a particular period. All these are signs of the wide contacts the Swahili society created with the outside world outside Africa, a true globalisation.

Indicator

- Any threat to these remains of the past are not only a threat to a historical episode that defined the formation of this country and its people, a physical representation of a people's (Swahili), identity and history, an un-renewable research resource but also the uprooting of the very being of the Swahili on a land that is home. Kenya of course will be poorer with the destruction of any of these historical and archaeological records of the past.

Historic documentation of places of occupation in the archipelago

The tangible content of the archipelago's settlements are characterized by manifestations of the various layers of the history that they have each experienced.

"Being the oldest living town in Kenya and the only Swahili settlement to have retained its original urban structure, Lamu became the subject of a conservation, restoration, and sensitive urban development programme, one that was initiated and sponsored by the Kenya National Museums and the Ministry of Lands and Settlements in 1975" (Javus 1995: 2). Since then, the values and qualities of the whole area were recognised, and included in further studies to understand the larger archipelago. The National Museums of Kenya Report on the *Monumental Architecture and Archaeology north of the Tana River* (hereafter NMK Report (Wilson 1978)), the interdepartmental report *Lamu - A study in Conservation* (Hereafter (Gaidan 1976)), the *Planning Lamu* Report Hereafter the Siravo Report (1986)), as well as the *Nomination Documentation for Lamu Old Town* (Hereafter Nomination Documentation (NMK 2001)), all provide scientifically founded information on the historic settlements and culture of the region.

The NMK Report (Wilson, 1978: 27; 40; 60) cites traces of occupation, with architecturally unique mosques and tombs at Ungwana (and neighbouring Shaka and Mwana) south of the Lamu archipelago, dating from 1200 AD, surviving the Portuguese raids of the 15th Century AD, and up to the 1st quarter of the 17th Century AD (i.e. arrival of the Oromo speaking people otherwise known in earlier literature as the Galla), and also at the northern point of the archipelago, at Kiunga, dating from the mid 15th Century AD..

In terms of the architectural and archaeological remains on the main islands of the Lamu archipelago, Lamu, Manda and Pate, the NMK Report (Wilson, 1978: 75-112) focussed on the historic settlements of Lamu and Shela on Lamu island, then Kitao (few remaining structures), Takwa and Manda on Manda island, and the still occupied settlements of Pate, Bui, Shanga, Siyu and Faza on Pate island (which had numerous historic sites), as well as Dondo (North of Pate island) on the mainland). The Report does not deal with the small islands of Ndau (southwest of Kiunga) and Kiwayu (southeast of Kiunga), or the historic mainland towns of Hindi, Mkokoni, Mashundwani and Kililani that are in the target area of the Lamu Gateway development. Gaidan's (1976) *Lamu – A study in Conservation Report* focuses on Lamu Old Town, but also provides detail on Shela and the monuments of Mwana, Shakani, and Pate. James Kirkman "Men and Monuments" on the Swahili Coast and "Ungwana on the Tana" as well as George Abungu's PhD Thesis on the Swahili Coast and Its Hinterland provide more information the Tana Delta, There is also Neville Chitticks Volumes on Manda and Mark Horton's volume on Shanga, that all add to the array of publications on the archipelago and its adjacent areas showcasing its architectural as well as archaeological heritage.'

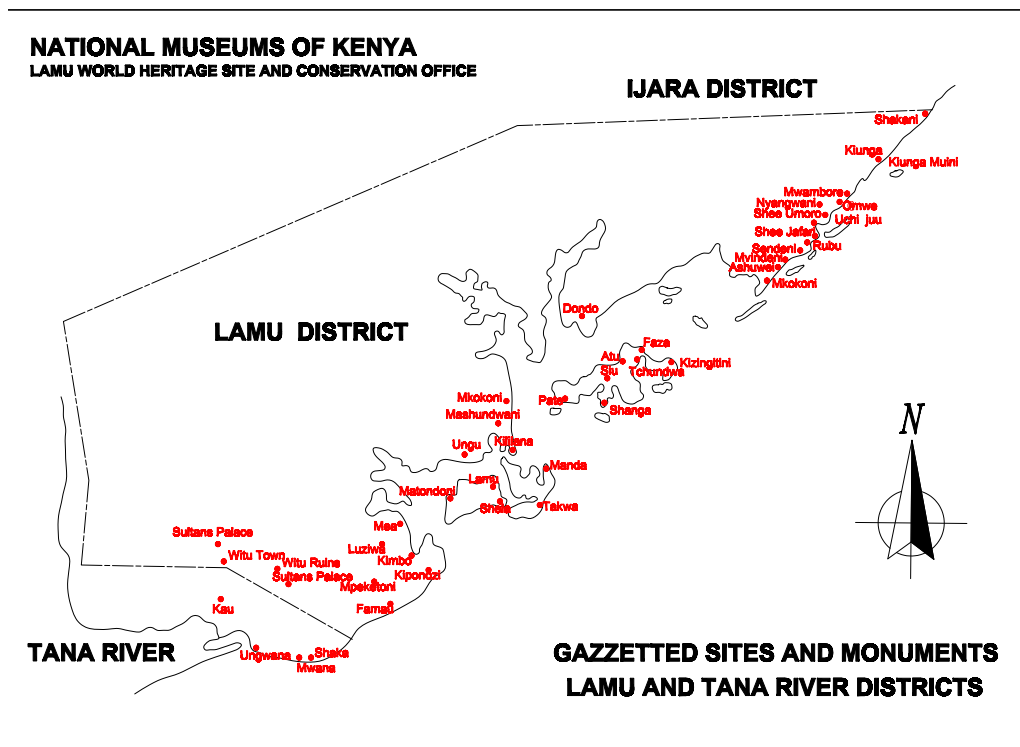


Figure: Map of the archaeological sites on the Lamu archipelago including mainland (NMK)

Indicator

- There are existing records and documentation for the tangible heritage of the settlements Lamu archipelago but there are gaps and the data is not always systemised and accessible.

- Documentation of the tangible heritage of the settlements of the archipelago is critical - Support and resources are needed for the urgent systematic completion of the documentation and analysis of all the significant tangible heritage of the archipelago, to be available as data for the many developments in the near future.

4.6.2 The tangible components of the main settlements of the Lamu Archipelago

Lamu Island

Land issues: Land issues on the mainland are not primary to the OUV of the site. However, close scrutiny should be paid to land allotment on Lamu island as future development might totally disrupt the immediate setting of the Old Town, irrespective of what is going on in the archipelago. There are several cases of illegality in land dealings on the island. Zoning measures and boundary limits need to be tightened and strict enforcement put in place in partnership with the County government. There is need for a form of regulation over land ownership by foreigners vs locals.

a) Lamu Old Town

The first inventory and documentation of buildings and urban patterns was performed in 1975 under the auspices of the NMK and the Ministry of Lands and Settlements, followed by the drafting of a comprehensive conservation plan in 1985 - the Lamu project was a landmark, in that it was the first comprehensive conservation plan to have been developed and enacted in Kenya (AKF 1995: Item 1). The town and its setting was gazetted as a national Monument in 1986 (*Kenya Gazette Notice - Lamu Old Town Designation 20th June 1986*) and was Inscribed by the UNESCO World Heritage Centre as a World Heritage property in 2001 (<http://whc.unesco.org/en/list/1055>).

The town started as a small settlement south of its present position, and the remains are buried under the hill, approx. where the DC house is currently (Gaidan 1976: 44). Lamu experienced its high point during the period after the Battle of Shela, but it is certain that the settlement played its part in the origins of settlement in the Lamu archipelago. Wilson (1978: 77; 78) states that the prevalent pottery from the site of 'Old Lamu' (i.e. the archaeological site at Hidabu Hill) goes back to the 12th Century AD, but that datings of other pottery suggest that the nascent town could have originated in the 9th Century, making the settlement as old as the earliest known settlement on the coast, i.e. Pate, but it was less important during that time.

The Nomination Documentation (2001) adds:

Archaeological evidence shows that a wall identified with early Swahili settlements once surrounded the town of Lamu. According to local folklore as well as archaeological evidence, there were two earlier settlements. To the south of the present day town, now buried under Hidabu hill and the second one is said to have been on the north of the present day Lamu town. In written records, the town is first mentioned by an Arab writer/traveller, Abu-al-Mahani, who met a Qadi (Muslim Judge) from Lamu visiting Mecca in 1441. It proves that Lamu was already a large town at the time since the office of a Qadi was normally a requirement of a populous town. The Portuguese also mention the town in 1506 when Trustee de Cunha blocked it and imposed a tribute, which was paid without resistance. It was also mentioned in the records made by a Portuguese trader by the name Duarte Barbosa in 1517". (2001: Item 3 (b))

Remains of monumental tombs from the early 16th Century are still extant in Lamu town, eg the gazetted fluted Pillar tomb 100m west of Riyada mosque (Gaidan 1976: 8).

The architecture for which Lamu town was inscribed as a World Heritage property, are well described in the major multidisciplinary survey, analysis and evaluation of Lamu old town that was performed in the 1970's (Gaidan 1976) - it concluded that the "inshore island town of Lamu occupies and important position among the settlements of the East African coast in that it is **the only one retaining its original character almost completely.**" (Gaidan, 1976: Preface).

The 'Brief description' contained in the Nomination Dossier states:

*Lamu Old Town is the **oldest and best-preserved** Swahili settlement in East Africa, retaining its traditional functions. Built in coral stone and mangrove timber, the town is characterized by the simplicity of structural forms enriched by such features as inner courtyards, verandas, and elaborately carved wooden doors. Lamu has hosted major Muslim religious festivals since the 19th century, and has become a significant centre for the study of Islamic and Swahili cultures. (WHC 2001: Item 1 sine pagina)*

Lamu's Architecture is further described and elaborated in pictures in Abungu and Abungu, Award winning book, LAMU: Kenya's Enchanted Island (2009).



Left: Evolution (Gaidan 1976: Fig 2-5). Right: 2009 Aerial Survey of Lamu Old Town (NMK)

Urban pattern and architecture of Lamu

The Nomination Dossier states:

This ancient medieval city of Lamu is characterized by its unique Swahili architecture and its spatial arrangement that began to develop much earlier than 12th century AD. (WHC 2001: sp)

The traditional Swahili urban layout shows narrow, winding streets, the narrowest just allowing donkey-borne traffic, with a few wider, commercially oriented bazaar streets with shop-houses, like the *Usita wa Mui*, and all converging on the large public square (*Mkunguni*) in front of the Fort, which area was the original boat landing place up till 1914. The urban layout pattern follows Islamic urban planning and land distribution rules, allowing family groups to live clustered in wards (*mitaa*), with privacy and modesty for the family as a major principle, and with courtyard houses affording neighbours to add alongside, so forming a dense urbanscape with a high sense of social clan and neighbourly cohesion, while again maintaining the principle of family privacy. The historic Swahili town had no carriageways but was a pedestrian town

with a donkey cartage and transport system, and the current town still follows this system and has no carways or cars.



Lamu Old Town in 2009 – the limits of Old Lamu in yellow (From Siravo et al 1987)

Gaidan (1976:) states:

The high involvement ratio of the inhabitants, and the limited technology available, are reflected in the high densities and low rise development. Because of the high density, the town has no public open spaces within the built-up area. The town's 24 mosques serve as its public lounges. The streets, being narrow and parallel to the monsoon directions, are cool and shady. Courtyards provide light, ventilation and privacy to the buildings.

Indicators

The above qualities are attributes of the OUV of the World heritage property. The urban pattern, lay-out, land distribution and evolution of the town pattern and use is directly related to a cultural discourse rooted in historic Islamic culture, including religious beliefs, mores, rituals, as well as concepts on town making and rules of behavior and social cohesion, and which have evolved in a unique manner in this region and in Lamu. Disturbance of (beyond the natural evolutionary changes that occur in culture), or disappearance of this cultural discourse through a sudden or large impact will have a direct influence on the continuity of this culturally significant attribute of the OUV of the World Heritage property, its setting as well as surrounding, related cultural landscape. Additionally, the urban form, pattern, density and form: space ratio is at an optimum, and does not have a high absorption capacity for change.

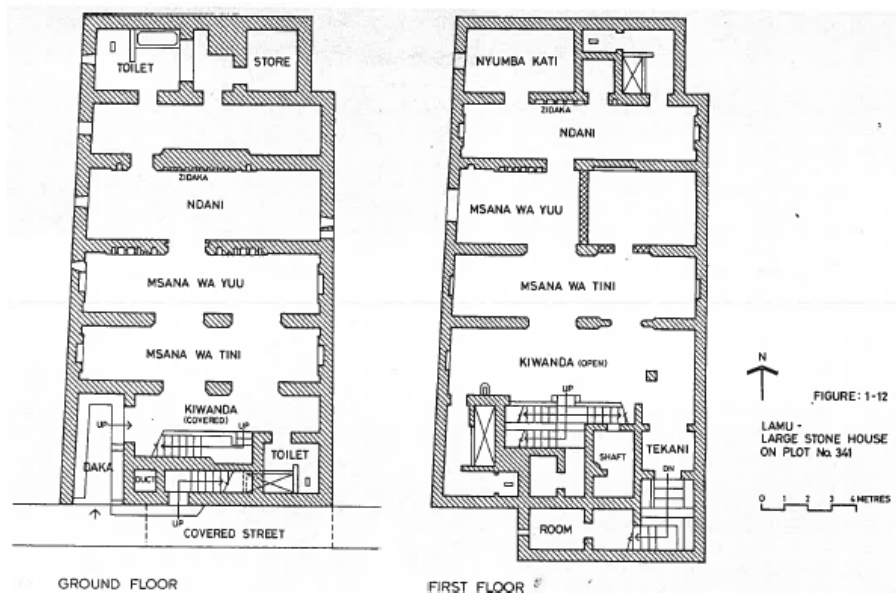
From the 9th Century onwards the houses and allied buildings of the town were timber and mud structures, with *makuti* (palm leave thatch) roofs, and this manner of construction survives in the vernacular of Lamu Town and the area till the present day. Later on, when the island grew more prosperous, the structures included long quadrangular buildings of [undressed] coral rag (*majengo rag matumbawe*) and lime mortar (*chokaa makombora*), with an arcaded central courtyard, with floors and flat roofs supported by mangrove pole beams (*mihimili pole mikoko*), the flat roofs having crenellated parapets. The ages of these buildings vary in each *Mtaa* of Lamu Town, relative to the era of the ward's establishment (eg, those in Mkomani ward date between the 13-15th C BCE).

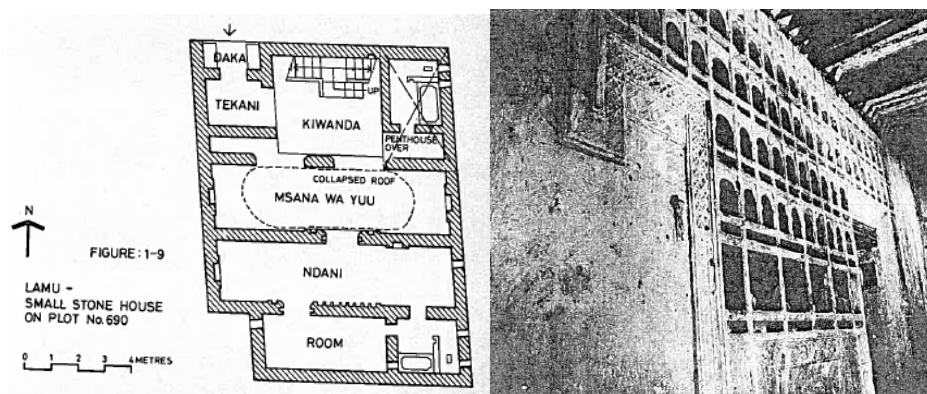
The Nomination Dossier describes these as follows, focusing on the Lamu type Swahili house:

Walls of buildings and open galleries are designed in such a way that they trap and channel the cool sea breezes, which is essential in regulating the hot and

humid climatic condition of this coastal town. The walls are massive constructions of thickness between 40 cm to 60 cm and are made of undressed coral in lime mortar. Houses of the Swahili traditional architecture are unique in design as compared to those of the other coastal towns and thus are endemic to Lamu. They are of rectangular shape, oriented north/south and are one or two stories high. The design of a typical Swahili house as you enter the building commences with a porch (Daka) through to an interior vestibule (Tekani). This Tekani usually have seats. From there you get to the interior courtyard (Kiwanda) with guest toilet adjacent to one side of the courtyard. A number of parallel open galleries, (Misana, singular Msana) follows in a sequence from the courtyard to the back of the house. The size of a Swahili house accounts between 3 to 7 galleries. A common feature of these houses is plaster frames, big niches (Madaka) and ceiling freezes adorned with small niches (Zidaka). The inner most gallery is where the intimacy part of the house is located. All food preparation is usually performed outside the living quarters as such kitchens occupy a rough shelter on the roof. A more impressive element of design among the Swahili houses is the elaborately contrived ablution and lavatory system, which forms such an important function and position in the household. Entrance to houses are one sided due to annexation of several buildings within a cluster. Often, a room over a street (Wikio) provides extra space to either of the houses separated between the narrow streets and the Wikio also provides an internal entrance between houses. Materials used for construction of houses in the old town are local. These are materials such as quick lime, coral rag, squared hard wood beams of local species of hardwood; *afzelia quanzensis* [pod mahogany], *brachylaena hutchinsii* [Makarambaki] and *terminalia brevipes*. The latter has a durability span of more than a hundred years. The materials used are compatible to the coastal climatic condition in that they are not affected by salinity caused by the sea. (2001, sp)

Gaidan (1976: 14-15) documented a good example of a large and a small 18th C Lamu Swahili house (the latter with an elaborately carved niche wall (*sidaka*) in the *ndani*:





There has been modernization of the vernacular mud and makuti houses: Many of the houses have been transformed into more permanent buildings with concrete block walls and corrugated iron roofs. Such development has taken place particularly after fires in 1962 and 1981.

Mosques

Lamu's mosques may be regarded as a signature of Lamu's importance as a religious focal point and educational centre, which is an important component of the OUV of the World Heritage property, its setting and area. The architecture of the mosques respect all the spatial requirements of an Islamic worship centre

There are 24 mosques in Lamu, an indication of its importance as a religious centre - 7 of these also have Quranic schools attached to them in addition to the primary function of worship. The mosques also serve as social centres for men as well as community festivals.

Evolution

Lamu buildings have evolved from the 17th – 19th century Omani and Gujerati style buildings. Built in the 19th century, soon after the Battle of Shela, with the help of the Sultan of Oman, Seyyid Said, the Fort with its crenellated walls, open verandahs and had a large influence on the development of Lamu architecture in that century. Just before WWI the seawall was built 30 m east of the Fort (1813-21), allowing for a new reclaimed strip of land on which newer buildings were added, including the Lamu Museum (1892), *Dari ya Mvinje*, the former County Council Office and the *Mwanaarafa* or the Veterinary building – Gaidan (1976: 14) states that these buildings followed the style introduced by the Fort. Gaidan reports (1976: 19) that the Lamu Museum was originally a 'High Style' verandah seafront residence, in which a number of historically significant persons have resided.

The start of the late 19th Century British Colonial era saw the introduction of another style of architecture, which was adapted to suit the local contexts (eg climate, style, function).

A few of the Lamu houses have been well restored for use as boutique hotels or guesthouses. However, the 1995 Aga Khan Survey has indicated that modernization and acculturation are resulting in inappropriate intrusions, and that conservation efforts need to focus on sustaining traditional, local knowledge system and appreciation for the significance of the historic legacy that is such an important part of the OUV of the property. From around 1998, the EU provided some funding that assisted the owners with restoration of their houses. Managed through the national Museums of Kenya, the EU funding covered up to 75% of the total restoration costs while the owners paid for 25%. This ensured that up to 20 houses needing restoration

in Lamu received the same. Currently there are only a few intrusive alterations and additions on the waterfront, mostly shops and restaurants catering for tourists.

Baseline condition

Conservation of the Lamu urban and architectural resource through maintenance, stabilisation, restoration, rehabilitation and sometimes reconstruction needs constant funding. Since 1986 the bulk of this funding came from foreign donors, and specifically directed into the Conservation of Lamu project, which since 1987 has seen the restoration of over 25 private and public buildings (including the Fort) as well as public spaces. Yavus (1995: 11-12) reports that in the period 1986-1995 over a Million US dollars was received for the *Conservation of Lamu* project. In the 1995 component of the *Conservation of Lamu* project a total of US\$185000 was spent on analysis, strategy, paving and restoration of 10 houses (Mean cost of restoring one house then was US\$18500). By 2001, when the property was inscribed, many management actions (protection, policy, strategy and conservation) had been carried out in Lamu Old Town.

Since inscription, there has however been a negative trend in maintaining the authenticity and integrity of the heritage resource. There is a lack of financial resources. Currently, the annual Government budget for the conservation of Lamu Old Town is not adequate for the protection, maintenance and development of the heritage resource.

After giving the State of Conservation of the a positive report in 2004 (2004 SoC Report), over the years the World Heritage Committee has consistently pointed to the negative effects of a lack of heritage management control of the larger area around Lamu and a need to incrementally enlarge the buffer zone until it encompasses the Archipelago.

The success of the tourism industry in Lamu after inscription has also meant the incursion of new values that negatively impact the heritage resource. Since Inscription both locals and foreigners have bought properties and restored them, but many buildings have been changed and added to become holiday homes, or locals have changed them in an insensitive manner to cater for the perceived demands of the tourism market, bringing in new building methods and incompatible materials and architectural styles. There has also been a boom in land development, which means that land values demand that denser and higher development takes place, and that development sprawl occurs in areas not zoned for development of buildings. The development by outsiders evokes mixed reactions from the populace, as it is seen as either a source of jobs and wealth, or a threat to culture and religious beliefs (Management Plan, 2007: 19).

The list of unaddressed challenges facing the conservation of Lamu Old Town in the UNESCO 2012 State of Conservation Report states:

- a) Lack of approved Management Plan and accompanying action plan;*
 - b) Lack of risk preparedness, especially in the case of fire;*
 - c) Lack of adequate sewerage, waste disposal, and overall infrastructure, and risk to limited fresh water supplies;*
 - d) Uncontrolled development;*
 - e) Lack of resources;*
 - f) Urban and industrial development pressure, including possible new port, and of oil exploration;*
 - g) Inadequate buffer zone.*
- (<http://whc.unesco.org/en/soc/241>)

The consequences of these challenges on the protection of the authenticity and integrity of Lamu Old Town and its setting need to be taken in to consideration in addressing future management of the heritage resource – addressing these will

become more difficult. An adequate management plan that is clear about the instruments of integrated management (for example the UNESCO H.U.L. approach), better control of development, resources for the effective protection and management of the heritage resource as well as the delineation of a more effective Buffer Zone (as required by the *UNESCO Operational Guidelines*) are urgently required to counter the current and future threats to the OUV of the property.

Critical (vulnerable) heritage

The vulnerable component of Lamu urbanism and architecture is the resilience and strength of the cultural system and intangible heritage that sustains these material and immaterial products, inclusive of knowledge systems, skills, institutional frameworks for conservation and planning, and local interest in maintain the traditional buildings and building industries.

The AKF (1995, Item 4) states that:

Lamu buildings are not the achievement of individual designers, but the work of skilled artisans and master builders. Hence, it is in the sphere of vernacular buildings, especially house, that Lamu makes an original contribution to the architecture of the Indian Ocean. Long-established conventions played a primary role in the development of building forms, and the result is a town that maintained remarkable stylistic continuity over time.

As has been shown in other part of Africa, eg Marchand (2001) on Djenné in Mali, demonstrates that the maintenance of such continuity and traditional knowledge is dependent on cultural systems that are protected, are sustained and promoted, and remain intact and evolve incrementally over time as an environment changes incrementally. In 1995 there was already a shortage of craftsmen due to modernization, and further rapid acculturation of the region will have a devastating effect on the transmission and conservation of these skills,

In 1986 Siravo et al, in terms of the possibility of a mainland town being designated as regional centre, concluded that:

...if implemented, this plan could relegate Lamu to a secondary role and precipitate its economic decline. On the other hand, if Lamu should remain the only urban centre and the rapid population growth of the past decade should continue, too heavy demands would be placed on the resources of the island and overcrowding would undermine the structure of the town. Lamu is thus caught between two unacceptable extremes. Its survival as a regional centre ultimately rests on its ability to remain economically vital without sacrificing the resources on which it depends. (1986:27)

In 1995 the AKF, in the *Conservation of Lamu* document, stated that:

Until the 1970s, development in Lamu was held in check by the region's limited resources and technology. But new socio-economic pressures, coupled with access to new building materials and models, began to disrupt Lamu's delicate environment and threaten its old buildings.

.....Although much of the historical area is still intact, Lamu's buildings and townscape today are beset by two opposite but equally negative forces: Rapid modernization on one hand, and neglect and slow decay on the other Until the 1970's, development in Lamu was held in check by the region's limited resources and technology (1995: Item 4, 5)

Indicators for this HIA

- The significance of the remaining traditional Swahili houses, mosques and other buildings of Lamu and the area related to it, is high. They are unique, the oldest surviving examples on the East African Seaboard, and have a very high level of surviving authenticity and integrity.

- They form a very important part of the OUV of the World heritage property and its setting. The buildings must be vigorously protected and managed, and their encroachment by modern buildings and building technologies prevented.
- The knowledge, craftsmanship and skills, as well as the materials and construction methods that are required to maintain and ensure the survival of these buildings into the future are, like in other areas, threatened by modernization and acculturation, and loss of any of these through sudden and/or large impacts may lead to loss or diminishment of OUV of the World Heritage property, its setting and surrounding, related cultural landscape.
- There is need for integration of planning and heritage management of the WH property that includes all stakeholders in the manner of the UNESCO *Recommendation on the Historic Urban Landscape*, and that this approach be included in the Management Plan and accepted by the County.

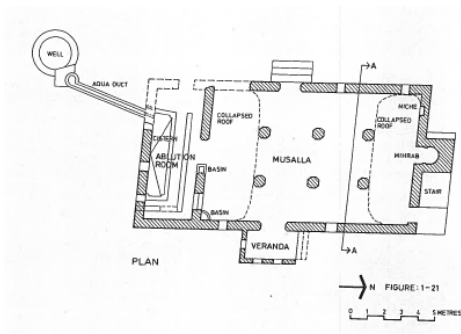
b) Shela

Shela, at over 500 hundred years old, reached its zenith in the mid 19th C (NMK 2007: 14; Gaidan 1976: 23). It is a small town with some excellent houses, and its Friday mosque of is the only pre-20th C mosque of the area having a [conical] minaret, and with its *mihrab* dating to the year 1829 (AH 1245) and a *minbar* dated 1820, brought over from Manda. Gaidan's drawing (below) shows the building in 1976, and the photograph shows it in January 2014, indicating a steady densification of the town, because it has less planning control by the NMK than Lamu has.

The small *wa Deule* mosque (Gaidan 1976: 24-5) has a *mihrab* dated 1848 (AH 1264) and restored in 1975. This was left to deteriorate after the restoration of the 1975 that only strengthened the collapsing walls and roof. However by around 2008, the roof had collapsed and some of the walls were carving in. The Shela people asked the Museum to assist restore the mosque but there were no funds.

In 2008, the then French ambassador to Kenya mobilized the ambassadors of Morocco, the USA, Australia, Spain, European Union among others to raise funds for its restoration. The mosque was opened again for prayers in 2009 and is located in one of the quietest section in Shela just under the sand dunes.

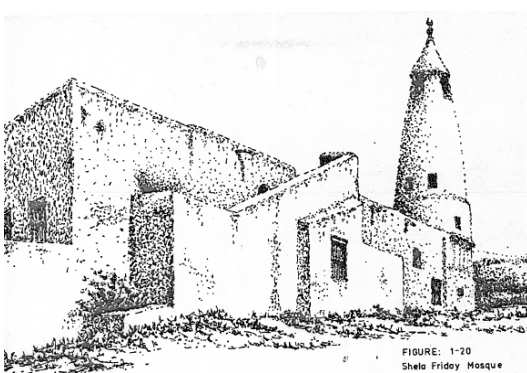
The mosque has a historic well that for over thirty years has fed the Peponi hotel with water. For this, the owners of Peponi have been paying a standard amount to the National Museums of Kenya for heritage maintenance. The restoration of this mosque symbolises a joint activity between the community, the National Museums of Kenya and the Diplomatic Corps who frequent Lamu during the *Maulidi* and Lamu festivals. It is important to note that the French ambassador also only noticed this mosque when she came for the annual Lamu Cultural festival, showing the importance of these festivals in show casing Lamu to the international community and attracting development assistance as well as attention. Currently foreigners have been restoring many of the historic houses in Shela, and constructed new houses in the Lamu tradition. A few small hotels have also been built for the tourism trade.



Left: Small *wa Deule* mosque 1840 (Gaidan 1976: 24-5); Right: Current (Bakker)



2009 Survey of Shela (NMK)



Left: Friday mosque, Shela built 1829 AD (Gaidan, 1976: 23); Right: Current situation (Bakker)

Critical (vulnerable) heritage

The vulnerable component of the protection of the authenticity and integrity of the tangible and intangible components of Shela urbanism and architecture, is like Lamu, the resilience and strength of the cultural system that sustains these material and immaterial products, inclusive of knowledge, skills, institutional frameworks for conservation and planning, and local interest in maintain the traditional buildings and building industries.

Threats to heritage

- Because Shela has less town planning and heritage protection than Lamu, and because it is a sought after spot for foreigners to buy property, and apart from the beneficial effects of conservation efforts by foreigners and locals alike, there are some negatively impacting hotel development, the town is gentrified more rapidly and is gaining the feeling of being a resort town with many non-permanent residents – this causes the town to loose authenticity and integrity in terms of the presence and effects of the intangible culture carried by cultural system of local inhabitants.

c) Matondoni Town

Matondoni has settlement components showing indigenous vernacular architecture and space making as well as local traditional customs, and also the craft of traditional boat building. The town has a historic living mosque.

The economy is dependent on boat-building, sand quarrying and fishing, but supplemented by small-scale farming.



Left: Matondoni on Lamu Island;



Right: Matondoni village (Google Earth 2014)

Critical (Vulnerable) Heritage

The vulnerable components of the protection of the authenticity and integrity of the tangible and intangible components of Pate town are:

- Traditional values
- Vernacular settlement
- Settlement and subsistence agriculture
- Highly significant archaeological sites
- Livelihood from traditional boat building, quarrying and artisanal fishing.

Threats to heritage

- Threats to tourism based on cultural tradition, vernacular architecture and settlement, traditional boat building and water activities like water exploration.

- Threats to the continuation of the island livelihoods and cultural expressions, and the resilience and strength of the cultural system that sustains the material and immaterial cultural expressions of the island communities, and that sustain the cultural heritage of the Lamu Archipelago and the OUV of Lamu.

Manda Island

Manda Island is on the receiving end of many proposed developments, including an entertainment centre, hotel and cruise ship port as part of the Resort City proposal.

The island is host to the airstrip for flights from Nairobi. Currently Manda Island is being developed fast with many villas owned by foreigners, and there is a lack of strict building control. The Island does not have a sustainable source of fresh water.

The skyline and the mangroves of Manda that are in the viewcone from Lamu Old Town is a gazetted protected entity.

a) Manda Old town

Manda is located at the northeastern tip (*Ras Kilindini*) of Manda island, near Manda Toto island. Presently it is a small living settlement, that survives adjacent to the archaeological site of Manda to its east, and a large mangrove and channel system to its west.

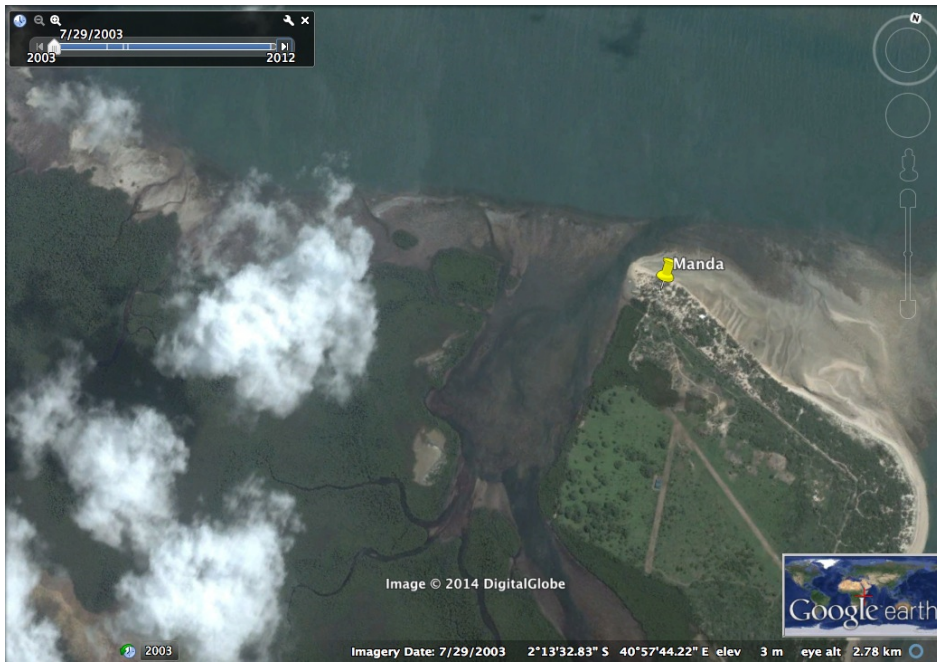
Gaidan (1976: 41, 43) reports that this Gazetted, ruined town site, which flourished as a fortified city for 4 centuries (9th-13th C), is the oldest known [Swahili] site on the East African coast – both Management Plan (NMK 2007: 13), which cites the studies by Chittick, and the NMK Report (Wilson, 1978: 80-2), confirm that the historic settlement of Manda is the earliest site known on the east coast of Africa, and is the model for many traits of later coastal towns, including the use of coral rag and mortar for walls, plastering of walls, wood framed structures, monumental constructions for commercial or communal purposes, knowledge of smelting and evidence of foreign trade relations with the Islamic world and Far East.

Excavations by Neville Chittick (1984), revealed a comparatively prosperous ninth century level which lasted until the thirteenth centuryr....[he]... uncovered tenth century houses built of square coral blocks in rough courses with mud and lime mortar. Ceramic evidence indicates that between the ninth and tenth century there was a flourishing trade between Manda with Iran. Portions of the seaward wall of the town, built of large coral blocks weighing up to one ton, have survived. (NMK. 2007: 13-4)

Baseline

The NMK Report (1978: 80-2) states that archaeology shows remains of stone structures from the earliest occupation, with wood and clay (wattle and daub) structures in the intermediate period before phase IIA (end 10th Century), during which phase are remains of massive squared stone sea walls, as well as iron slag and remains of oxen and camels. House plan forms of Manda have been taken up in Iranian port cities, probably from 10th C links. The remains of constructions and ceramics show occupation to the 17th Century. The four remaining above-ground structures, inclusive of 2 mosques, date from the late period of occupation of the island.

Currently the settlement is unoccupied and carries the living Swahili culture of the Lamu Archipelago, and the listed archaeological remains are Gazetted and protected by the NMK.



Manda town, inlet and archaeological site on the NE tip of Manda island.

Baseline

Manda town is a living remnant of the **oldest settlement on the Swahili African coast**.

It has settlement components showing indigenous vernacular architecture and space making as well as local traditional customs, while retaining the traces and remains of its extremely significant historic settlement phases.

The future of the village and its inhabitants is wholly dependent on fishing, supplemented by small-scale farming.

After Buyi, Manda village is the second closest settlement to the active Port Zone of the proposed Lamu Port.

Critical (Vulnerable) Heritage

The vulnerable components of the protection of the authenticity and integrity of the tangible and intangible components of Pate town are:

- Traditional values
- Vernacular settlement
- Settlement and subsistence agriculture in unspoilt natural environment.
- Highly significant archaeological sites
- Livelihood from artisanal fishing.

Threats to heritage

- Threats to the extant as well as possible archaeology resulting from encroachment by development and industrial activity.
- Industrialisation, oil and gas extraction and subsequent negative impacts from pollution will severely diminish or kill the fishing livelihood of this settlement.
- The settlement is in the Active Port Zone, south of the Berths and turning area for the large ships, severely altering the current cultural landscape, visual quality and access to the water.

- Threats to tourism based on cultural tradition, vernacular architecture and settlement, water activities like diving, birding, game fishing and water exploration.
- It must be noted that the traffic of the proposed Port will be in the dredged Approach Channel just east of this site.
- Threats to the continuation of the island livelihoods and cultural expressions, and the resilience and strength of the cultural system that sustains the material and immaterial cultural expressions of the island communities, and that sustain the cultural heritage of the Lamu Archipelago and the OUV of Lamu.

b) Takwa

Takwa is located on the east shore of Manda island, at the point where the tidal channel (*Mto wa Takwa*) almost bisects the island on its southern tip.

Baseline

Takwa archaeological site is a protected national monument. The historic settlement was strategically hidden behind the dune line facing the Indian Ocean, and had access from the channel side, as there was no anchorage on the ocean side. The NMK Report (Wilson, 1978: 62) reports that Takwa is important for its 16th and 17th Century occupation, its dense settlement and relatively well preserved remains, including that of a pillar mosque, a monumental tomb, houses, storage, workshops, a well, commercial structures and a 3m high gated town wall – the structures demarcated public squares, courtyards, pens and streets.

The Management Plan (2007: 14) confirms the occupation dates of Takwa, citing Kirkman – evidence exists of the remains of another town east of Takwa. Inhabitants of one of these fled domination by Pate, and were given shelter in Lamu.



Location of Takwa town

Threats

Development related to the Resort City satellite project.

Pate Island

At the local stakeholder community meeting of 28 Dec 2013 the inhabitants of the island stated that the main heritage sites of the island deserved special protection, and identified the isolation of Pate island, especially in terms of delivery of support infrastructure.

It is important to note that it was stated that the inhabitants are so isolated from major urban and infrastructural development, that they understand that the scale of the changes are going to be very large.....,

Our interaction with the maritime space around us will change; Pate Island technically falls within the 60km radius of port operation area which, is ideally means it is a security area and also means that Pate Islands relationship with the sea around her has also changed forever....

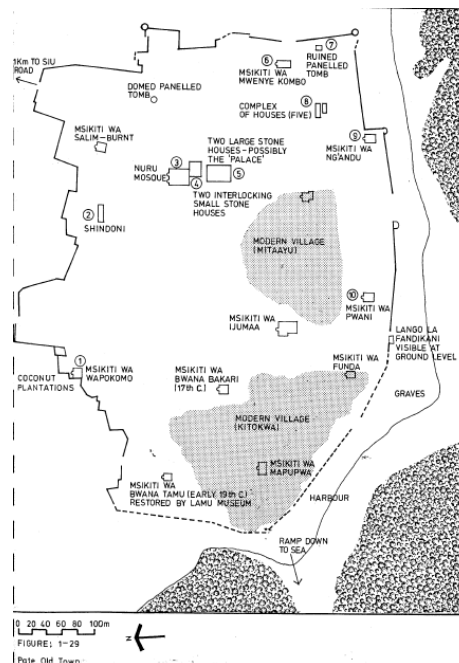
At the same time that they would find it hard to visualise exactly what is going to be unleashed upon them through the LAPSSET project and Gas Prospect – visualisation of the reality of the project as part of participatory impact assessment and mitigation design is therefore a great necessity.

a) Pate town

Pate is a living settlement, with an archaeological component, on the southwest side of Pate Island, connected to the open sea by a narrow creek, but sheltered by a small, unoccupied, islet called Kisingati. Old Pate Town is now occupied by two villages, Mitaayu (descendents from Pate's former rulers) and Kitokwe (newcomers), but in its heyday the historic town had approx. 7000 inhabitants (Abungu: 1996; Wilson and Lali 1997).

While the inhabitants cite the local Pate Chronicles as stating that the town was inhabited by the Nabahani who came from Oman and had established the Sultanate at Pate in 1400, the archaeologist Chittick's further examination of the Chronicals from archaeological and external historical evidence, suggests that Pate was of little importance before the sixteenth century and that the Nabahani Dynasti was only established by the seventeenth century (NMK 2007: 13).

There are ruins of mosques, tombs and courtyard houses, some dating to the 17th C (Gaidan 1976: 32).



Left: Pate 2013 (www.bbc.com/news/world-africa-22704222); **Right: Historic Pate** (Wilson 1978).

Pate played a part in reinstating the Portuguese in Lamu in 1782 (NMK 2001: 13). Wilson (1978: 75) states that Pate was “the most important settlement of Pate island, but may have been rivalled by Shangwe [Shanga] ‘in the old days”.

The town was not a trade town (Gaidan 1976: 32; 35) but indications are that it was a workshop town, focussing on shipbuilding and textiles.

Martin wrote:

The 18th century was known as the ‘Golden Age of Pate’, when the town was at its height of powers and also prospered in fine arts. Builders constructed some of the finest houses on the East Africa coast, with extensive elaborate plaster works. Goldsmiths made intricate jewelry, fine cloths (including silks) were made by Pate's weavers and carpenters produced fine wooden furniture. The use and production of the musical instrument known as Siwa were most famous. Two examples of Siwas still remains in the museum in Lamu. Both men and women wrote poetry in the Kiamu dialect of Swahili. (1973: 25)

The *Utendi wa Tambuka*, by Mwengo, son of Athumani, is the oldest known Swahili document, and was written in the royal Yunga palace in Pate Town (Knappert 1977:15–16). The decline of Pate Town came rapidly after their defeat by Lamu:

In 1813 the famous "Battle of Shela" took place at Shela. This was an attempt by Pate, allied with the Mazrui clan from Mombasa/Oman, to subject Lamu. The attempt failed totally, and many were killed. Only a handful of people managed to return to Pate, and their losses were felt for years. By 1892 the number of inhabitants had fallen to only 300, down from 7000. (Martin 1973: 26)

Agriculture is the main economic activity in this community – at the local stakeholder meeting on 28 Dec 2013 it was stated that:

“the Pate and Siyu people own farms both in Pate Island and on the adjacent mainland coastline. He further explains that the mainland farms are not a new phenomenon and their ancestors had always maintained these farms since time immemorial. It is only during the Shifta insecurities of the 1960s and 1970’s that activities on these mainland farms was significantly reduced. However during the 1980s when security had been restored farmers from Siyu and Pate started to plough their mainland farms once again. Each farming family knows exactly where their farms are located and they have no ownership disputes amongst themselves.



Left: Mwenye Kombo in 1976; Middle: Mosque remains at Pate; right: Msikiti wa Ijuma.

Currently inhabitants are growing tobacco and tamboo (chewing type) as it was done in the past. Inhabitants of Pate are re-inhabiting the gazetted ruins – this is currently done under supervision of a conservation officer, and as a form of conservation appears to work better than the previous system of exclusion but loss of historic building fabric.

The gazetted ruins are stabilised and protected by the NMK with the support from the locals, and the historic mosque has been recently restored.

Baseline

Pate is a living remnant of a 17th C settlement on the Swahili African coast. It has settlement components showing indigenous vernacular architecture and space making as well as local traditional customs, while retaining the traces and remains of its significant historic settlement phases. The people of Pate believe that the town and its heritage deserves special protection.

The main livelihood activity in the town is fishing, supplemented by small-scale farming.

Pate town is the second closest settlement to the active Port Zone of the proposed Lamu Port, and lies adjacent to and east of the main shipping route into the Port. The Crude Oil pipeline also traverses the mangrove forest to its west. The small Iweni Community Conservation Area with Coral reefs close to the Island will be removed for the shipping lane.

Critical (Vulnerable) Heritage

The vulnerable components of the protection of the authenticity and integrity of the tangible and intangible components of Pate town are:

- Traditional values
- Vernacular settlement
- Unspoilt natural environment.
- Significant archaeological sites
- Livelihood from artisanal fishing.

Threats to heritage

- Threats to the extant as well as possible archaeology resulting from encroachment by development and industrial activity. The local stakeholder meeting of 28 Dec 2013 expressed the statement that they feared the heritage sites of Pate will be damaged by the proposed development.
- Industrialisation, oil and gas extraction and subsequent negative impacts from pollution will severely diminish or kill the fishing livelihood of this settlement and remove coral reefs.
- The settlement is in the Active Port Zone, and directly adjacent the Berths and turning area for the large ships, severely altering the current cultural landscape, visual quality and access to the water.
- It must be noted that the traffic of the proposed Port will be in the dredged Approach Channel just west of this site.
- Threats to tourism based on cultural tradition, vernacular architecture and settlement, water activities like diving, birding, game fishing and water exploration.
- Threats to the continuation of the island livelihoods and cultural expressions, and the resilience and strength of the cultural system that sustains the material and immaterial cultural expressions of the island communities, and that sustain the cultural heritage of the Lamu Archipelago and the OUV of Lamu.

b) Si[y]ju

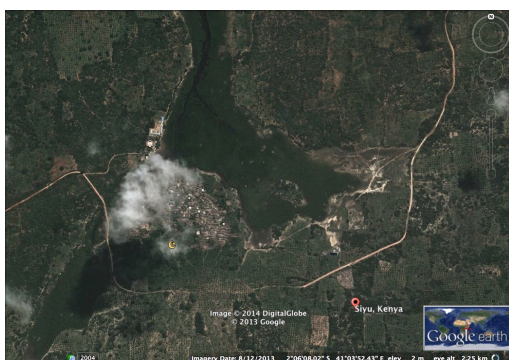
Siyu is on the northern side of Pate island, in the centre of the island, connected to the open water with a wide channel through the mangroves. Apart from fishing Siyu is a strong farming community – at the local stakeholder meeting on 28 Dec 2013 it was stated that

“the Pate and Siyu people own farms both in Pate Island and on the adjacent mainland coastline. He further explains that the mainland farms are not a new phenomenon and their ancestors had always maintained these farms since time immemorial. It is only during the Shifita insecurities of the 1960s and 1970’s that activities on these mainland farms was significantly reduced. However during the 1980s when security had been restored farmers from Siyu and Pate started to plough their mainland farms once again. Each farming family knows exactly where their farms are located and they have no ownership disputes amongst themselves.

It is surmised that the town dates from the 13th C. The Friday mosque has an elegant *mimbar* (lectern) dated to 1521 AD.

Siyu is renowned for having defeated the Sultan of Oman and Zanzibar in 1945 and being one of the last east African towns to submit to domination from Zanzibar by Sultan Majid in 1863 (Martin 1973 *Quest for the past*). The contemporary living settlement exists at the historic settlement, with its restored early-mid 19th Century AD fort and its internal mosque (north of the tidal channel), and 2 mosques, mid 19th Century monumental pillar tombs (of which one is a pilgrimage site), houses and portion of town wall, all gazetted (Gaidan 1976: 8, 41; Wilson, 1978: 104-6) southeast of the tidal channel. “The fort was built by one of Siyu’s leaders, Bwana Mataka [*Mohammed Ishaq bin Mbarak bin Mohamed bin Oman Famau*], in the 19th century to safeguard Siyu residents from Omani domination. This fort constructed of coral with a small mosque within it, was gazetted in 1958 as a "National Monument. Mataka also rebuilt much of the town including a fine stone mansion for himself, of which the remains are still to be seen” (<http://www.museums.or.ke/content/blogcategory/10/42/>).

Si[y]ju is known for its furniture making and leather crafts (NMK 2007: 13) – Wilson reported that the fort was earmarked for use by craftsmen. A few year ago the NMK got funding from the American Embassy, Ambassadors Fund and carried some restoration. The site was intended to be the base fort the Siyu leather workers as well as a camping site. So far nothing of the sort appear to have taken place.



Left: Google Earth (2014)



Right: <http://www.visualphotos.com/image>

Baseline

Siyu is a living remnant of the 13th C settlement, and has settlement components showing indigenous vernacular architecture and space making as well as local traditional customs, while retaining the traces and remains of its historic settlement

phases. The town and its inhabitants are wholly dependent on fishing, farming and crafts for their livelihoods.

The people of Siyu believe that the town and its heritage deserve special protection. A management plan for both the sites of Siyu and Pate were made through the programme Africa 2009 in 2011. While part of this has been implemented, notably on the paving of the paths in Pate, nothing has happened to our knowledge in Siyu. These need to be updated and implemented.

Siyu also is the settlement claimed to host descendants of Chinese who capsized in the Indian Ocean some years back. One of the family members has been taken and trained in China but it is not clear whether this was the entrance to the Chinese interest on the coast where they do not only now prospect for oil and gas but have a collaborative underwater archaeology together with the NMK.

Critical (Vulnerable) Heritage

The vulnerable components of the protection of the authenticity and integrity of the tangible and intangible components of Siyu are:

- Vernacular settlement
- Settlement and subsistence agriculture
- Significant archaeological sites
- Livelihood from artisanal fishing.

Threats to heritage

- Threats to the extant as well as possible archaeology resulting from encroachment by development and industrial activity.
- Industrialisation, oil and gas extraction and subsequent negative impacts from pollution will severely diminish or kill the fishing livelihood of this settlement.
- Threats to tourism based on cultural tradition, vernacular architecture and settlement, water activities like diving, birding, game fishing and water exploration.
- Threats to the continuation of the island livelihoods and cultural expressions, and the resilience and strength of the cultural system that sustains the material and immaterial cultural expressions of the island communities, and that sustain the cultural heritage of the Lamu Archipelago and the OUV of Lamu.

d) Bu[y]i

Buyi is near *Ras Matangawanda* on the northwestern side of the island. Wilson (1978: 103-) reports that the ruins of the historic settlement lies on the tidal flats of the *Mto wa Bui*, and extends to the edge of the channel. Gaidan (1976: 41) reports that the tombs, mosque and house remains all date from the 16th C. The historic mosque is the only historic structure still standing above ground.



Location of Buyi village

Baseline

Buyi is a living remnant of 16th C settlement, and has settlement components showing indigenous vernacular architecture and space making as well as local traditional customs, while retaining the traces and remains of its historic settlement phases. The future of the town and its inhabitants is wholly dependent on fishing, supplemented by small-scale farming.

Buyi is the closest settlement to the proposed Lamu Port, and is actually in the active Lamu Port Area. The Crude oil pipeline is also traversing the mangrove area just to its west.

Critical (Vulnerable) Heritage

The vulnerable components of the protection of the authenticity and integrity of the tangible and intangible components of Buyi are:

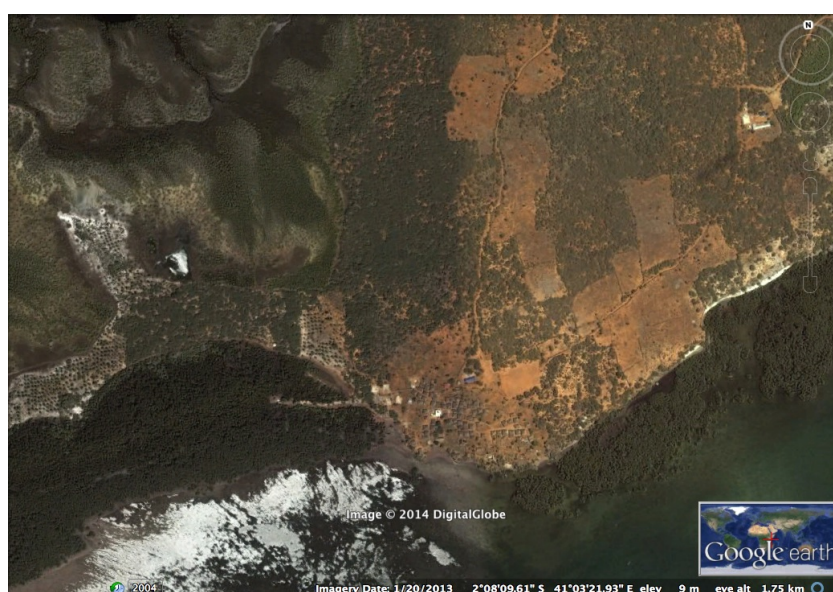
- Traditional values
- Vernacular settlement
- Settlement and subsistence agriculture in unspoilt natural environment.
- Significant archaeological sites
- Livelihood from artisanal fishing.

Threats to heritage

- Threats to the extant as well as possible archaeology resulting from encroachment by development and industrial activity. The local stakeholder meeting of 28 Dec 2013 expressed the statement that they feared the heritage sites of Buyi will be damaged by the proposed development.
- Industrialisation, oil and gas extraction and subsequent negative impacts from pollution will severely diminish or kill the fishing livelihood of this settlement.

- The settlement is in the Port Zone, and directly adjacent the Berths and turning area for the large ships, severely altering the current cultural landscape, visual quality and access to the water.
- Threats to tourism based on cultural tradition, vernacular architecture and settlement, water activities like diving, birding, game fishing and water exploration.
- Threats to the continuation of the island livelihoods and cultural expressions, and the resilience and strength of the cultural system that sustains the material and immaterial cultural expressions of the island communities, and that sustain the cultural heritage of the Lamu Archipelago and the OUV of Lamu.

e) Shanga



Location of Shanga village

Shanga is located on the southern side of Pate island, in the centre. Shanga saw the earliest settlement from the late 8th with some Muslims arriving late 8th- early 9th C, Arab newcomers in the 11th C and the site abandoned by 1400-25. (Horton 1996: 5, 421, 425). The NMK Report (Wilson 1978: 101-3) states Shanga was located on the crest of the dunes next to a tidal inlet, and that the standing remains of Shanga comprise two stone pillar mosques (also Gaidan 1976: 8), two monumental tombs and houses. Gaidan (1976: 41) reports one pillar mosque dates from the 14th-15th C.

Baseline

Shanga is a living remnant of some of the earliest settlements of the area, and has settlement components showing indigenous vernacular architecture and space making as well as local traditional customs, while retaining the traces and remains of its historic settlement phases. The town and its inhabitants is wholly dependent on fishing, supplemented by small-scale farming.

Critical (Vulnerable) Heritage

The vulnerable components of the protection of the authenticity and integrity of the tangible and intangible components of Shanga are:

- Traditional values

- Vernacular settlement
- Settlement and subsistence agriculture
- Significant archaeological sites
- Livelihood from artisanal fishing.

Threats to heritage

- Threats to the extant as well as possible archaeology resulting from encroachment by development and industrial activity.
- The local stakeholder meeting of 28 Dec 2013 expressed the stamen that they feared the heritage sites of Shanga will be damaged by the proposed development.
- Industrialisation, oil and gas extraction and subsequent negative impacts from pollution will kill the fishing livelihood of these settlements.
- Threats to tourism based on cultural tradition, vernacular architecture and settlement, water activities like diving, birding, game fishing and water exploration.
- Threats to the continuation of the island livelihoods and cultural expressions, and the resilience and strength of the cultural system that sustains the material and immaterial cultural expressions of the island communities, and that sustain the cultural heritage of the Lamu Archipelago and the OUV of Lamu.

f) Faza, Kizingitini, Chundwa and Atu

The living settlement of Faza (also called Rasini) is located on the northern tip of Pate island, with the living settlement of Chundwa, Mwajumale, Mnyabogi and Kizingitini nearby, on the easternmost side. Faza and Kizingitini are inside the gas Prospect zones L4/5 and will be surrounded by industrial components on land and sea.

The town of Faza has a long history, at least from the 16th Century AD. During the Portuguese interlude Faza maintained friendly relations with them and in the middle of the seventeenth century actually helped them against Pate. During the Oman Arabs' seizure of Fort Jesus the defense of the fort was for a period led by a member of the Faza royal house (NMK 2007: 13).

The NMK Report (Wilson, 1978: 106) states that these settlements were not documented in detail, but that there are remains of mosques and tombs of the 16th Century AD and later. Gaidan (1976: 41) reports remains of the 18th C Shela Fatani mosque (gazetted) and the Mwenye Ngombe mosque in Faza, as well as a ruined 16th C town site with tombs, mosques and house remains in Atu.

Kizingitini is the largest fishing port on the island of Pate, and is the southern reach of the Kizingitini-Kiunga Spiny lobster fishery.



Left: Kizingitini (Google Earth 2014); Right: Kizingitini (www.bbc.com/news/world-africa-22704222).



Left: Faza (Google Earth 2014);

Right: Detail Faza village (www.corbisimages.com)

Baseline

Both Faza and Kizingitini are living settlements consisting of vernacular architecture and planning, traditional customs, in a context of historic settlement phases. The main economic activity is fishing, supplemented by small-scale farming.

Critical (Vulnerable) Heritage

The vulnerable components of the protection of the authenticity and integrity of the tangible and intangible components of Faza and Kizingitini are:

- Traditional values
- Vernacular settlements
- Settlement and subsistence agriculture in unspoilt natural environment
- Significant archaeological sites
- Livelihood from artisanal fishing.

Threats to heritage

- Threats to the extant as well as possible archaeology resulting from encroachment by development and industrial activity.
- Industrialisation, oil and gas extraction and subsequent negative impacts from pollution will kill the fishing livelihood of these settlements.
- Threats to tourism based on cultural tradition, vernacular architecture and settlement, water activities like diving, birding, game fishing and water exploration.
- Threats to the continuation of the island livelihoods and cultural expressions, and the resilience and strength of the cultural system that sustains the material and immaterial cultural expressions of these communities, and that sustain the cultural heritage of the Lamu Archipelago and the OUV of Lamu.

The mainland sites

a) Archaeological sites at the Lamu Port development - Mashundwani, Killilana and Old Mkokoni

These sites will be directly affected by the project – the sites will be cleared for the various components of the Lamu Port and Metropolis.

Indicators

- These archaeological sites contain the history of evolution of the Lamu civilisation and urban settlement, and are informants to the attributes that sustain the OUV of the WH property.
- Urgent archaeological survey and documentation of these sites are required.

- Possible alternative positions for urban and port elements must be proposed.

b) Dondo

Gaidan (1976: 8, 41) reports a ruined town site with remains of a rectangular 14th C pillar tomb and part of a house, and a well located at the entrance of Dodori Creek on the mainland – remains of the settlement may be nearby. The site is surmised to have also been a strategic location for the Portuguese, to provide safe anchorage while commanding the Siu channel (Wilson, 1978: 107).

Indicator

- The connecting coastal road will pass Dondo and impacts must be avoided.

4.7 Assessment of significance of the HERITAGE resource

The types and levels significance of the tangible and intangible cultural and natural resources of the Lamu archipelago cultural landscape are critical components in understanding their value to society, critical to understanding how this resource can and should be used for sustainable development, critical to assessing the severity and significance of loss or impacts brought about by change and the type and level of mitigation and compensation that would be required due to these impacts.

4.7.1 OUV of the World Heritage property

From the WHC Nomination Documentation the significance of Lamu Old Town, with its setting, was stated as being of 'Outstanding Universal Value', and subsequently inscribed on the list of World Heritage on 16 Dec 2001.

The OUV of the property is defined in the Statement of Outstanding Universal Value (SoOUV) which appears on the World heritage List, as follows (<http://whc.unesco.org/en/list/1055>).

Outstanding Universal Value

Lamu Old Town, located on an island known by the same name on the coast of East Africa some 350km north of Mombasa, is the oldest and best preserved example of Swahili settlement in East Africa.

With a core comprising a collection of buildings on 16 ha, Lamu has maintained its social and cultural integrity, as well as retaining its authentic building fabric up to the present day. Once the most important trade centre in East Africa, Lamu has exercised an important influence in the entire region in religious, cultural as well as in technological expertise. A conservative and close-knit society, Lamu has retained its important status as a significant centre for education in Islamic and Swahili culture as illustrated by the annual *Maulidi* and cultural festivals.

Unlike other Swahili settlements, which have been abandoned along the East African coast, Lamu has continuously been inhabited for over 700 years.

The growth and decline of the seaports on the East African coast and interaction between the Bantu, Arabs, Persians, Indians, and Europeans represents a significant cultural and economic phase in the history of the region which finds its most outstanding expression in Lamu Old Town, its architecture and town planning.

The town is characterized by narrow streets and magnificent stone buildings with impressive curved doors, influenced by unique fusion of Swahili, Arabic, Persian, Indian and European building styles. The buildings on the seafront with their arcades and open verandas provide a unified visual impression of the town when approaching it from the sea. While the vernacular buildings are internally decorated with painted ceilings, large niches (*madaka*), small niches (*zidaka*), and pieces of Chinese

porcelain. The buildings are well preserved and carry a long history that represents the development of Swahili building technology, based on coral, lime and mangrove poles.

The architecture and urban structure of Lamu graphically demonstrate the cultural influences that have come together over 700 hundred years from Europe, Arabia, and India, utilizing traditional Swahili techniques that produced a distinct culture. The property is characterized by its unique Swahili architecture that is defined by spatial organization and narrow winding streets. This labyrinth street pattern has its origins in Arab traditions of land distribution and urban development. It is also defined by clusters of dwellings divided into a number of small wards (*mitaa*) each being a group of buildings where a number of closely related lineages live.

Attributed by eminent Swahili researchers as the cradle of Swahili civilization, Lamu became an important religious centre in East and Central Africa since the 19th century, attracting scholars of Islamic religion and Swahili culture. Today it is a major reservoir of Swahili culture whose inhabitants have managed to sustain their traditional values as depicted by a sense of social unity and cohesion.

***Criterion (ii):** The architecture and urban structure of Lamu graphically demonstrate the cultural influences that have come together there over several hundred years from Europe, Arabia, and India, utilizing traditional Swahili techniques to produce a distinct culture.*

***Criterion (iv):** The growth and decline of the seaports on the East African coast and interaction between the Bantu, Arabs, Persians, Indians, and Europeans represents a significant cultural and economic phase in the history of the region which finds its most outstanding expression in Lamu Old Town.*

***Criterion (vi):** Its paramount trading role and its attraction for scholars and teachers gave Lamu an important religious function (such as the annual Maulidi and Lamu cultural festivals) in East and Central Africa. It continues to be a significant centre for education in Islamic and Swahili culture.*

Integrity

The property, covering 16 hectares, adequately incorporates all the tangible and intangible attributes that convey its outstanding universal value. A high percentage (65%) of the physical structures is in good condition with only 20 % being in need of minor refurbishment. The remaining 15 % may need total restoration. The majority of the town's buildings are still in use.

The town needs to maintain its relationship with the surrounding landscape. The setting of the Old Town is vulnerable to encroachment and illegal development on the Shela dunes that are a fundamental part of its setting. Development is a threat to its visual integrity as an island town closely connected to the sea and sand-dunes, and to its ultimate survival in terms of the fresh water that the dunes supply. The setting extends to the surrounding islands, all of which need to be protected from informal settlements, and to the mangroves that shelter the port.

Authenticity

The architecture of Lamu has employed locally available materials and techniques which are still applied to date. The people of Lamu have managed to maintain age-old traditions reinforcing a sense of belonging and social unity. This is expressed by the layout of the town that includes social spaces such as porches (*Daka*), town squares and sea front *barazas*. The town continues to be a significant centre for education in Islamic and Swahili culture.

The authenticity of the Old Town is vulnerable to development and to a lack of adequate infrastructure, which could overwhelm the sensitive and comparatively

fragile buildings and urban spaces that together make up the distinctive urban grain of the town.

4.7.2 Significance of the heritage of the Lamu archipelago cultural landscape



In the above SoOUV of the WH property, it is important to note the emphasis on the importance of the relationship between the property and its setting, and the need for protection of the setting. Additional to this, the HIA Report has demonstrated that the World Heritage property and its setting and surrounding area are inextricably bound together, and together support and sustain the OUV.

This realisation has already found adequate expression in the various WHC Decisions and State party agreements that the buffer zone of the WH property is to be increased to include the whole of the Lamu archipelago.

The work in this HIA Report provides an evaluation of the extent and significance of the heritage of the tangible and intangible natural and cultural heritage of the Lamu archipelago cultural landscape, in terms of its various components and the whole, and has come to the conclusion that the level of significance is very high, and with high remaining levels of authenticity and integrity.



4.7.3 Indicators from definition and significance of the heritage resource

The above definition of OUV of the World Heritage property and significance of the heritage of the Lamu archipelago cultural landscape requires that the State Party, on the basis of its Acts and Conventions that it is a signatory of, must ensure that this resource is protected, sustained and managed commensurate with the level of significance. That the resource is used in a sustainable manner and that any developments that may impact on the significance, authenticity and integrity must be assessed on the basis of the said significance, and that all must be done to avoid loss of the resource, or that negative impacts mitigated with the intention to cause minimum loss or damage to the resource.



5 THE DESCRIPTION OF THE PROPOSED DEVELOPMENT IN THE LAMU ARCHIPELAGO CULTURAL LANDSCAPE

The project under consideration is the Lamu Port-Southern Sudan-Ethiopia Transport Corridor (LAPSSET) Project, which is described in the *LAPSSET Corridor Development Alternative Plans Report* (2010), commonly referred to as the LAPSSET Feasibility Report but which is one of its components, and subsequently in the *LAPSSET Corridor and New Lamu Port Feasibility Study and master plans Report* (2011).

However, the Lamu Archipelago Cultural Landscape is subject to a wider developmental context, and this HIA relies on the development vision described in the *Lamu County Development Profile* (Ministry of Devolution and Planning, 2013) which is a part of the **Kenya Vision 2013**.

The exploration and extraction of Gas and Oil on the mainland and ocean of Kenya, especially in Oil Blocks L4 and L13, but also L6, L7 and L15, are also of large importance when defining and assessing changes of the Lamu Archipelago Cultural Landscape.

5.1 Description of the Proposed Lapsset Corridor Project and Lamu Port

5.1.1 Introduction

Information on the LAPSSET and Lamu Metropolis developments was obtained from two documents. The *LAPSSET Corridor Development Alternative Plans Report* (2010), prepared by Japan Port Consultants and BAC/GKA JV Company, is a progress report of studies carried out between May and September 2010. A 4-volume final report, *Feasibility Study on Infrastructure Development for the Lamu Port-Southern Sudan-Ethiopia Transport Corridor Development Project and The Master Plan For Development of the Proposed Lamu Port At Manda Bay and Detailed Designs of The First Three Berths & Associated Infrastructure* was presented to the Kenyan Government in mid-2011. The 2013 Lamu County Development Profile and the Lamu District Regional Physical Development Plan 2007-2037 provided context.

The LAPSSET and its associated components are located in different parts of the County.

5.1.2 The scope of the LAPSSET Corridor Project

The Government of Kenya (GoK) is embarking on one of the largest development projects on the African continent: the Lamu-South Sudan-Ethiopia (LAPSSET) Corridor project. LAPSSET is an international and regional transport corridor that will traverse the north east of Kenya and connect directly with South Sudan and Ethiopia. This corridor is programmed to transform maritime trade and land routes in these three countries.

LAPSSET is conceived as a complement to the existing Northern Transport Corridor (NTC) of the East African sub region. The gateway to the NTC is the Mombasa Port which opens to an inland highway and railway network connecting Mombasa to Nairobi and serving the landlocked countries of Uganda, Rwanda and Burundi. It also serves the eastern part of the Democratic Republic of Congo South Sudan, and northern Tanzania. The NTC is managed by an international coordination authority, the Transit Transport Coordination Authority of the Northern Corridor, jointly

managed as a contractual agreement between Burundi, DRC, Kenya, Rwanda and Uganda.

LAPSSET is a major infrastructural development consisting of a gateway that opens into the Corridor and other large projects associated to the first two. The gateway is the proposed 32-berth deep-water “mega port” in Lamu’s Manda Bay, to the northeast of the Lamu Old Town World Heritage site. The Corridor itself consists of three main components: a highway and railway line to South Sudan and Ethiopia; oil pipelines; three airports. Other associated infrastructures are an oil refinery, three “resort cities” (in Isiolo, Lamu and on Lake Turkana).

The Feasibility Report (2010: Section 3.1-2; 4) describes the Corridor and its Gateway (i.e. Lamu Port project), and potential projects along the corridor, as follows:

3. Preliminary Corridor Development Planning

3.1 Concept of Transport Corridor

3.1.1 Transport Infrastructure

As an emerging requirement of the desired enhanced interconnectivity within the central part of Africa, Southern Sudan and Ethiopia have sought suitable transportation routes including seaport outlets. In addition to this, Kenya has also planned to develop the northern part of the country through the establishment of new transportation routes and other infrastructure. In order to meet these requirements, a new transport corridor to the northern region has been proposed. This new corridor shall comprise a railway, highway and oil pipeline. The total width of the corridor is planned to be 200m, that is, 100m for highway, 70m for railway and 30m for oil pipeline, respectively. The railway will have standard gauge for high speed transit, which was agreed as the standards for African continent in 2008. The target year for completion of implementation of principal functions such as railway, highway and pipeline will be year 2015 and all components of the LAPSSET Corridor will be year 2020 in tandem with the Government’s “Kenya Vision 2030”.

3.1.2 New Gateway

Lamu Port has been planned as a new gateway of the proposed Corridor to complement the existing Mombasa Port. It will afford added convenience for the movement of people and goods for Southern Sudan, Ethiopia as well as Kenya. The Port must also be designed with adequate capacity to be able to respond to the high volume of cargo for export and import anticipated by the year 2030. The proposed Port is also intended to be an efficient and convenient base for unloading of a variety of materials and equipment that will be used in the construction of the new LAPSSET Corridor.

3.1.3 Regional Development

As part of its development strategy for the northern part of the country, the Government of Kenya has identified three cities, namely, Lokichokio, Moyale and Isiolo as nodal cities of the proposed Corridor. Two of the cities, that is, Lokichokio and Moyale which are near the Southern Sudan and Ethiopian borders respectively are aimed at providing the nerve centres of trade with these countries. Isiolo on the other hand, is the hub of the transport corridor and sits centrally in Kenya. Arising from its strategic location, a master plan has already been drawn up for Isiolo as an industrial city intended to create jobs for the region. The Corridor, especially the Highway and Railway are, therefore, prioritized to be completed at an early stage of the Government’s Vision 2030 plan as its flagship project. As development of the corridor progresses completed sections of the corridor can then be used in supplying materials and equipment for sections under development. Opening up of the corridor will act as a catalyst to development of Airports, Resort Cities and related facilities.

One of the objectives of the LAPSSET corridor study is to integrate transportation and land use in order to optimally exploit the potential of the three countries to be served by the

Corridor. This involves identifying the current land uses and the resource of the region and assessing how the transportation corridor can effectively be used to spur growth in the three countries. The appropriate strategy would be to develop linkages between the transportation corridor to the tourism potential; the regional potential; and the urban networks as structured nodes of growth through concentrated services and infrastructure.

3.2 (4) Potential Projects Considered along the LAPSET Corridor

Data has also been obtained on various potential projects that are likely to have direct or indirect bearing on the Corridor's freight. They include:

- Establishment of large-scale fruit processing and canning factories. According to the Ministry of Agriculture the development of quite a large scale pineapple estate or pineapple cultivation has been under planning. The expected output would be around 20 – 30 million tons. If this pineapple estate development project is realized it would become the world's largest pineapple estate. A large part of the output is planned to be processed (pineapple juice and ready to eat or cook pieces) and tinned in the agriculture products processing zone planned to be located in the premises of industrial zone just behind the New Lamu Port. Other kinds of fruits such as citrus, mangoes, papaya, etc. will also be processed into dried fruits, juice, etc. in the agricultural products processing zone just behind the New Lamu Port.
- Establishment of a beverage processing plant (coffee freeze drying, tea packing, etc.). Some of the agricultural products especially cash crops, to be exported through the New Lamu Port from Ethiopia (Coffee), Uganda (Coffee) and Kenya (Tea), will be processed into some value added products such as roasted coffee, free-dried coffee, packed tea, etc.
- Establishment of edible oil production factories: A considerable volume of sesame seeds, soya beans, sunflower seeds, etc. under the category of oil seeds is expected to be exported through the New Lamu Port from Southern Sudan and Ethiopia. A large part of these oil seeds can be milled to produce edible oils for export.
- Establishment of wood processing factories: Because easy access to the Indian Ocean will be provided to the countries in the central part of the African continent such as Central Africa and Democratic Republic of Congo, their rich forestry products (may be in the form of log) will be exported through the New Lamu Port. A large part of these woods can be processed in Lamu into sawn wood before exporting the products abroad.
- Establishment of fish processing plants: Lamu faces Indian Ocean and is endowed with a rich spawning ground for fish and marine products such as crabs, lobsters, etc. along the coast and in the islands. Coastal fishing is already a dominant economic activity at present and will continue. It is expected to be developed to pelagic fishing in the Indian Ocean. If icing and refrigeration system is established processing and storage the fish catch and landing will increase drastically. Landed fish will be processed at the fish and marine products processing area planned to be provided in the industrial zone behind the New Lamu Port.
- Establishment of a livestock yard and slaughterhouse in Lamu and Isiolo:
- The proposed establishment of a slaughterhouse at Garissa.
- Establishment of a transport logistics center;
- The proposed construction of a major dam on the River Tana at its confluence with River Mutonga on the lower slopes of Mt. Kenya. The dam will be used for irrigation on the delta of River Tana to produce various fruits and vegetables leading to the establishment of various agroprocessing industries;
- The proposed development of a cement factory at Ortum in the Kerio Valley with an initial capacity of 600,000 tonnes a year within the proximity of the Lamu-Juba Corridor. Production is expected to increase to one million tonnes/year The project will also produce 64 megawatts (MW) of electricity of which 50 MW will be sold to the national grid;
- The proposed establishment of a sugar factory by Mumias Sugar Mills Ltd. on the delta of River Tana, which will also generate a substantial amount of electricity part of which will be sold to the national grid;

Table. The LAPSET Regional Development Plan (JPC 2010: Fig 12-1)

5.1.3 The rationale for the LAPSSET project

The Feasibility Report describes the expected positive 'effects' of the LAPSSET Corridor project as follows:

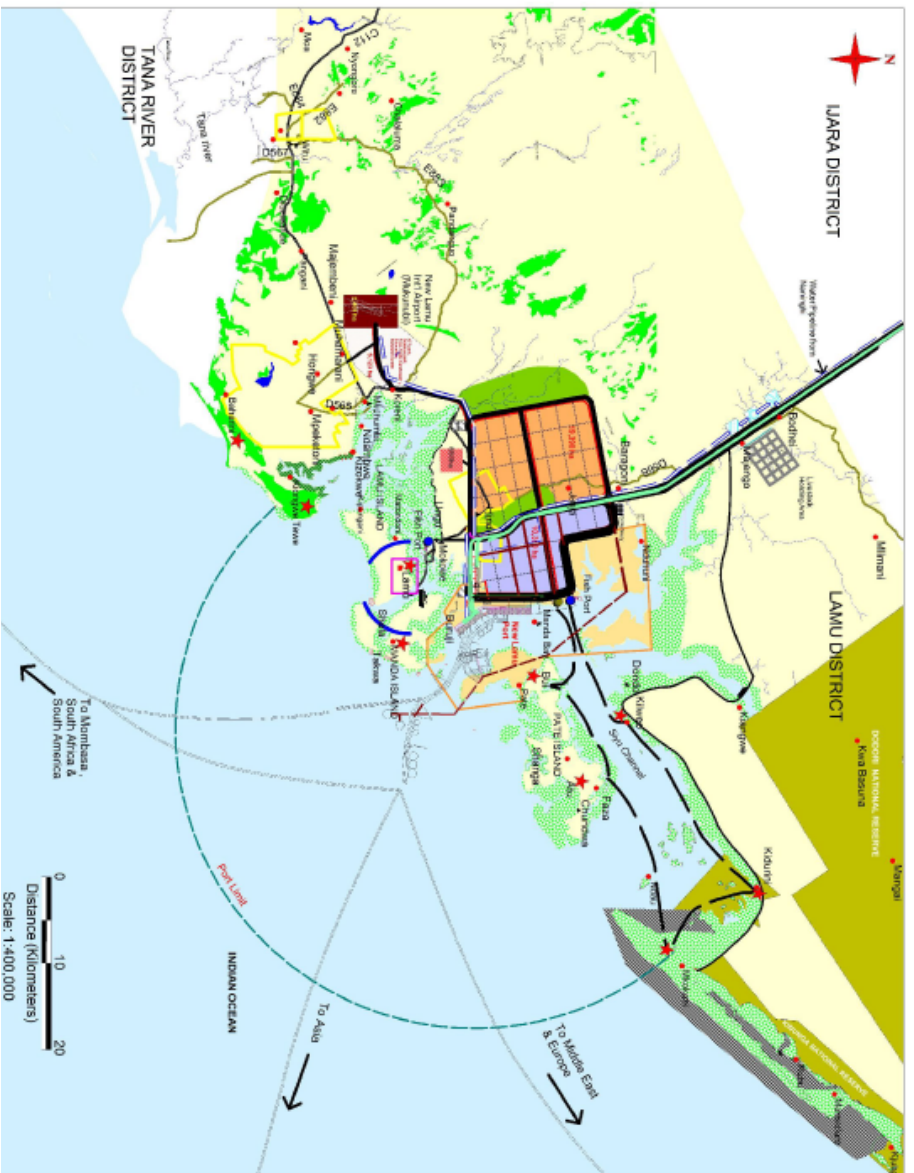
...while being a regional project that will integrate Kenya with its immediate neighbouring countries, Ethiopia and Southern Sudan, it will also have enormous socio-economic impact far beyond the regions of the country that it will traverse. It will be a new gateway for Kenya's trade through the Indian Ocean and indeed through an expansive hinterland and the land-locked countries. Its linkages with economic activities that are currently associated with the Northern corridor will stimulate production in both manufacturing and agro-processing based on local resources. It will also open up the Northern parts of the country in much the same way the Kenya-Uganda Railway opened up East Africa's hinterland at the beginning of the last century. (2010: 2.2.5)

5.1.4 Detail description of the Components

The Lamu Port ('Gateway') will comprise of the following components as described in the Report (2010: 3.2-6(4)) See Map below (Relevant maps from the FS are provided in ANNEX 3)

- a) Port areas - sub-zone of the SEZ (general Cargo Berths, Container Cargo berths, Bulk Cargo Berths, Port Management Body (PMB), Ship Navigation Simulation, Management Facilities and Buildings, Navy Base Relocation, Location of Fishing & Small Boats Repairs Facilities, the Port Work Vessels Repair Facilities, the Approach Channel through Manda Bay
- b) Port related Industrial Area, Oil refinery and allied industries (In SEZ);
- c) Urban Development Area – outside the SEZ;
- d) Temporary 100km Lamu-Garsen access way
- e) The LAPSSET Corridor:
Lamu Isiolo Railway, Lamu-Garissa Highway and Lamu-Nakodok Crude and Product Oil Pipelines;
- f) New international airport;
- g) Resort city and its Satellites;
- h) Settlement Scheme;
- i) Electricity infrastructure;
- j) Lighting infrastructure
- k) Water, waste and sewerage infrastructure;
- l) ICT infrastructure;
- m) Fishing port facility;
- n) Local industries

LAMU METROPOLIS DEVELOPMENT PLAN



Legend

- Special Economic Zone (1,030 ha)
- Proposed Cruise Ship Terminal
- Proposed Railway Station
- Proposed Airport
- Airport Related Activities (Aerodrome)
- Urban Area (18,300 ha)
- Report City
- Proposed Land Port Area (8,300 ha)
- Proposed Water Port Area (6,300 ha)
- Forest
- Game Reserve
- Marine Reserve
- Local Cemetery
- Proposed Fishing Port
- Local Boat Terminals
- Report City Satellite Sites
- Lamu Heritage Site
- Holding Area
- 200m Corridor
- 170m Road
- 150m Road
- Proposed 40m Road
- Main Trunk Road
- Lamu Port Area
- Railway Line
- Sea Route
- Land Settlement Area
- Proposed Water Pipeline
- Proposed Gas Port Area (220,000 ha)
- International Shipping Routes
- Proposed Water Front Walkway
- Outer Buffer Zone
- Proposed Oil Refinery
- Berths
- Proposed Reservoir
- Proposed Water Treatment Tank

a) The Port Area

The Port Area is a regulated area – the Feasibility Study (2011: 18.1.1) states that:

The new port cannot be internationally competitive unless it is managed to the highest international standards. For this reason, there is a compelling case for designating the port area as a special zone to be entrusted to a Port Management Body (PMB) for day to day management. This is consistent with international practice and the Kenya Ports Authority Act which empowers the Minister to “define the limits of any port”¹. This area should include a sea area of 35 km radius (the Port Limit in the sea) and a land area (Area:9,300ha) to be designated on the Master Plan for Lamu.

The Port Area therefore has a 35km radius, and the Port Management Body will have authority to regulate and control activities that should be undertaken in the sea area covering, all related channels and estuary, within that radius (JPC 2011: 4.1.5(4)).

This authority to regulate and control activities extends to boat traffic in Port Area, but also the Lamu archipelago, which falls within the 35 km radius. The Feasibility Study (2010, 14.2.2 (6)) mentions that:

The New Lamu Port will be located in Manda Bay where local fishing boats and speed boats for tourists will also enter to the harbour area frequently. There are possibilities to encounter collisions between the large commercial ships calling Lamu Port from abroad and such small local boats. In order to forestall marine accidents in the harbour, a new port management system such as Vessel Traffic Services (VTS) is required.

The forecast for the cargo demand in the LAPSSET Corridor cannot be definitively defined (Feasibility Study 2010: 2.2.1).

Indicators for this HIA

- The Port Area is a special zone of the SEZ managed directly by the PMB.
- The Study does provide detail re. the future relationship between the management of the SEZ and the management of the World Heritage property and its buffer zone (current buffer zone or the planned, extended buffer zone)).
- The Port Area, Mkanda Channel, Manda Channel and Buyi Channel are all to have controlled access and use.
- There is current local boat traffic and fishing in the Port Area, the Manda, Buyi and Mkanda Channels, all within direct control of the PMB, and similar in the rest of the archipelago, also under control of the PMB.
- Current boat traffic and artisanal fishing are incompatible with the operational requirements of a large Port as Lamu Port.
- The village of Manda and its fish landing site and archaeological site on the north of Manda Island and the villages of Bui and Pate and their fish landing sites and archaeological sites on the west of Pate island, as well as the archaeological sites of Old Mkokoni and Kililana on the coastline, all fall within this special zone.
- The natural and scenic setting of Manda, Pate and Buyi villages are to border the industrialised Port Area.
- There is no clarity as to the new location of the Naval Base.

(i.i) Port Berths:

The proposed 32-berth Lamu Port (and later extensions) is designed to include commercial and specialized sections. The commercial section will include general

cargo berths for break bulk cargos, container berths for containerized cargos, and bulk berths for dry bulk cargos. Edibles oil will be handled at specialized berths in the commercial section.

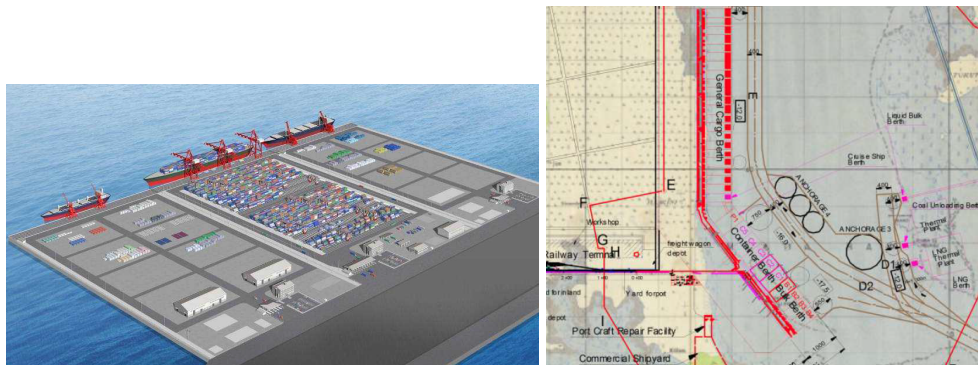
- i. Break bulk: general cargoes to/from neighbouring countries, construction materials, livestock etc;
- ii. Containerized cargo such as machinery, consumables, etc
- iii. Other containerized refrigerated cargoes;
- iv. Liquid bulk including edible oils. Special cargoes such as crude oil for export and LNG and coal for import will be handled respectively at designated offshore buoys and specialized berths in the Manda Bay.

This will be handled by:

- General Cargo Berths,
planned depth:-16m with pipe-pile platform-type wharf
- Container Cargo berths,
planned depth:-16m with pipe-pile platform-type wharf
- Bulk Cargo Berths,
planned depth:-17,5m with pipe-pile platform-type wharf

The Berths are located along the north-south running coastline of the mainland in Manda Bay, with the lower portion bending towards Manda Island.

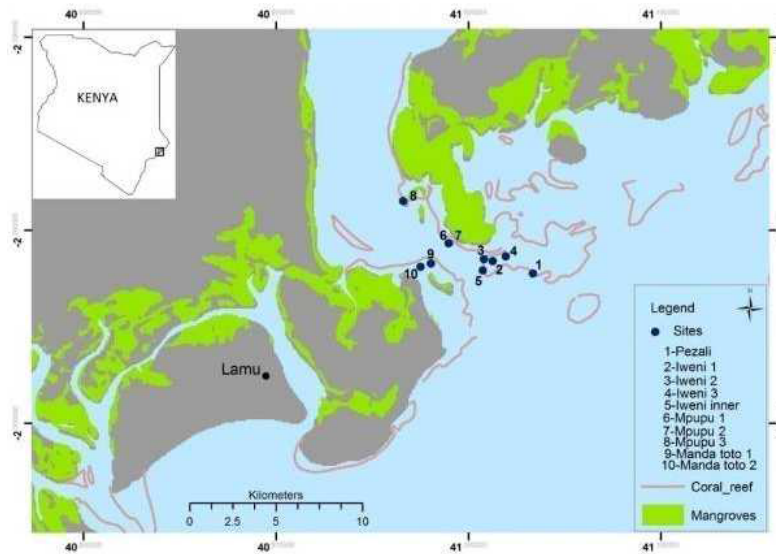
There is shaping of the water edge, the bay floor and all mangroves in this area are removed.



Left: Typical Berths (SEIA Berth 1-3: Fig 0-2); Right: (JPC 2011: 15.7-10)

The areas to the east of the Berths, up to the shoreline of Pate Island and to the south, up to the shore of Pate Island, are included in the controlled Port Area used for approach/departure, special loading, turning and repairing of ships (See location of the special loading berths in plan above). The passenger ships (Including Cruise ships) will dock in the southern portion of the Berths.

The Port has an Approach Channel that concentrates all cargo, cruise and harbor ship access in a pathway – this channel with its buoys and control lights is located between Manda and Pate islands,



Sampled reef surveys as part of SEIA Berths 1-3 (2013: Fig 8-2).

In choosing between options for the zoning of New Lamu Port. The FS (JPC 2011: 4.1.5) stated that:

** Potential impact on natural and social environments in the Manda and Pate islands; This area is partly protected as the national reserve due to the historical and cultural importance by the Ministry of State for National Heritage and Culture. We consider that stringent preservation of the present environment may not best serve the Kenyan national interest, but the proper balance in mitigation and development may maximize the project benefit for entire Kenyan nation. For example, the mangrove and wet land are also to be preserved as hatchery and nursery areas of the fishery resources, and the mitigation measures, such as creation of shallow water basin shielded from outer wave intrusion and implant of existing mangrove, are to be taken, should the development affect this area. The establishment of truck and barge companies or construction companies by the farmers and fishermen who are affected by the environmental impact to the degree that they cannot reasonably continue their traditional works, and their training to become operators, drivers or small business entrepreneurs may be financially or institutionally supported by the public sector as one of social mitigation measures.*

** Requirement to preserve the navigation route of local small and fishing boats through the existing Mkanda channel, crossing the Manda Bay and through the Siyu channel, north of Pate islands; In monsoon seasons, small and fishing boats cannot navigate the outer sea but navigate through the route shielded by islands, which eventually supports people's lives in islands and northern part of the Lamu district, i.e. small islands and Kiunga, Kiwayu areas near the Somalia and Kenya border. As the compensation to the fishery communities along the coast for environmental impacts, the possibility of dredging shallow sections in the Siyu channel for local boats might be studied to enable boat to transport through the whole seasons in a separate study.*

Indicators for this HIA

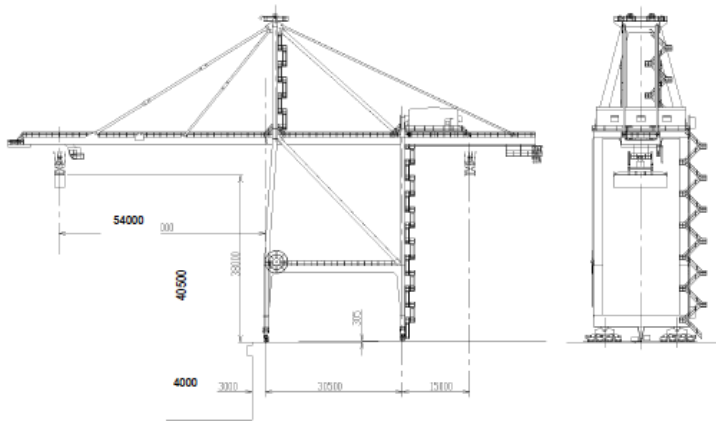
- The water environment of Lamu archipelago, inclusive of the wetlands, mangroves, rivers and deeper waters of the archipelago, sustain livelihoods and unique cultural life in the archipelago – the area to be occupied by controlled Port Area in Manda Bay is an important part of the archipelago's cultural and natural ecology.

- The main transport in Lamu archipelago is by boat – including in Mkanda Channel, Manda Bay, Manda Channel and Suyi Channel – the HIA must understand the impacts of curtailment of local small boat movement resulting from the location of the Berths (and later extension), control of the Port Area and control of shipping channels - and have detail of the feasibility of controlled movement through the controlled Port Area and of the possibility of dredging the Siyu Channel to create all-season access for small and fishing boats in the protected island waters - all posed as a possible compensation by the project proponent.
- The Approach Channel and its dense ship traffic, is very near to and in the line of sight from Buyi, Pate town and Manda town with their historic sites and scenic natural settings, as well as important coral reefs.
- The Berths, with their enormous Cargo ships and Cruise ships at quay or during approach/departure, are in the line of sight from Lamu Old Town World Heritage property, and within the view-cone of the protected Skyline included in the Inscription.
- The Berths, with their enormous Cargo ships and Cruise ships at quay or during approach/departure along the entry/exit channel, are very near to and in the line of sight from Buyi, Pate town and Manda town with their historic sites and scenic natural settings..

i.ii Equipment for the General Berths:

Crane type is the Ship-to-Shore gantry Cranes (SSG): These are rail-mounted, electric powered, hinged boom, travelling type gantry crane with mono-box boom and girder (2010: 4.2.1 (2)), Crane rail 55-85m above wharf level, with lift height above the rail being 40,5m (2010: Table 4.2-6).

SSG Units per Berth or per ship (2010: table 4.3-2).



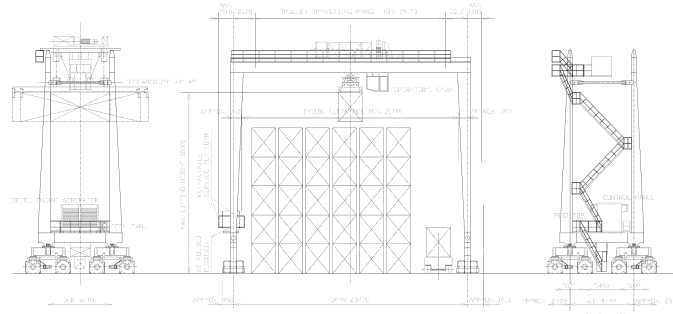
(JPC, 2010: Fig.4.2-14)

Indicators for this HIA

- The mast and rigging of the SSG's are even higher than the 85m horizontal crane element.
- The SSG's will have aircraft danger lights.
- The SSG's are in the line of sight from Lamu Old Town World Heritage property, and within the view-cone of the protected skyline included in the Inscription.
- They will be very near to and visible by Manda, Buyi and Pate villages with their historic sites and scenic natural settings.

(i.iii) Rubber Travelling Gantry Crane

The Berths have Tyred Gantry Cranes (TRG) for container stacking: They are +- 22m high. The Port needs need 11 units under full operation (2010: 4.3.1)



(2010: Fig 4.2-16)

Indicators for this HIA

- The mast and rigging of the SSG's are +-22m high.
- The TGG's will have aircraft danger lights.
- The TGG's are in the line of sight from Lamu Old Town World Heritage property, and within the view-cone of the protected Skyline included in the Inscription.
- They will be very near to Manda, Buyi and Pate villages with their historic sites and scenic natural settings.

(i.iv) Bulk Cargo Terminal Ship Unloaders (2010: 4.2.1 (1)(3)):

The Bulk Cargo terminal will use the following equipment:

- Rail-mounted, electric-powered, travelling continuous ship unloaders – it is difficult to ascertain how high these are.

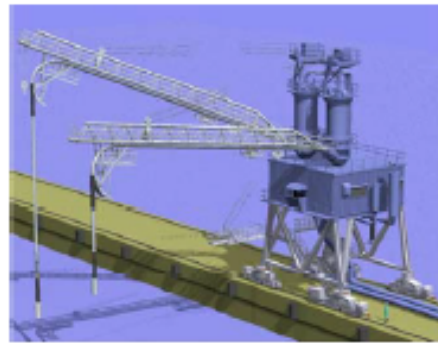


(JPC 2010: 4.2-19)

- Double-link Type Level Luffing Cranes and Pneumatic type Unloaders.



(2010: Fig 4.3-6 (a))



(2010: Fig. 4.3.11)

- Jib type cranes (Tire-mount, multi-purpose crane).



(2010: Fig 4.3-7(a))

As far as grain unloaders are concerned, the Level Luffing crane type is used. For grain and coal, after this is discharged from/loaded onto the vessel, the cargo is stored in silos in the port and then loaded/loaded and transported.

Indicators for this HIA:

- The Bulk Cargo terminal uses cranes and unloaders that may even be higher than the SSG's.
- These will have aircraft danger lights.
- This HIA surmises that the coal/grain silos will be the permanent, concrete tower silo type – these can reach heights of up to 85m.
- The grain/coal silos, cranes and unloaders of the Bulk Cargo Terminal are in the line of sight from Lamu Old Town World Heritage property, and within the view-cone of the protected Skyline included in the Inscription.
- They will be very near to Manda, Buyi and Pate villages with their historic sites and scenic natural settings.

(i.v) Administration Tower, also called the Joint Government Building.

The Administration Tower (2010: 4.2.1 (2)) houses various institutions and is a 17 storey tower block of 80m high (JPC 2011: 4.3.3).

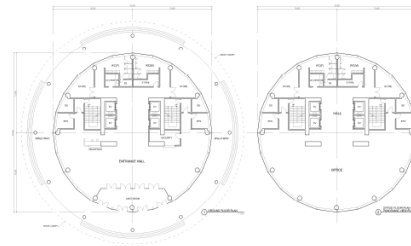
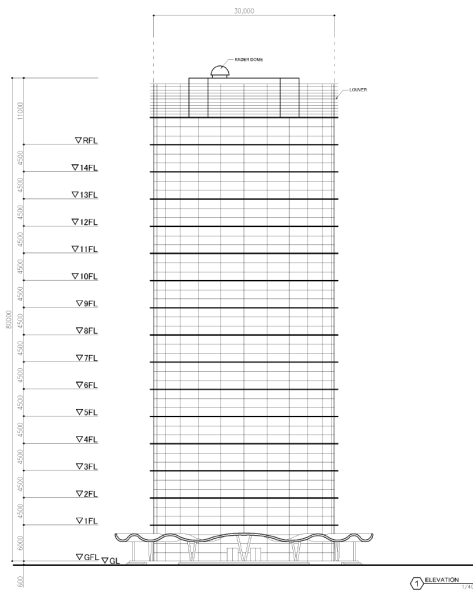


Figure 4.2-20 (2) Administration Building (Floor Plan-1)
Source: JPC

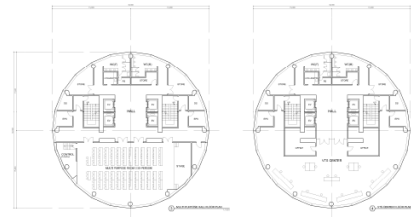
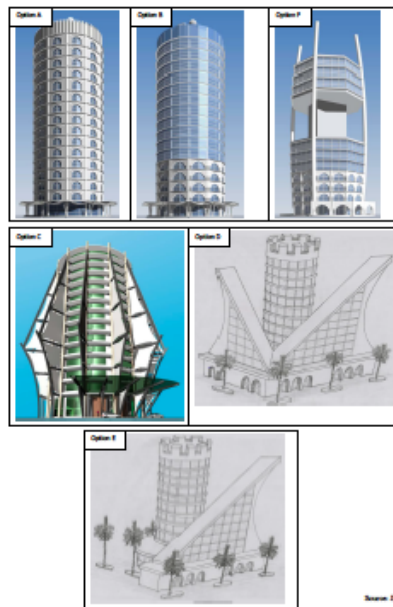


Figure 4.2-20 (3) Administration Building (Floor Plan-2)
Source: JPC

(2010: Fig 4.2-20(1), (2) and (3))

The building is designed to be a vertically expressed icon for the new Port Development. The communications radar will be added to the top of the building. According to the Feasibility Report (JPC 2011: Fig. 4.1-2) there will also be a Lighthouse on this building.

One of the following designs - some eclectically employing Swahili architectural stylistic elements - will be chosen:



JPC 2011: 4.3-5 Joint Government Tower designs.

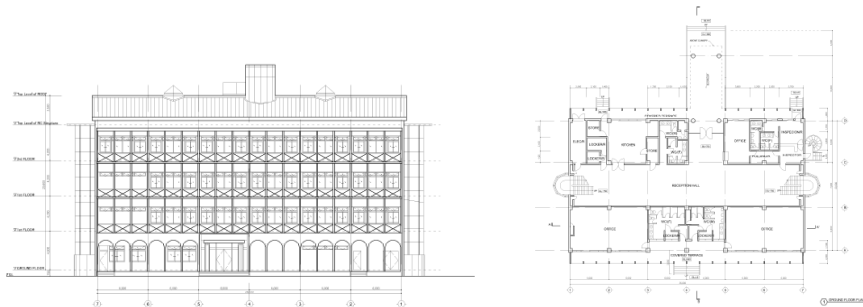
Indicators for this HIA

- The building is 80m high but will have a communication radar on top of that as well as a lighthouse.

- The Radar tower will have aircraft danger lights.
- The building is an icon and will be lit by night.
- The building is in the line of sight from Lamu Old Town World Heritage property, and within the view-cone of the protected Skyline included in the Inscription.
- The building's height is not determined by fixed operational norms like in the case of cranes and unloading equipment and silos – Planning regulations must be utilised to determine a height with less impact.

(i.vi) Operation Building for General Cargo Terminal (2010: 4.2.1 (2)):

The Operations Building is a 4 storey office block. The drawings of the building shown in the Feasibility Report were not followed.



(2010: Fig 4.2-22 (1), (2)) and JPC (2011: 4.3.4).

The building has been built already and in January 2014 looked like this:



Indicators for this HIA

- The building is in the line of sight from Lamu Old Town World Heritage property, and within the view-cone of the protected Skyline included in the Inscription
- The authors have experienced that this building is visible from Lamu World Heritage site and from as far as Shela.
- The building has caused the demolition of an existing mosque and graves attached to the living community who have farmed this area for generations.

(i.vii) Container marshaling/Stacking Yard (2010: 4.3.1):

Behind the quay apron parallel to the container berth – containers are to be stacked 5 tier containers high.

The maximum objective of the Port is to serve container ships of 100000 DWT, which are 350m long and are stacked 8 tier containers high (2010: Table 4.3-1).

Indicators for this HIA

- The container yards and the container ships are in the line of sight from Lamu Old Town World Heritage property, and within the view-cone of the protected Skyline included in the Inscription.
- They will be very near to Manda, Buyi and Pate villages with their historic sites and scenic natural settings.
- The height of a standard intermodal container is a max. of 2.896m high, ie, the total height of the container stack is max. 14,48 meters high.
- The height of the containers above the ship deck is max. 23,168m high (the max. deck height of the proposed cargo ships is not known but needs to be established to understand the visual impacts of the total max. height of the ships).

(i.viii) Ship Navigation Simulation

This action is described in the Feasibility Study (2011: 4.1.6) and pertains to the establishment of the route alignments and widths to handle a certain type and number of boats under certain conditions.

There are no indicators for this HIA.

(i.ix) Navy Base Relocation,

The Feasibility Report (2010, 14.2.2 (1) states that:

The Manda Navy Base and the Air Force Airstrip located on the west coast of Manda Bay can co-exist with the new Lamu Commercial Port during the initial Urgent Plan Stage. It is, however, difficult for the commercial port to be expanded and operated efficiently, following expected increase in cargo throughput until 2020, if the Navy Base will remain sandwiched permanently. The only appropriate countermeasure is to ask the government to relocate these military facilities to some other place. The timing of relocation is not now, but before 2020 when the port will be expanded until nine berths will have been constructed to the south of the Navy Base.

The Feasibility Report (2011: 4.1.5) states that:

The Naval and Air Force Joint Base equipped with an air-strip; Due to intensified infiltration of armed bandit, a factional group of Al Qaeda, the northern areas along the border have been reducing their population for several years. The importance of the military base increased under the current situation but the joint base location may cause severe interference to port operations and verse versa.

Indicators for this HIA

- The Navy port facility (2011: 4.1-29) may yet be located in Manda Bay the impacts of which, if so, will have to be added to the HIA and its mitigation. Information about the exact position of relocation is crucial for the further assessment of impacts.

(i.x) Location of Fishing & Small Boats Repairs Facilities

The Feasibility Study (JPC 2011: 15.7.5) states that:

small Boat repair facilities need be close to the fish landing facilities, because most of these boats are used for fishing. Repairs facilities will cover boat & fishing gear and act as a mooring point for boats not in use. As proposed for the fish landing facilities, the repair facilities shall be located close to Mkowe jetty in the initial stages. Later in the development of Lamu metropolis another fish landing point & repair facility will be built on the Manda bay mainland opposite the tip of Wange creek, but these later facilities will incorporate passenger landing jetty.

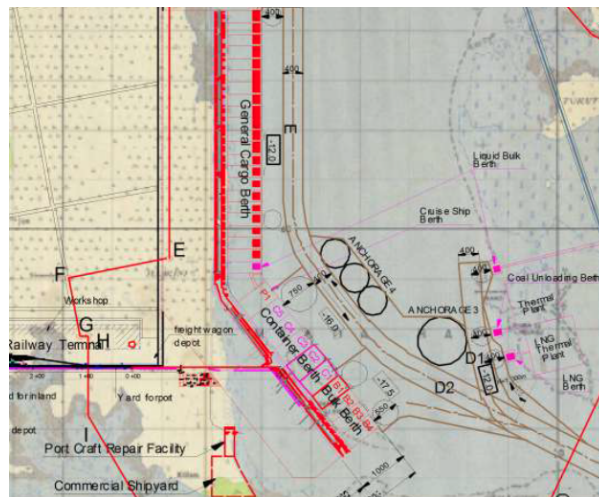
Indicators for this HIA:

- It is stated that at a later stage another facility will be built to the north side of the Metropolis. There are many fishermen in Lamu West - this Fish harbour and repair facilities will not be accessible to them.
- There is no mention of a Local Economic Development (LED) approach to incorporate existing boat repair entrepreneurs in the new facility.
- Other fish landing sites, cold storage and repair facilities planned are planned in the east – it is outside of the mandate of the LAPSSET project to provide anything outside the Manda Bay area – note thus that the only upgraded facility serving the west is that of Mkowe.

(i.xii) Port Work Vessels Repair Facilities

The Feasibility Report (JPC 2011: 15.7.4) states that:

Port craft repair facilities are facilities onto which port floating equipment such as tug boats, pilot boat, mooring boats, floating cranes, pontoons, lighters and even non-port operation equipment such as floating construction equipment are repaired. Such facilities would generally be sited separately from the main operation area complete with their own support facilities like offices, workshops, slipways, winch rooms, spare part stores and compressed air.



Location of Port craft repair facility (JPC 2011: 15.7-10)

Indicators for this HIA:

- The Port Works Repair facility is located at the mainland point where the Mkanda Channel enters into Manda Bay and where fishermen and dhows pass – this is also opposite a mangrove and riverine inlet in Manda island.

b) The Port-related Industrial Area and its components

The Feasibility Study (2010, 14.2.2 (4)) states that:

in order to enhance future development of various industries in and behind Lamu Port, and contribute to regional socio-economic development, new port-related regional development policies could be discussed to be adopted, including a “free port (FP),” “export processing zone (EPZ),” “Special Economic Area (SEA),” and others. A Petro-chemical industry is another field of interest to be developed, making good use of crude oil, parallel with development of the Port.

Some components of the Industrial Area are described in the Feasibility Report (2010: 3.2-3 and -4), and the Feasibility Report (JPC 2011: 20.3.1, Tables 20.31/2) provides more detail:

The **Industries** planned to be established in the coastal area are (Refer to Development Map above and in **ANNEX 3**):

An Oil refining industry, a Food Processing Industry (including Fishing, Beverage (coffee and tea), meat, edible oil, and fruit processing factories, a Grain terminal, a Flour mill, a Live animal quarantine centre), a Wood Processing Industry, a Textile industry, an Oil Refinery and Petro-chemical industry, a Thermal power plant, Ship repair and building, Material processing for Corridor construction, and a Service base for offshore oil and gas production.

It is significant that the Report states that it is planned that these Port related industries will attract further industries (JCM 2011: 20.3.1), eg, a Steel industry, an Automotive industry – the plan above is therefore not a solid state proposal. It must therefore be taken that the long term plan is for the Lamu Gateway to grow in importance and volume cargo processed, with subsequent growth in area coverage.

The Feasibility Report states that

A considerable volume of agricultural and forestry products exported from Ethiopia and Southern Sudan can be processed to add more values in the industrial zones provided at Lamu, probably under free zone status. (2010: 3.2-3)

The Feasibility Report also states that:

The traded commodities (exports and imports) handled at existing ports such as Port of Djibouti for Ethiopia and Port Sudan for Southern Sudan are assumed to be diverted to the New Lamu Port in the future when the major transport infrastructure of LAPSSET Transport Corridor (the Project) will be completed and made available for transport services. (2010: 3.2-2 (4))

In terms of the livestock processing, the Feasibility Report (2010: 4.1.8) states that:

...the Livestock Yard will be 2km x 3 km and located 40km north of Hindi on the transport corridor, with sheep to be trucked to the Berths for loading, and that a discharge water and solid waste treatment system might be necessary to preserve water quality in Wange Creek.

In terms of the **Oil refinery** the Feasibility Study (2010, 14.1.3 (2)) states that:

...the construction plan of an Oil Refinery at Lamu is formulated in consideration of expansion of the existing Mombasa Refinery, probable construction of refineries at Uganda, possible sources of crude oil (from Southern Sudan), production plan with a capacity of about 150,000 barrel[s] per day, and possible consumers and sales areas.

The position of the Oil Refinery is pinpointed on the relationship map as being on the northeastern corner of the industrial city, with the pipeline extending across the Port Area past the west side of Pate island, traversing the current mangrove forest and nearby community conservation area coral reefs – the possibility of damage to these mangroves are not defined (it is also not clear if these mangroves are to be removed) and the removal and relocation of the coral reefs are indicated.

The Draft CIDP states that:

Easy proximity to Lamu port is expected to ease logistics and transportation both when the refinery will be built and when it is eventually operationalized. (2014: 64)

The Policy for the Oil refinery derives from the Ministry of Energy.

The Crude Oil pipeline, shown on the relationship map, traverses the Mangrove forest on the west portion of Pate Island.

In terms of the proposed **Station**, the projected industrial developments in Lamu County require a regular power supply for all the projected infrastructure. To take care of this, long term proposals are for the development of a coal based Thermal electric plant with a capacity of 300 MW by 2020 to be increased to 1 GW by 2030, by a Liquefied Natural Gas (LNG) plant. The coal plant will be dependent on the coal production from Mwingi area which is hinterland of Lamu port. The purpose of thermal power development is to provide power for the crude oil pumping operations, railway and highway operations, industrial and urban activities induced in Lamu and port operations. These plants will be located at the deeper channel along the western coast of the Pate Island adjacent to the proposed petroleum product terminal. This location has been selected primarily for economic reasons and also to take advantage of sea water for a cooling system. Further justification for this location is given as avoidance of marine accidents, and to forestall the effects of thermal plant operations (noise and air pollution) on densely populated areas on the mainland.

Indicators for the HIA:

- The scale of the planned Industrial Area in the landscape is enormous, seen in the light of its location in a currently serene, rural environment and adjacent to a seascape known for its scenic tranquility.
- Many of the planned industries are polluting industries, but especially the Oil Refinery and Petro-chemical industry, the Wood processing industry, the Textile industry, the Ship repair centre and the Livestock quarantine area. There is no reference to the manner in which the pollution discharged into the riverine and marine environment, as well as into the waste disposal infrastructure, will be contained, processed or minimised, and what the impacts are on the riverine and archipelago marine environment which forms the base for cultural life of the Lamu archipelago. There is no reference to how air pollutants will be contained or minimised, in terms of physical and visual pollution in an area that brands itself to be a valuable natural and scenic environment.
- The choice for locating the proposed power plant near Pate island rather than on the mainland does not take into consideration transfer the impacts of these same effects on the populations and environment of Pate Island and on the fragile biodiversity of the marine environment.
- The oil pipeline to the offshore transfer points is located just west of Buyi and Pate town of Pate Island and the nearby coral reef – the impacts on these resources will be irreversible with subsequent loss of natural heritage and eco-tourism value (over and above negative impacts to the bio-physical environment).

- Many of the planned industries are large in height or have high emission elements, like the Grain silo of the grain processing industry, or the smoke stacks of the Petro-chemical industry. There is no indication of the scale of these elements, in an area that brands itself for its scenic quality and where the skyline of the Lamu Old Town World heritage property is protected.
- There is flagging of the warming effects of interaction of a Thermal power station on the riverine and archipelago marine environment (2011: 4.8.2) but the scale and significance of the impacts must be specified and the mitigation must be proven
- The Port Industrial Area is not seen only being those components included in the Report, but is planned to attract further industries.

c) Urban Development Area of the Lamu Metropolis

The Urban Area is dealt with here, and the Port and its Industrial Area, the Resort City and Airport area are dealt with under separate headings.

The Feasibility Study states that it is expected, if the development of LAPSSSET Corridor, Lamu Port and Marine Resorts will be successfully realized,

the population of the new Lamu Port City could become 1.25 million persons, which is larger than the present population of Mombasa. Then, it is indispensable that expansion of this urban area is to be regulated properly from the beginning of city formation by means of appropriate urban development policy, backed up by social, physical, institutional, welfare and financial policies, by the central and county governments. (JPC 2010, 14.2.2 (5))

This data is corroborated in the Feasibility Study (2011: 20) and the date for this population size is given as 2050. For reasons of understanding the scale of this Metropolis, it will compare in population size with Dallas in the USA - using the 2012 census (<http://en.wikipedia.org/wiki/>).

It is believed that the Metropolis should be developed it into a model town in Africa. The Feasibility Study (JPC 2011: 20-1) states that due to the scale of this development, the area should be proclaimed a Special Planning Area under the physical Planning Act, that an interim Urban Authority should be established to in the short term draft the master plan, to co-ordinate and manage the urbanisation process, culminating in the establishment of a Lamu County Planning and Development Board (See Fig 20.1-1). Of particular importance for Lamu Old Town (and one would believe for other towns in the archipelago) is to have proper control of uncontrolled development and settlement due to the huge influx of people from elsewhere.

The Metropolis will consist of various components (2011: 20), ie the Main Urban Area, the Port and port related Industrial Area; the Resort City and the Airport related activity area [aeropolis] – these last are key employment areas while the main urban area will provide for residential areas and the related infrastructure and services. This area will also form the basis for generated employment.

In terms of relative component size, the urban area will have the core area which will be known as Central Business District; eight regional centres [150,000 population catchment]; 125 local centres [10,000 population catchment]; and residential neighbourhoods. (JPC 2011: 20.3).

The Feasibility Study (2011: 4-8) indicates that the Hindi-Magogoni Settlement Scheme will be relocated for the development. There is no indication of the

relocation of people having small settlements, including graveyards and mosques, on the coastline related to subsistence farming.

Indicators for this HIA

- If the intention is that the Lamu metropolis should be a model town in Africa, it is imperative that the very significant cultural and natural attributes of the archipelago be uppermost in the environmental planning of the project.
- The Feasibility Study does not state anything about the need for special control measures to curb uncontrolled influx and settlement in Lamu Old Town and the other towns of, and currently open spaces in, the archipelago.
- The Feasibility Study does not acknowledge the existence of any cultural heritage in the area of the metropolis's location, specifically also the archaeological sites on the coastline.
- There is no indication of the status of Lamu Old Town World heritage property vis-à-vis the Metropolis in an eventual Lamu County Planning and Development Board.
- There is no indication of the requirement for the extension of the boundary of the buffer zone of the World Heritage property which is currently before the County Government, and what the relationship of the Lamu Port development and Planning Scheme should or must be relative to the World Heritage property and its buffer zone.
- There is no indication of how the World Heritage property and its current buffer zone, and its required expanded buffer zone, is to be integrated in the proposed comprehensive and integrated strategic development plan meant to achieve economic, social, and environmental sustainability.
- There is no indication of the cultural heritage of the Hindi-Magogoni settlement and the small coastline settlements that will be removed.

d) Temporary 100km Lamu-(Tulu)Garsen access way

Pavement type 3 (Ministry of Roads) Kenya National Highway Authority

As described Feasibility Study (2010: 4.3-2; 2011: 6.4.4), this is the C112 road connecting Garsen with Lamu which is to be rehabilitated and upgraded to make traffic between Mombasa and Lamu possible so as to handle and transport the port cargo between the port and hinterland by 2016 - the year of opening the New Lamu Port.

Indicator

The opening of this road increases access to the area and will bring an influx of vehicle bound cargo and visitors into this area.

e) The LAPSSET Corridor:

The Corridor consists of a railway, highway and oil pipeline, all terminating at a terminal and Physical Distribution Centre at Lamu Port.

The following Ministries are responsible for policy/regulations on the three items as they intersect with the study area:

- Ministry of Transport/MOT and Kenya Railways Corp: The Lamu Isiolo Railway;
- Ministry of Roads: Lamu-Garissa Highway;
- Ministry of Energy/Energy Regulatory Commission) Lamu-Nakodok Crude and Product Oil Pipelines.

The Feasibility Study states:

It is estimated that number of freight trains on the busiest Lamu Section will reach 78 trains per day in 2030. Thus, it is planned that, until the target year of 2030, the railway keeps the single track line. [An] Oil Pipeline is planned parallel to the highway routes, i.e. crude oil pipeline from Southern Sudan to Lamu via Isiolo with a capacity of 500,000 barrel per day. Another pipeline, which is for refined oil, is planned from Lamu to Moyale through Isiolo. (2010: 14.1.1 (8) and (10))

The Draft CIDP states:

The rationale for a modern railway is to facilitate the transportation of freight along the corridor, but also to allow intermodal transportation between the roads and the railway.....As the nerve centre of the entire corridor, Lamu County will be connected to the rest of the country and beyond. The LAPSSET design provides for a highway that provides transport route from Lamu to South Sudan through Garissa, Isiolo, Kisima and Nginyang to meet the existing Kenya – Sudan road at Lokichar. Inter-county networks and consultations require such a road. (2014: 64)

The Feasibility Study (JPC 2011: 20.3.2, Fig 20.3-2) also states that the Corridor will end in a Terminal and Physical distribution centre, including a Railway Station, with shunting for rolling stock, container handling facilities as well as a container yard and freight stations; A Intermodal Support Service, with container depots, freight stations and warehouses, and Intermodal related industries, with business and industrial activities and freight stations. Also located in the same location are the small and medium manufacturing and business enterprises that support or compliment transportation dependent logistics and manufacturing activities and which may not necessary require direct rail /highway access.

Indicators for the HIA

- The Corridor traverses many areas with a high concentration of cultural heritage, and ends in an area with known cultural heritage, and adjacent to a unique marine environment and with highly significant cultural heritage.
- The Feasibility Study does not acknowledge the existence of the known cultural heritage in the area of the Terminal's location.

f) New international airport

Policy for the new international airport in the study area is driven by the Ministry of Transport.

Airport expansion is part of the LAPSSET programme – the Feasibility Study states that:

...candidate locations for Airport development are discussed at Lamu, Isiolo and Lokichokio. After comparison of three alternative locations in Lamu, i.e. Bargoni, Mkunumbi and Wifu, Mkunumbi at the suburbs of the planned new Lamu City area is selected as the best new Lamu International Airport site with the main runway measuring 2,500m. This evaluation is made based on i) Accessibility, ii) Adequacy in land area for airport development, iii) Development cost implication, iv) Harmonization with the present and future land use of surrounding areas, and v) Environmental considerations. (2010, 14.1.3 (1))

The Study is silent on harmonization with the unique attributes of the World Heritage property, its setting and larger area.

The Study (JPC 2011: 8.1) states that “the proposed airport at Lamu, when effected, will be a great boost to the tourism industry as it will facilitate direct access to the destination for international tourists.”

The Draft CIDP states:

The airports will offer transportation solutions, encourage tourists to visit areas within easy proximity to the airports. In addition to transport, the airports will complement the proposed resort cities by availing infrastructural support. (2014: 64)

Peak traffic forecasts are indicated in Table 9.2-1 - the Tables (2011: 3.2-14/16) showing expected air travel demand are difficult to understand without a normative description attached to the figures, but suffice to say that “the magnitude of air passenger arrivals of this city is expected to be equal to that of the present Moi International Airport at Mombasa. “ (JPC 2011: 3.2.6) and the airport will be “developed in a stepwise fashion”. The Study does state that:

the probable tourist arrival volume at Lamu Resort City would be 50,000 in 2017 (The year the new international airport is planned to be opened to its service.) 180,000 in 2020 and 615,000 in 2030, respectively. (JPC 2011: 8.4)

The Feasibility Report states that:

Although aircraft noise is not legally restricted, the airport and other facilities that generate loud noise should be placed as far away as possible from National Parks & Reserves and other conservation areas. (JPC 2011: 3.3.2 (5))

Indicators for this HIA:

- There are several airstrips in the area, but the new international airport will exponentially increase air traffic to the Lamu archipelago to change to an area that is suddenly highly accessible to international and national visitors by air and result in mass tourism to the area with its benefits and threats.
- The International airport has a north-south air corridor some 40km’s west of Lamu Old Town, but approaching and departing aircraft will pass over the World Heritage property and the town of Shela, as well as Manda and Pate Islands. There current noise levels in the assessment area will increase dramatically. There is a flagging of this issue in the Study (2011: 28-7) but there must be proof that the noise pollution can be mitigated to be in harmony with attributes of the cultural landscape and aural qualities of the natural landscape otherwise the airport must be further away.
- The World Heritage property and setting will have to cater for a projected 615,000 tourists in 2030 – the resourcing and planning for this must be made available to prevent impact, loss of OUV and loss of integrity and authenticity.

g) Resort city

The *Lamu Core resort city* is located just south of the southern edge of the Metropolis.

It will consist of a convention centre, main city resort hotel, business centre, shopping mall, health spas, golf course, theme park and accommodation for convention and other visitors. The Ministry of Tourism will entrust the detailed planning of the core resort area and the financing of on-site infrastructure, to a private master developer or MD. Development will be on the basis of an appropriate Public Private Partnership (PPP). The National Land Commission will issue a head lease for the site to the MD for 99 years at a price that reflects market value. The MD will in turn sell long-term leases or sectional titles to individual investors after having installed the necessary infrastructure. The Feasibility Study requires that the individual management companies within the resort city will collaborate with the tourist sites at community level, to ensure that resort-generated benefits accrue to the local communities. To institutionalize this collaboration, the management companies, and the community-based management associations will be required to enter into a memorandum of

understanding (MOU). This framework will address such aspects as the formation of a joint-forum or association that will meet regularly to review topics of common interest such as the routing of tourists to community resort sites, capacity building for community management associations, and the financing of tourist-related facilities at these sites.

The *Fisherman's wharf* will be developed into private homes for rental or purchase and linked to other tourist facilities through a combination of water, and land transport (possibly monorail in the long term). The wharf will also provide a fish market and international seafood restaurants and fishing boats for residents and visitors.

The *Cultural centre* and the area around it are conceived to diversify the cultural experience for visitors to the area. It will accommodate environmental and ecological scientific learning institutions for purpose of scientific research into the local ecological systems: mangrove forests, rich marine ecosystems, and the Boni national park. Other facilities will include tradition and modern art galleries, exhibition halls, a specialist East African history library, museums and centres of higher learning linked closely to the cultural heritage

An *Entertainment centre* will be located on Manda Island. It will include casinos, amusement centre indoor games, music halls, amusement parks and a second golf course. Support facilities will include hotels, administration areas and club house.

Satellite Stations are to be developed in existing settlements in the archipelago; specifically on Lamu, Manda, Pate and Kiwaiyu Island. The Feasibility Study proposes that to avoid over-exploitation, these settlements will be considered as outposts of the core resort city with limited development and priority given to ecotourism. The identified satellite stations include Kiwaiyu Island to the north the northern coastal region, Pate Island, the southern coastal region of Bawaya. These satellites station will provide diversity in tourist attraction through establishment of such activities as water sports and deep diving in Kiwaiyu, eco-tourism along the northern coast and the islands, wildlife safaris in the National wildlife Parks and marine parks. Management of these sites will be the responsibility of community-based management associations registered by the Ministry of State for National Culture and Heritage (JPC, 2011:27.9-3). These associations will engage with the management companies within the resort city to ensure that the commercial interests of local communities are addressed.

Transportation linkages Based on the development of safe and effective sea routes for local boats and a special port dedicated to local sea travel and linked to the inland transportation systems and satellite stations.. The design concept prioritizes monorail as the best means of transport, though its cost may prove to be a hindrance especially to the private developers. A cost sharing approach between the Government and the private investors is recommended. Linking of the core resort city to the satellite is promoted as essential for effective diversification of the tourist products

Sea Cruise terminal: Currently, Lamu heritage site is the preferred destination for visitors on the few cruise ships docking at Mombasa port, from where they transfer, via other modes of transport, to Lamu. The plan provides for the location of a berth for sea cruise ships to be located at the northern west part of Manda Island. This berth could be linked to other tourist facilities either through water travel by boat or by linking the berth to the monorail. Besides the international sea cruises, Lamu coastline has a huge potential for local sea cruising industry and this would greatly expand the tourism potential of Lamu resort city.

Hotels: The Development Plan indicates hotel occupancy: 1,180 rooms for 64,605 visitors per year and generating at least 200USD/visitor for five nights (JPC 2011). It

Recognises the risk that if the natural and cultural environments which are critical tourism resources, are not carefully conserved, the tourism resort cities will not work.

The Institutional framework for implementation includes:

- Combination of private and public
- Ministry of Tourism is responsible for policy and regulatory framework but links with National Land Commission and county authorities for land issues.

Indicators for this HIA:

- The development of the Resort City project will be given out to a Master Developer and is not fully in the hands and control of the people of the Lamu archipelago (co-management only).
- The Satellite posts of the Resort city will be in the hands of the Master developer and not the islanders.
- Benefits of the project and its satellites will accrue to local communities but ownership and control vests in the Master Developer.
- The Study does not report on the central role of Lamu World Heritage property and its setting as a main driver for tourism in the area, and what the relationship between the resort City and the World Heritage property is or needs to be.
- The Study does not report on the inclusion of the concept of 'Responsible Tourism in the concept of the Resort City development.
- The Study does not report on the need for a Local Development Strategy and LED Plan for the Resort City development.
- The Study does not indicate knowledge of existing tourism endeavours and how these will be integrated in the proposed Resort City project.
- The concept of the Resort City includes components that are not acceptable within a predominantly Muslim archipelago, like Casinos in the Amusement Centre on Manda Island.
- Land ownership patterns will change due to land in the Resort City or its satellites being available on long lease or for sale to individuals or entities that are not from the area.
- The Study does not indicate knowledge that the Core Resort facility of the Resort City project is located south of the southern extremity of the proposed Metropolis, deemed to be the 'city limit'.
- The Study does not indicate knowledge that the proposed Cruise Ship satellite of the Resort City is located on Manda Island just across from Lamu Old Town within the protected Skyline and associated Viewscape – the cruise ship traffic will ply in the waterway between the islands.
- The Study does not indicate knowledge that the proposed Marine Resort satellite of the Resort City on Manda Island southeast is located at the historic site of Takwa.
- The proposed Amusement Centre satellite of the Resort City is located adjacent to the fishing village and historic site of Manda;
- The proposed bridge connection between the Terminal of the Corridor and the Amusement Centre satellite is located adjacent the fishing village and historic site of Manda;
- The Study does not indicate knowledge that the proposed Fisherman wharf satellite of the Resort City is located at the Fish landing site of Ndanbwe and the historic site of Mea. This development will allow private land ownership or long lease ownership by non-Lamu persons.
- The Study does not indicate knowledge that the proposed Cultural centre satellite of the Resort City is located at the Fish landing site of Mkanubi.

- The position in the Feasibility Study to encourage water mode of transportation between the islands and the mainland but discourage direct road or rail linkage as a way of limiting the huge influx of cars and human activities into the islands is supported from a heritage conservation perspective – however the impacts on the biophysical environment must be studied further.

h) Resettlement Scheme.

The Feasibility Study (2011) does not provide detail on the resettlement of the displaced inhabitants of Hindi settlement scheme. The ESIA for Berths 1-3(2013) does provide some information, but the HIA team has no sense of the finality of decision on location of a resettlement scheme.

Indicators:

- The ethical components of the WH *Operational Guidelines* and the legislation of the GoK require that the manner of resettlement will be fair and ethical and that the resettlement location will provide dignity and sustained livelihoods.
- Resettlement of Hindi inhabitants on the islands of the archipelago will result in negative impacts on the homeostasis of the cultural ecology.

i) Electricity

For the start-up there will be a 132KV line to Lamu, and a new 132/33KV substation comprised of 132kV switchyard and one 7.5MVA, 132/33KV power transformer and three outgoing feeders of 33kV system and one local transformer of outdoor design type (FS 2010: 4.3.3) (JPC 2011: 15.7.7).

There is a proposal for a thermal power plant to be erected (See below)

Indicator:

- Lamu town and the other island towns do not have electricity from the national grid but rather polluting and unsustainable energy – the proposed alternatives for these towns are not sustainable.
- The development should follow its own principles of sustainability and invest in green technology and passive systems.
- The impacts of electricity pylons on the viewscape from Lamu town, and on the current environmental quality, must be assessed and mitigated.

j) Lighting: (4.3.3) For external lighting, high pressure sodium vapor lamp (HPSV) will be used; 1000W and 250W sodium vapor lamp. High mast lighting pole will be anti-corrosive steel structure, 30m high with an appropriate number of 1000W~2 W sodium vapor lamps for container terminal yard and apron.

Indicator:

- The impacts of night-time light pollution on Lamu, Pate and Buyi towns, and on the current scenic qualities and spirit of place of the western archipelago, must be assessed– the team is of the opinion that mitigation is not possible.
- The impacts of lighting masts on the viewscape from Lamu town, and on the current environmental quality, must be assessed and mitigated.

k) Water and sewerage (Feasibility Study 2010: 4.3.4) (Ministry of Water and Irrigation; Water Services Regulatory Board):

(i) Water for the Lamu Port development:

The Feasibility Study (2010) gave no indication of where potable and fire water supply water will come from, but mentioned the need for water storage tanks (Item

4.3.3). The contractor is required to design and built waste water treatment systems (WWT) to treat the waste water generated from domestic usage of the port operation.

The Feasibility Study (2010) 14.1.2 (6) further indicates that temporary measures are used for the first Berths 1-3 stage - These proposals include, as a short-term plan, a water pipeline construction from a water supply company. Waste water is only specified generically as per sewerage , ie. no indication of industrial waste (Chemical area, etc).

The Feasibility Study (2011: 20.7.1-) states that the project will have to supply water for 1,25 million people by 2050 (linear population growth) – Table 20.7-1 indicates that this figure could be higher with an exponential population growth. Further, the disaggregated and generalised water demand of the fixed industrial processes were added to the per capita consumption in incremental stages or milestones of the Port development and for minimum and maximum population projections (Tables 20.7-1/2/3).

The Study (2011: 20.7) states that “Generally, the water demand for the metropolis is huge thereby necessitating serious considerations in the choice of water supply options.”, with projected water demand by 2050 being 188,750 m³/day (with a maximum of 296,750m³/day). This is 296,75 Mill litres/day – as a comparison, in 2008 the city of Melbourne used approx. 1, 040 mill. Litres/day (www.melbournewater.com.au)

While immediate needs in the early phases are to be met by groundwater piped in through the HIMWA and LAWASCO supply lines and supplemented by small-scale desalination plants. For the long term, three options (ie. piped from the Tana River, piped from the High Grand Falls Dam project, or desalination). While environmental impacts of the HGF option are ruled out, there are indications that the sea water may desalinate due to the disposal of tail water, thus disturbing the environmental balance of the archipelago.

The supply of water from the to-be-constructed HGF project is therefore pointed out as the preferred option, with the possibility of future alternatives decided by the Government in the future, and with large scale desalination to achieve the required demand for potable water.

Indicators for the HIA

- The Lamu archipelago is a fresh-water scarce environment. Lamu island has survived over centuries solely based on the fresh water from the Shela Dune system, and which is being used to capacity (as the NORAD studies have shown). Small farmers on the mainland coastline use surface wells for irrigation and potable water.
- The Lamu Port project must be fully self-sufficient in its water supply and should not draw from existing local groundwater supplies – it is hoped that the the HIMWA and LAWASCO supply water will not affect local levels on the coastline.
- The LAPSSET project projections for water demand do not tally in that associated with the Gas Prospect project in zones L4/L13.
- Any increase in population on the islands of the Lamu archipelago due to the LAPSSET and Gas Prospect projects will have to be provided for by external water supply similar to that provided for the Port and gas Prospect projects and their growth towards the 2050 maximum levels.
- The effects that a ready supply of potable water for the archipelago islands will have on urban development and population growth – hitherto curbed by a finite water supply - must be studied, and in the mean time discounted for in this HIA.

(ii) Sewerage and wastewater disposal for the Lamu Port development

The Feasibility Study states that:

An estimated 50,000 m³/day of sewage will be generated by 2030. Of this only about 60-70% (say 31,875 m³/day) will be linked to the off-site treatment (sewage mains) whilst the remaining 40% will use onsite disposal (septic and pit-latrines) systems. (2011: 20.7-3)

By 2050 though, the maximum wastewater/sewerage in the service line generated per day, based on the conceptualised population figures and a 70% calculation, is expected to be 89,366m³/day.

The sewage and wastewater disposal design will be zoned along with the components of the Port project, and two-series deployment to reach the 2030 demand. The Study further explains that the wastewater and sewerage generated varies in the different locations depending on the land use and the commercial activities in the area. The wastewater generated is either from domestic, commercial, institutional or industrial water use. The Study states that the design will address treatment of wastewater effluents, primarily of sanitary nature with limited industrial component, and that it is assumed that more toxic constituents found in specific wastewater such as from tanneries will be dealt with by factory site pre-treatment before such waste are allowed to enter the Municipal sewer. The Study states that the treated effluent quality standards for discharge into public water bodies will meet 'The NWI Design Manual for Water Supply and Waste Water Disposal (2006)', that gives the following standards for Chemical, physical and bacteriological characteristics of effluent: pH: 6.8 – 7.8; BOD: <15mg/l; TSS: <50mg/l; and, Coliforms: <100mg/l.

Stabilisation ponds are chosen as the preferred method of treatment, with the two large treatment plants, each covering 4km² of land, at Magogoni near Mashundwani - designed to cover the wastewater and sewerage outflow of the entire industrial area, CBD, the eastern green zone and part of the urban area – and at Hidio northwest of Lamu Island – designed to cover the outflow of the entire area to the west of the transect line near Junja including the Resort City. The two smaller plants, each 1km² or a 1/6th capacity of the larger plants, will serve the outflow from the aeropolis and the Port respectively. The location of the first will be “according to the planned development programme” and the other will be “near the Port”.

Indicators for this HIA

- Mashundwani is just north (upland) of the major riverine and mangrove system between Lamu and Manda islands, while Hidio is similarly just north (upland) of the even larger riverine and mangrove system just west of Lamu Island. It is not clear if the treated effluent quality flowing from the wastewater/sewerage stabilisation ponds will be of a quality that will not pollute and/or disturb the delicate ecological balance existing in the coastline and archipelago water system.
- It is not clear to what extent the standard for effluent that was applied, will ensure that the non-saline treated effluent flowing out of the stabilisation ponds will not change the salinity of the rivers and archipelago water system or not disturb their ecological balance, if allowed to flow into these.
- The lack of knowledge on the exact location of the 2 smaller ponds for the aeropolis and the Port make it difficult to assess impact – for the assessment of impacts of the Port treatment plant the HIA will surmise that it is located near to the Port, but a 1km² plant within in the available open area south of the proposed southern limits of the Metropolis.

- There is no knowledge about the location and efficiency of the factory pre-treatment plants for chemical and industrial waste, that are supposed to assure that only waste with a lower toxicity reaches the stabilisation ponds.
- There is no mention of the scenic quality of the area or the visual screening of the stabilisation ponds, or the effect of the ponds, an/or their visual screening, on the current scenic quality of the landscape in which the ponds are located.
- Because the final design has not yet been performed, there is no knowledge whether the ponds may impinge on, and the pipelines of the system may traverse through known archaeological sites – there is an opportunity to select alternative sites if heritage is affected .

l) ICT infrastructure (Ministry of Information and communications)

ICT infrastructure of the first three berths is described in the Feasibility Study (2010: 4.3.5).

The Feasibility Study (2010: 14.1.2 (6)) indicates that temporary measures are to be used for the first Berths 1-3 stage - The proposal includes, as a short-term plan, the introduction of electric generators at the port, the construction of a fiber optic cable network and IMO-ISPS security facilities.

Indicators for this HIA

- Lamu Old Town and other island towns have a low level of education and have very poor ICT infrastructure.
- The impact of the future large ICT infrastructure must be defined.

m) Fishing port facility

The Feasibility Study (2010, 14.2.2 (3)) and (**JPC 2011: 32.2.2(3)**) state that:

An improvement plan for the fishing port is prepared for supporting the fishing industry at Lamu. The plan includes the improvement of wharfs, slipway for repairing of fishing boats, fish market facility and others in response to a strong request of the regional District Commissioner. The development of these facilities is planned at Mokowe at the Urgent Stage. When the development of urban area directly behind the port area on the west coast of Manda Bay is completed in the future, this fishing port can be relocated to the north of the New Lamu Commercial Port. It is recommended that the fishing port facility planned should be constructed by the Ministry of Fishing Development or by the local authorities, such as the Municipality or County Government in the future.

It (2011: 20.3.6(1)) goes on to state it will be “located at the northern part of the port is expected to allow for provision of modern facilities for fishing as well as conveniently linking Lamu metropolitan areas with the rich fishing ground to the north.” ...and...”One well known model of good practice for fish market management has been developed in Aden (Qatar) where fish marketing has been contracted out to the local Fishermen’s Association which cleans the facility and leases out stalls to small scale fishermen, thereby generating a new revenue chain.”.

Indicators for this HIA

- It is stated that later the facility will move to the north side of the Metropolis. There are many fishermen in Lamu West. The Study does not indicate the problems of boat travel through Mkanda Channel, crossing the main Port Channel and avoiding the Port Area to get to the fishing sites in the eastern Lamu archipelago, or the provision of better craft to fish offshore. The Study does not indicate the current existence of co-operative structures among fishermen and who will own and control the Facility. If the Fish port

facility is contracted out to local Fishing Associations as suggested, there is no indication where these associations will get the revenue to do so.

n) Local industries

The Feasibility Study (JPC 2011: 8.10) states that the Resort City project will lead to the “promotion of local industries especially agriculture”...and...”facilitate the growth of local business activities, promote local cultural programmes...”

In JPC (2011: 20.3.6 (2)) it is suggested that just adding the Resort City and the International Airport will put the area on the world map and start the formation of a Value Chain related to the Hospitality Industry.

Indicators for this HIA:

- Land and Planning control is necessary to ensure agricultural land will remain undeveloped by speculators.
- The Study is not forthcoming on the existence of existing local cultural programmes and how these can be facilitated and promoted, eg. from revenues or taxes from the very Port Activities that use the area and use the programmes as tourist attractions or for leisure activities for the new citizens of the metropolis.
- The Study is not forthcoming on the need for attaching a Local Economic ~development Strategy and LED obligations on the State and on new industries locating to the SEZ.

i) Boat terminals and ferry system

The proposal to strengthen boat travel and discourage vehicle access requires boat terminals for ferries – the location of these are shown on the project component relationship map.

Indicators for this HIA:

- Small ferry boat transport is currently an important source of income for locals of the archipelago – the proposed ferry boat system needs to have local ownership and job opportunities within a LED Plan.

5.1.5 Timescale of the construction of the project

The construction of the port is scheduled in various stages.

a) Urgent Stage/Short term stage 2011-2016 (First three berths)

- This stage consists of the construction of three berths, dredging in the Manda channel and basin, access road, port administration office, storage yards, warehouses and workshops equipped with ancillary facilities shall be constructed. The quay structure in the container and bulk berths is to be completed by the middle of 2015 so that ships might be berthed and discharge and loading operations be possible.
- The feasibility study foresees that during this stage, all administration matters including establishment of Port Management Body, enactment of requisite legislation, land acquisition and establishment of Local Authority should be concluded to facilitate port operations and control Lamu metropolitan development. Detailed design for transport subsectors of corridor, i.e. road, railway and pipeline shall be completed and works tendered out during this stage. In addition, ship repair facility for port service vessels and fishing port are to be constructed within this Plan

- **b) Medium-term Plan 2017 to 2020**

- By 2020, it is projected that the railway of the corridor would have been constructed, drastically increasing the volume of cargo from the hinterland as a result of the commencement of the transport corridor operations. This will depend on the construction and operational status of the four major corridor facilities of road, railway, port and pipeline at the commensurate rate. The railway shunting yards, railway cargo stations within the port and port road network are to be constructed.

- **c) Long-term Plan 2020 to 2030**

- All the berths for bulk, container, break-bulk and liquid bulk are to be constructed and the channel and basin for visiting ships to navigate through dredged together with anchoring area.
- The coal based and LNG based thermal plants, together with jetties or breasting and mooring dolphins system are to be built in 2022 and 2030 respectively. It is expected that coal and LNG will be supplied to these plants, which in turn will supply electricity to public and industrial ports, Lamu metropolis and the whole transport corridor. At the port side railway terminal, all necessary auxiliary railway facilities such as locomotive workshop, operations headquarters, electric supply system etc, and so on would have been provided and operational at full capacity.
- The area adjacent to the port premises will be utilized for port related business/industry purposes such as financing, communication, commercial, manufacturing, processing, and other activities. Export and Free trade zones will be established by either private or government organizations. The food processing and other manufacturing industries will be fully operational and dispatching merchandise to domestic and foreign markets.
- The railway terminals and the fishing facilities are to be relocated to the area marked for their future site. A new outside-of-port road running parallel to the port is to be constructed to enable transit freight traffic to by-pass the middle of the town.
- Upon completion in 2030, the Port's carrying capacity is estimated at 24 million tons, excluding crude oil

Indicator

- The project timeline provides a timeline pre-construction mitigation, for timeous future mitigation, further studies, community resilience building, training and preparation for monitoring in an EMP.

5.2 Oil and Gas Exploration And Extraction, in and Near the Lamu Archipelago

It is known that the Kenyan Coast is being drilled for Oil, also the Lamu area.

The Oil Drilling Blocks were gazetted by the Kenyan Government in 2012. Block L4 is in the Lamu Archipelago, with L13 to the north, L6 to its south, L5 and L7 offshore, and L15 just southeast.

It was reported in 2 October 2011 in *The East African* that:

Two weeks ago, French oil multinational Total said it had acquired five offshore oil exploration blocks in the Lamu basin, joining a list of other giant firms that are eyeing openings in Kenya's oil exploration. Total's strategy is to strengthen its oil exploration and production presence in East Africa.

On 7 October 2011 OfshoreEnergyToday.com reported that:

Dominion announced recently that it has signed the Production Sharing Contract (PSC) for Block L15 in the Lamu Basin, offshore Kenya, giving the Company a 100% working interest and operatorship.

In the 2012 Annual Report and Accounts of Ophir Energy PLC the following was reported:

The Lamu Basin has the potential to contain both gas and liquids as demonstrated by previous wells in the area Block L-15 lies in the Lamu Basin offshore Kenya and covers an area of 2,331km.. It lies to the north of L-9 and also extends onto the Davy-Walu structural high. Kofia-1, which was drilled by Union Oil in 1985, is the only well which has been drilled to date in Block L-15 and encountered oil and gas shows in the Palaeogene and Upper Cretaceous intervals. The L-15 PSC was signed on 5 October 2011 and Ophir now holds 90% working interest and operatorship in the block.” (Ophir 2012, p.24)

On 9 May 2012 Reuters reported that:

National Oil Corporation of Kenya (NOCK) and Japan Oil, Gas and Metals National Corporation (JOGMEC) agreed to jointly conduct geophysical surveys to help evaluate the commercial viability of hydrocarbons in Kenya.....The deal, which will run for an initial year and a half, underlines the interest international oil firms are showing in East Africa and the Horn of Africa following several major oil and natural gas finds in the region. Underscoring the hectic exploration activity in the region, Africa-focused Ophir Energy Plc said it planned to acquire 3D seismic data on its offshore block L15 [authors: ie. the Lamu Basin] in the third quarter of 2012 and to drill an exploratory well there in 2013. (<http://www.reuters.com>)

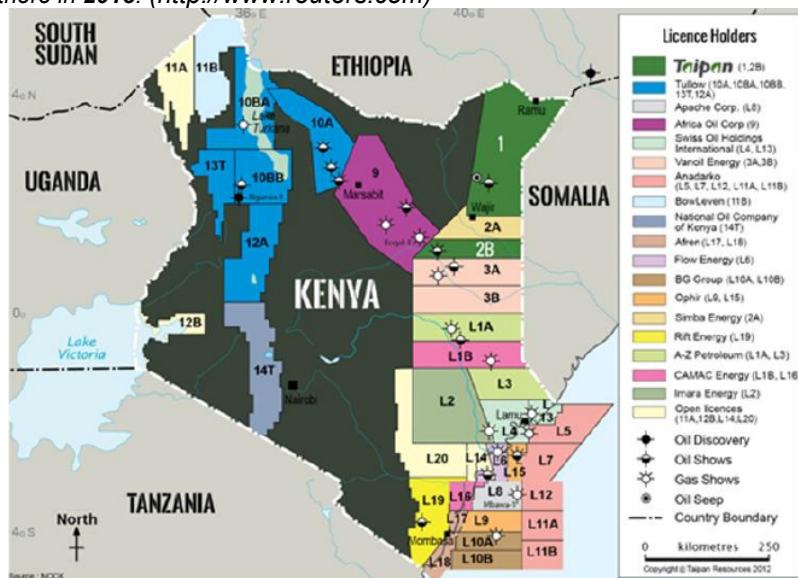


Figure. Location of Kenyan Licence Holders (Source of map NOCK, in OPL Research Note - <http://www.swala-energy.com>)

ABN Digital reported Reuters Nairobi stating that:

Sohi Gas Lamu has Block L4 [southern portion of the Lamu Archipelago and mainland]. Sohi Gas Dodori has Block L13 [northern section of Lamu Archipelago and shoreline to north]..... Anadarko Petroleum and its partners have five blocks in the Lamu offshore basin - L5, L7, L11A, L11B and L12..... Dominion Petroleum has Block L15, and Block L9.

From the above it is clear that oil drilling and possible extraction is foreseen on the mainland and in the Lamu Archipelago and its near-shore seas.

Whereas the EIA for Oil Drilling in Block L10A and L10B near Mombasa is available in the public domain, the authors were not presented with, and could not trace an EIA for Oil Drilling in Blocks L15, L6, L7, L4 and L13 in and adjacent to the Lamu Archipelago. Inferences will therefore have to be made from the existing EIA for Blocks L-10A/B.

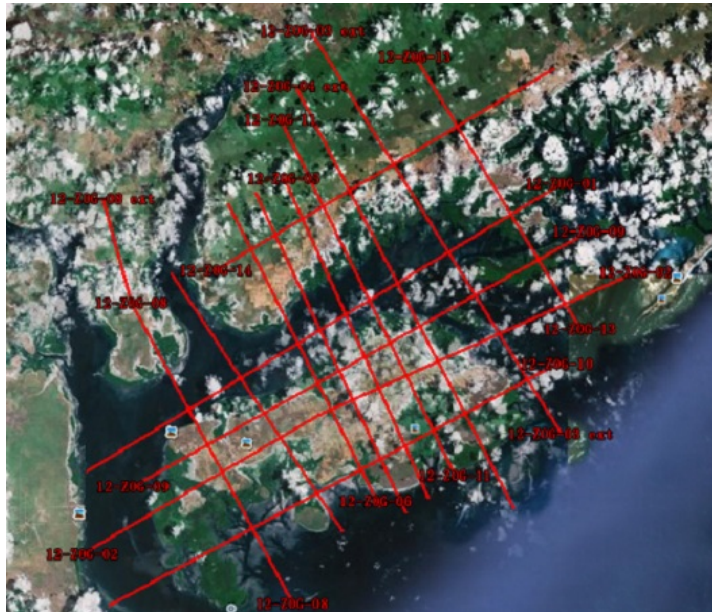
While performing the field visit in February 2014 the authors were made aware of the Pate Gas Prospect on Pate Island, by various stakeholders. After requests directed to the gas prospecting company via the NMK, the Environmental Impact Assessment of these operations could be obtained for this HIA. The HIA Team therefore rely on the information they could obtain from the website of Midway Resources International, the Licence Holder of the Pate Gas Prospect - the Midway Resources International company reports that:

Zarara Oil and Gas Limited, a wholly owned subsidiary of Midway, holds a 75% working interest and is the Operator over both Block L4 and L13 (incorporating the Pate discovery), with subsidiaries of Swiss Oil Holdings Limited (15%) and the National Oil Company of Kenya (10%) holding partially carried working interests. Midway completed the acquisition of Zarara Oil & Gas Limited on 1st May 2012. (<http://www.midwayresources.com>)

Midway describes the project further:

*Each of the Production Sharing Contracts (PSCs) has:
An Initial Exploration Period of 3 years to 3rd December, 2011, which was extended by 1 year and subject to additional conditions imposed by the Ministry of Energy, Kenya. The PSCs have now entered the first of 2 additional extension periods, which were exercised by reducing the PSC area by 25% and aggregating the outstanding work obligations from the Initial Exploration Period and the PSC prescribed work obligations for the First Additional Exploration Period. The First Additional Exploration Period is for 3 years and the Second Additional Exploration Period is for 2 years. The details of the first 25% area relinquishment and additional work obligations are currently being finalised with the Ministry of Energy. 20 year production periods for any discovery declared commercial under PSC terms, which can be extended for a further 10 years. The current 3 year work program ending 3rd December 2015, includes:*

- 2D and 3D seismic acquisition, processing and interpretation
- The drilling of five wells (L4 - 3 wells, L13 - 1 well)
- A 2D seismic acquisition programme over the Pate field is underway and is scheduled for completion in Q1 2013.

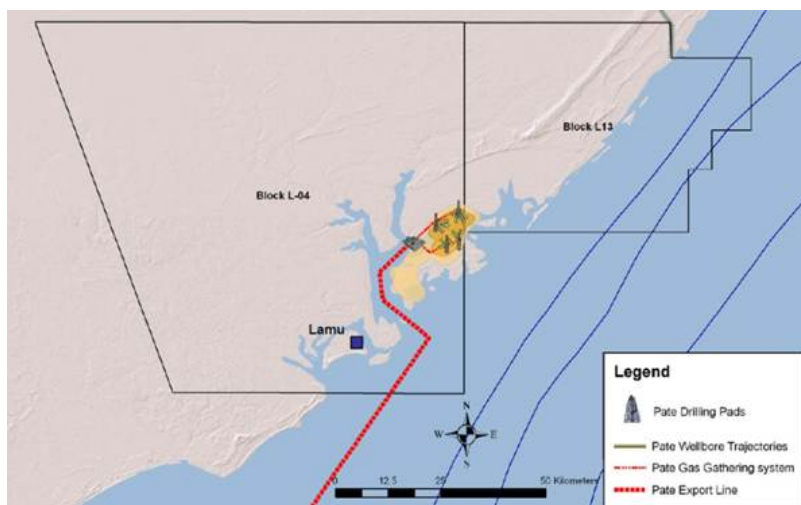


- A gravity/magnetics survey acquisition program covering the two blocks has recently been completed and the data is currently being processed.
- A further 2D seismic acquisition survey over the regional areas outside the Pate discovery area is currently being planned. It will likely traverse up to 2,200 line km of seismic and commence in Q1 2013 or thereafter.
- The first well to be drilled, Pate-2, is being planned at present, with an estimated cost of US\$15 million. It will drill to around 4,500 meters and replicate substantially the Pate-1 well whilst seeking additional technical data to delineate the Pate structure. Additional wells may be drilled from the same drilling location.

In the event that gas is intersected in productive quantities/rates, then Pate-2 will be completed as a producer and placed on an extended well test to further delineate the structure.

Phase 1, Pate Field: The plan is to condition/process the gas and feed it to temporary local or onsite electricity generation units pending a longer term off-take arrangement to a permanent power generation facility. The potential production rate could be up to 12 mmscf /day. Such a plan could look like the following:





Phase 2, Pate Field: The Base Case second phase development plan is to export the gas by offshore pipeline to Mombasa, where there are existing heavy fuel oil fired power generators which could be adapted to replace the existing burners to natural gas. If the resource levels support it, a local or regional power station may be sponsored to create local off-take. The planned production rate, over a 25 year off-take period for the fully developed field could be in the order of 60 mmscf/day.

(<http://www.midwayresources.com/operations/projects/pate-field-and-exploration.aspx>)

The Pate Gas Prospect is located mostly in the Lamu East portion of Lamu County, but the pate Export pipeline traverses the Western section. From the knowledge obtained from the Midway Resources International website (The detail information is in a restricted section only available to PSC's), it is clear that, for the present, the Pate Gas Field with its Gas Gathering Line and Drilling Pads will be in Oil Block L4 to the northern side of Pate Island and on the mainland to its north, and with the Pate Export pipeline path traversing the proposed Lamu Port Area and Manda Channel to the open seas.

At a special Consultative Workshop on 14 Feb 2014 a person from Ministry of Lands mentioned that the effects of the Seismic Survey in Pate were said to be minimal – but this is not corroborated in documents at the disposal of this Report.

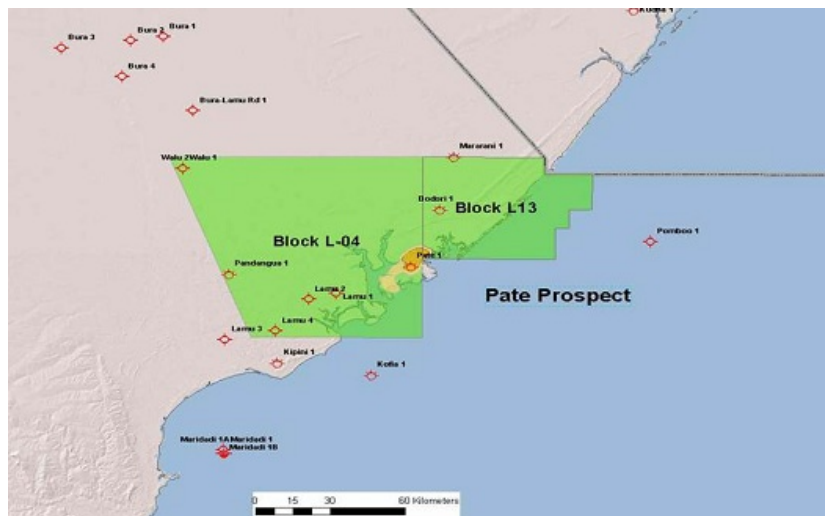


Figure. Oil Drilling Blocks L4 and L13 at the Lamu-Kiunga Archipelago (<http://www.midwayresources.com>).

Indicators:

- Oil and gas extraction and piping is a polluting activity
- The current Pate Gas Prospect EIA did not include an HIA – the findings and impact assessment should be revisited after an HIA has been performed.
- EIAs for all future Prospect and extraction should include HIA.
- The pipeline from this project runs along the west side of Pate island through mangroves and over coral reefs – the scale and significance of impact of pollution to the water, flora and fauna must be calculated in detail and it must be proven that this is mitigatable.
- The impacts of night-time light pollution on eastern Pate towns, and on the current scenic qualities and spirit of place of the eastern archipelago, must be assessed– the team is of the opinion that mitigation is not possible.

5.3 Stakeholder Analysis

LAPSSSET is a very complex project with many institutional partners. The main proponent is the Government of Kenya, through its various agencies. The future development of LAPSSSET will be carried out in partnership with the private sector.

Lamu community

The populations of the archipelago are the primary custodians of the heritage asset inscribed on the World Heritage List. They will be at the receiving end of any environmental changes brought significant changes in their natural environment. They also have primary responsibility for the conservation of the intangible attributes of the site’s OUV.

National Museums of Kenya (NMK)

The role of the NMK is the protection, conservation and management of Kenya’s cultural and natural heritage. As the focal institution for the implementation of Kenya’s obligations under the UNESCO World Heritage Convention, it is responsible for the conservation of the Lamu Old Town World Heritage site and the 40 other protected sites in the County. Its management of the WHS is carried out in close collaboration with the Lamu County Government, through membership of the County Physical Planning Liaison Committee and the Local Planning Commission.

Lamu County Government

The County Government is the bridge that connects the concerns of conservation and development in the County. Under the devolution structure of the Kenyan government, the Lamu County government is responsible for the implementation of national and County development programmes, provision of necessary services and the overall planning and development control of the County. It holds the constitutional mandate for urban development, especially the metropolis area outside the Special Economic Zone (SEZ) of the Port. The Feasibility Study recommends that the County Governor, or designate, will chair a Board composed of stakeholders including the SEZ Authority, the Metropolitan Planning Board (PMB) and the main service providers within the port. Notably, the IMPB would offer the SEZ Authority and the Port Management Body, Kenya Ports Authority (KPA), a forum to discuss and address local constraints such as the provision of infrastructure and other urban services. The IMPB would also advise the Governor as to which planning powers should be devolved to the SEZ Authority and to the PMB. In addition, it would propose a framework for the fiscal relationship with the SEZ Authority, including the transfer of revenues from the SEZ Authority to the County government to cover the costs of services provided by the County Government to SEZ areas.

The County Government, in collaboration with the Department of Fishing, is also responsible for the development of fishing port facilities.

The County Government, through the County Physical Planning Liaison Committee and the Local Planning Commission, evaluates development proposals in the County and ensures compliance with planning regulations.

LAPSSET Corridor Development Authority (LCDA)

The LCDA is responsible for planning, coordinating and managing the implementation of the LAPSSET Corridor.

The Ministry of Transport and Infrastructure (MoTI)

The MoT is the proponent for the LAPSSET development and responsible for its implementation. It is the umbrella Ministry for the agencies that are responsible for the main LAPSSET components – port, highway, railway, airports. These are: overseeing the construction of the Port and its Kenya Ports Authority will be responsible for managing the Port once it is operational. More specifically at the level of the project In Lamu, the MoTI is responsible for:

- The general supervision and coordination of the project
- The EIA license and the implementation of the EIA study. Its responsibility also includes active participation in stakeholder forums to present the project to stakeholders and engage in discussions.
- The implementation of the Resettlement Action Plan in collaboration with the Ministry of Lands, Housing and Urban Development and local authorities.
- To ensure, in liaison with the Ministry of Forestry and Kenya Forestry Services, that the necessary measures are taken with respect to the portions of the mangrove forests that will be claimed by the port development.
- The operation of the port, through the Kenya Ports Authority, in partnership with the private sector.

The MoTI is responsible for establishing the Port Management Body (PMB)

which will be responsible the management of the port area, which is a sub-zone of the Special Economic Zone (SEZ) which comprises Export Processing Zones, Free port, Business parks and Information Communication and Technology (ICT) parks. The SEZ authority will have its own governing legislation to which the County government could delegate certain planning powers, including the power to approve development and building plans.

The Ministry of Land, Housing and Urban Development (MLHUD)

The MLUHD is responsible for ensuring efficient administration and sustainable management of the land resources in Kenya. Under LAPSSET, it will liaise with the MoTI and Lamu County Government to ensure the implementation of the resettlement action plan. It is also responsible for land adjudication and settlement.

National Environmental Management Agency (NEMA)

Under its enabling Act, NEMA is responsible for coordinating the environmental management activities undertaken by lead agencies. This includes the requirement that all project proponents undertake and submit EIA studies for evaluation, prior to issuing EIA licenses without which construction cannot commence. NEMA may also vary or cancel EIA licenses if they are not in compliance with Kenyan environmental regulations. NEMA also reviews environmental audits of the operational phase of projects to ensure that the environmental management plan submitted for licensing is adhered to.

Ministry of Energy and Petroleum (MOEP)

The MoEP is responsible for policy, licensing and construction of the policy, development financing and construction of the petroleum pipelines and refinery as established under the Energy Act 2006. In this capacity, it is required to obtain an EIA license from NEMA and to carry out regular environmental audits once these facilities are operational. The operation of the facilities will be carried out as joint venture with the private sector.

The MOEP is also responsible for the development of the thermal electric plants along the western coast of the Pate Island adjacent to the petroleum product terminal.

Ministry of Tourism (MoT)

The MoT will establish the policy and regulatory framework within which the Lamu Resort City, and other resort cities in the LAPSSET, will be implemented. It will assess overall project viability including the provision of essential infrastructure, and solicit private sector participation to guide resort development. It will collaborate with the Ministry of Lands, the National Land Commission and the Lamu county authority to ensure that land rights can be obtained by private investors. The National Land Commission will issue a head lease for each resort site to the MD for 99 years at a price that reflects market value. The MD will in turn sell long-term leases or sectional titles to individual investors after having installed the necessary infrastructure.

The MoT will competitively source for one or more private sector Master Developers (MD) for: (a) the infrastructure for all the sites together, including the monorail; (b) a combination of sites; or (c) individual sites associated with the Lamu Resort City, according to available expertise, financial and organizational capacity. The MD, single or multiple, will elaborate a development strategy for the different resort sites in Lamu: the core resort city facility; the fisherman's wharf; the entertainment centre, the community-based tourist sites in local villages; the cultural centre; and the monorail.

Kenya Wildlife Service (KWS)

The KWS is responsible for the management of the Kiunga Marine National Reserve, a UNESCO-designated Biosphere Reserve. It also manages the conservation of other protected natural sites in the County. These include the Boni-Dodori National Reserve and the Marine Protected Areas that are managed under the Wildlife Act.

Kenya Forest Service (KFS)

The Kenya Department of Forestry is responsible for the sustainable management of all fisheries habitats in mangroves, for purposes including carbon sequestration and other environmental services. Within the context of LAPSSET, it is responsible for the management of all mangroves outside the conservation areas managed by the KWS.

Department of Fisheries (DoF)

The Department of Fisheries, of the Ministry of Agriculture, Livestock and Fisheries, is responsible for the management of marine fisheries outside the Marine Protected Areas.

Kenya Marine and Fishing Research Institute (KMFRI)

The KMFRI is mandated to conduct aquatic research in all Kenyan waters and the corresponding riparian areas including the Kenyan's Exclusive Economic Zone (EEZ) in the Indian Ocean.

The Private Sector

The implementation of LAPSSET is planned as a Public Private Partnership venture with various private sector operators in the different sectors that will be developed. The private sector operators investments are obliged to operate within the regulatory frameworks established under Kenyan law.

Indicators:

- The stakeholder analysis is utilised to ascertain responsibility for mitigation and to ensure future monitoring and integrated management.

6. ASSESSMENT AND EVALUATION OF IMPACTS OF PROPOSED DEVELOPMENT

6.1 Introduction

This Chapter presents an assessment of the issues likely to affect Lamu archipelago including Lamu world heritage site as a result of implementing the LAPSSET, Lamu Metropolis, and oil and gas exploration projects in Lamu County.

The approach to and methodology for the assessment of impacts has been included in Chapter 2. For each issue, the analysis is based on the nature of the issue, the predicted impact, its extent, duration, intensity and probability, and the stakeholders and/or values affected. As explained in Chapter 2, the study area includes those components of the cultural and natural environments which are deemed to be related to the World Heritage property and its setting, which can be directly or indirectly related to the protection and sustenance of the OUV of the property. The delineations to the study area are also clearly defined.

Given the incomplete nature of the ESIA carried out for the three berths, the team was compelled to extend its study to the county's natural environment that is related to the World heritage property, its setting and wider area (as per terms of reference), in order to predict the impacts on the WHS and the archipelago. The 2011 Feasibility Study by JPC provided valuable information for analysis of environmental considerations and was supplemented by desk survey and consultations.

One major impact of LAPSSET, as intended by the project, is that it will induce rapid economic growth in the County. This could be both a challenge and an opportunity for the conservation of the WHS and the retention of its authenticity and integrity.

6.2 Potential positive impacts

The Feasibility Study clearly outlines the economic benefits of LAPSSET which is one of the key projects under Kenya's economic development plan, Vision 2030, aimed at transforming Kenya into a "middle-income country providing a high quality life to all its citizens by the year 2030".

- The strategy involves opening up economic zones in various parts of the country.
- The construction and completion of the Corridor will boost economic growth in the country and to regions traversed by the Corridor itself.
- The Corridor is expected to boost trade between Kenya and its neighbours as well as enhance tourism, information technology, transportation and manufacturing sectors.
- It is also expected that the Corridor development will offer new business and job opportunities by creating new markets and improving infrastructures, and opening up new opportunities for women and the youth to participate in business.
- The shipping industry will result in the creation of job opportunities in the service industry such as pilotage, tug services, stevedoring, bunker and crew services.
- A similar scenario is expected for the Gas and Oil Prospect in the archipelago.

There is unfortunately no Cost-Benefit analysis available that will indicate the result of the above benefits to the local and a broader Kenyan society, in relation to the losses of current environmental and heritage resources in the Lamu archipelago.



6.3 Factors/Sources of potential negative impacts on the heritage and its attributes

All the LAPSSET components are potential sources of impact on the Lamu World Heritage site and the archipelago. Other potential sources of impact are non-LAPSSET components such as oil and gas exploration - and the eventual Prospects - that are already underway in the archipelago. The sum total of the individual projects impacts will have a cumulative effect on the natural and human environments of the area.

In summary the sources of potential impacts on the heritage resources are:

- a) Port area (berths, buildings, fishing & small boats repairs facilities, port repair facilities)
- b) Port related Industrial Area (chemical and all the other processing industries)
- c) Lamu New Metropolis and Urban Development Area
- d) Intermodal transportation hub: Railway, International Airport, Highway, waterway
- e) Crude and Product Oil Pipelines,
- f) Oil refinery,
- g) Resort city
- h) Infrastructure (related to electricity, water and ICT)
- i) Fishing port facility
- j) Thermal Power Plants on Pate Island
- k) Oil and natural gas extraction activities
- l) Dredging activities to ensure enough depths between high sea and port
- m) Waterway controls due to shipping traffic

The Feasibility Study has prescribed the implementation of investment specific EIA without articulating a framework within which this should be carried out. However, this is a linear, elemental approach that will not predict the cumulative impacts, neither assign responsibilities for mitigating them. Additionally, there is also the Oil and Gas Prospect that has not been subject to a detailed HIA as part of the EIA performed. There is therefore a great need to have an overarching SEIA process put in place, within which the completed EIA for Berths 1-3, as well as this present HIA, become components that may be assessed for cumulative impact together with others.



6.4 Nature of likely negative impacts

Experience and research has shown that rapid modernisation and large development pressures are destructive for conservation, especially in terms of authenticity and integrity of the heritage resource and its setting, and that continued resourcing, management and guided control is required for protecting the authenticity and integrity of a heritage resource under pressure from such non conforming (inappropriate) and massive or (destructive) development. The argument that rapid modernization brings resources for maintenance and improvement of the physical heritage resource still does not address the negative effects of modernization on the cultural system that sustains the heritage, both tangible and intangible. In such a case, what is required is that the negative impacts of change not be transferred to the heritage resource and its sustaining community without mitigation, redress and compensation where mitigation is inadequate, but that the benefits of modernisation and development also subsidises the effective management, protection and maintenance of the culture that sustains the heritage. Thus heritage protection of both tangible and intangible, and in this case inclusive of the world heritage property and all that ensures the sustenance of its OUV, must become part of the sustainable development agenda of the larger projects. Omission of planning for and embedding this heritage protection agenda into the larger projects would have immediate and adverse impacts/repercussions in the area and the



projects' sustainable development objectives as the destruction of the cultural environment would mean the destruction of the pillar projects such as tourism.

The negative impacts on tangible and intangible heritage are direct and indirect in nature. Most of the impacts on the tangible heritage resources of the World Heritage property and the Lamu archipelago will be indirect and cumulative. Pate Island with its extensive and rich heritage that are both tangible and intangible and are of the highest significance due to their age will likely have the most direct impacts as a result of the implementation of the proposed thermal stations as well as from oil and gas exploration.

While Lamu Island and the world heritage property may appear a distance away from the developments and impacts may be perceived as more indirect than direct, there are high possibilities of direct negative impacts on the world heritage property. In case of any accidents and oil spill, at the port or from Pate Lamu town will be directly affected. The smoke and smells from the gas and oil operations may still affect Lamu depending on the wind directions. The views and vistas from the world heritage looking into Manda island, and beyond that for centuries has been defined by the greenery of Manda and the blue sky beyond, is now broken by the Port building at Magogoni. With the coming of the metropolis, the views and vistas from the world heritage if not addressed will be of iron and concrete and the stars at night would be replaced with the bright lights of the Metropolis. This indeed is a direct impact as it affects the people who own, live in and take care of the heritage properties that constitute the world heritage property. Their love and care for the heritage is what protects the heritage and ensures its authenticity and integrity and any change in mind in terms of ownership due to the changed circumstances could pose a danger in the up keep and in the emotional and spiritual connection to the place. This would further erode the spirit of place.

The disruption of the natural environment by the construction and operation of the port will have various impacts on the current livelihoods of the archipelago's inhabitants and ultimately on the conservation of the OUV of the World Heritage property, its setting and surrounding area.

Given the size of the developments, as a first step, a summary of the significance of the impact on OUV by each development phase and its components, is presented and then discussed.

6.5 Summary of likely negative impacts on Lamu WHS and archipelago during Planning Phase

| Component | Direct Impacts | Significance* | | | | | Indirect Impacts | Significance | | | | | | |
|---|--|---------------|---|---|---|---|--|--------------|---|---|---|---|--|----|
| | | 1 | 2 | 3 | 4 | 5 | | 1 | 2 | 3 | 4 | 5 | | |
| Port Area | Possible loss of traditional lands due to land grabbing | | | | X | | Cultural dilution is likely with the influx of new populations into the County | | | | | | | X |
| Industrial Area | | | | | | | Land ownership | X | | | | | | |
| Lamu New Metropolis and urban development | Induced population increase could increase sewage effluents into the Lamu Bay Cost of living will go up for the unprepared and economically disadvantaged peoples of the archipelago | | | | X | | Physical and economic displacement and resettlement of project affected persons. Lifestyle change to cope with new competitive and monetary dominated economy | | | | | | | |
| Intermodal transportation hub | | | | | | | Induced population growth along the corridor, esp. at gateway | X | | | | | | |
| Crude and Product Oil pipelines | | | | | | | Land acquisition on Pate Island along proposed path of pipeline could lead to loss of archaeological materials, sacred places, burial sites, etc... | | | | | | | X |
| Oil Refinery | | | | | | | Land acquisition | X | | | | | | |
| Resort City | The cultural heritage of Lamu Old Town will no longer be the focus of tourism planning in Lamu County | | | | X | | Erosion of values and initiation of other cultures | | | | | | | X |
| | Land acquisition | | | | | | Increase in beach boy activities and attendant "easy money" may lead to lack of interest in higher education, reducing local competitiveness | | | | | | | X± |
| Thermal Power Plant on Pate Island | Land acquisition and possible speculation Disruption of economic activities in the area | | | | X | | | | | | | | | |
| | | | | | X | | | | | | | | | |
| Oil and natural gas exploration | Oil and Gas Prospection will disrupt farming and other economic activities Possible ground water pollution/contamination during exploration Fire hazards/ Land acquisition and possible relocation of settlements in the path of exploration activities | | | | X | | | | | | | | | |

Significance from 1 (none/lowest) to 5 (highest)

1. Neutral/None 2. Slight 3. Moderate 4. Large 5. Very large

6.5.1 Likely negative impacts on Lamu WHS and archipelago during Planning Phase

Impacts on Land Ownership

Acquisition is necessary to secure the land for LAPSSET and other associated development. Anticipation of developments in the County has led to the emergence of very complex and opaque land acquisition mechanisms.



- On Lamu Island, land plots have been illegally allocated on designated national monuments (water catchment areas/dunes), in the Shela area. This is of particular concern as these dunes are the sole fresh water supply for the island. Numerous individuals and companies have encroached on these dunes laying claims to ownership of the land. It appears that not all land titles allocations on the Shela water catchment area has been revoked.
- Speculative activity has also led to allocation of land titles for agricultural (sugar cane) activities on Manda Island, despite the scarcity of fresh water on the Island.
- The port construction will induce an influx of migrant workers and an attendant demand for housing. This could likely lead to speculation by developers in a hurry to capitalize on housing shortages and the possibility of land invasion by illegal developers on public land around the port, and in the archipelago, cannot be ruled out.
- The situation on Pate Island is of particular concern given the direct impacts it will have to deal with given the proposed thermal plants, oil and gas exploration projects that will be carried out over a sizeable area of the southern portion of the Island. Land acquisition on Pate Island for oil and gas and thermal plant installations may lead to involuntary resettlement and compensation of some individuals on the Island.

Socio-economic and cultural impacts

Land speculation activities will likely create an economic situation for the local communities. If demand outstrips supply, this could induce an increase in the cost of living and place the local communities at a great disadvantage. This could result in further impoverishment. Furthermore, land speculation could also lead to lifestyle changes in an attempt to deal with the new monetary values that will be introduced in the local system.

Planning for the oil and gas sector will particularly affect economic expectations and alter social relationships on Pate Island. The possibility for social tensions cannot be ruled out as locals might be tempted to jostle for positions to maximize personal gains.

Oil and gas prospection has already disrupted economic activities on Pate Island, and also polluted fresh water supplies. The likelihood that this will escalate with increased activity in the sector cannot be ruled out.

Prospection in the area will lead to an increase of visitors and raise “beach boys” activities, with the attendant expectations for easy money, could increase the erosion of traditional values, a lack of interest in acquiring further education. This can ultimately result in reduced competitiveness of the local youths vis-à-vis other economic migrants moving into the County.

6.6 Summary of likely negative impacts on Lamu WHS and archipelago during Construction Phase

| Component | Direct Impacts | Significance* | | | | | Indirect Impacts to Archipelago | Significance | | | | | | |
|---|---|------------------------------------|---|---|---|---|---|----------------|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | | 1 | 2 | 3 | 4 | 5 | | |
| Port Area | Construction teams could destroy land- and undersea archaeological sites, known or unknown | | | | | X | Destruction of knowledge, archaeological heritage | | | | | | | X |
| | Restricted access to traditional fishing grounds will affect livelihoods | | | | | X | Population increase with workers' migration to the area could create conflicts | | | | | | | X |
| | Air Quality could be affected as a result of emissions from construction equipment | X | | | | | Cultural dilution is likely with the influx of new populations into the County | | | | | X | | |
| | Impact on fisheries as fishing stock will be affected by poor water quality as a result of construction activity | | | | | X | Increase in STDs as a result of the presence of migrant workers | | | | | | | X |
| | Marine and terrestrial wildlife could be affected | | | | | X | | | | | | | | |
| | Exposure of coastline to erosion | | | | | | | | | | | | | |
| | Noise and vibration from construction activities | | | X | | | | | | | | | | |
| | Poor management of wastes from dredging could cause nuisance | | | | | X | | | | | | | | |
| | Water quality and construction activity could affect tourism (swimming and marine viewing) | | | | | X | | | | | | | | |
| | Industrial Area | Clearance of indigenous vegetation | | | | | X | Land ownership | | | | | | |
| | Visual pollution due to architecture of industrial buildings and from smoke stacks – changed landscape character. | | | | | | Population increase could increase sewage effluents into the Lamu bay | | | | | | | X |
| | Dust and pollution during construction | | | | X | | Physical and economic displacement and resettlement of project affected persons. | | | | | | | X |
| Lamu New Metropolis and urban development | Cultural shock for local communities | | | | X | | Presence of migrant workers could lead to an increase in prevalence of STDs and HIV/AIDS | | | | | | | X |
| | Dust and pollution during construction | | | | X | | Clearing of vegetation will disrupt wildlife and biodiversity and likely lead to conflicts with migrating animals | | | | | | X | |
| | | | | | | | Induced population growth along the corridor, especially at gateway | | | | X | | | |
| Intermodal transportation hub | | | | | | | Fuel and other hazardous materials used during construction might pollute the coast line | | | | | | | X |
| | | | | | | | Construction Activities may cause noise and vibration | X | | | | | | |

| Component | Direct Impacts | Significance* | | | | | Indirect Impacts | Significance | | | | | | |
|------------------------------------|--|--|---|---|---|---|--|--------------|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | | 1 | 2 | 3 | 4 | 5 | | |
| Crude and Product Oil pipelines | Clearing of vegetation to lay pipeline to offshore loading site | | | | X | | | | | | | | | |
| | Construction activity could disrupt Archaeological sites | | | | X | | Loss of knowledge and irreplaceable heritage | | | | | | | |
| | Dredging will lead to loss of coral reef which will also affect tourism and fishing activities | | | | X | | Loss to livelihood for fishermen, communities and the hotel industry | | | | | | | |
| Oil Refinery | Dust and Noise | | | | | | Construction activities will disrupt sensitive ecological habitats in the bay | X | | | | | | |
| | Resort City | Construction of the resort city will lead to an influx of migrant workers with attendant risks for introducing new values and practices in the archipelago | | | | X | Lamu's cultural heritage will no longer be the focus of tourism | | | | | | | X |
| Thermal Power Plant on Pate Island | The management systems that will be put in place for the proposed satellite resort cities will affect traditional values | | | | X | | Land acquisition | X | | | | | | |
| | Air emissions from construction work | | | | X | | Possible sicknesses associated with dust and smoke | | | | | | | |
| | Noise from construction activity | | | | X | | | | | | | | | |
| | Ground and surface water pollution from construction requirements and accidental fuel or other chemical spills | | | | X | | Sicknesses from water diseases | | | | | X | | |
| | Disturbance of ongoing marine archaeological survey | | | | X | | Loss of heritage and knowledge | | | | | | X | |
| Oil and natural gas exploration | Construction activities may affect navigation of locals | | | | X | | | | | | | | | |
| | Marine habitat will likely be affected by equipment installation | | | | X | | Loss of fisheries and so loss in livelihood | | | | | | X | |
| | Discharge and management of waste e.g drill cuttings, waste mud and wash water | | | | X | | | | | | | | | |
| | Disturbance to humans and animals from vibrations of construction equipment | | | | X | | | | | | | | | |
| | Fishing stocks could be stressed by vibration from construction equipment | | | | X | | Loss of livelihood for communities and the hotel industry | | | | | | | X |
| | Land acquisition and possible relocation of settlements in the the path of the exploration activities | | | | X | | Loss of connection with the ancestral space; disorientation, need for recovery | | | | | | | X |

Significance from 1 (none/lowest) to 5 (highest)

1. Neutral/None
2. Slight
3. Moderate
4. Large
5. Very large

6.6.1. Likely negative impacts during construction stage

Impacts on Water Quality

- Port development activities such as excavation and dredging can cause water turbidity and also introduce contaminants from port activities and hinterland effluent, particularly from the planned industrial Export Processing Zone (EPZ) and the proposed metropolis development.
- Port effluent such as wastewater, storm water (run-off) and untreated discharge can lead to increase in Dissolved Oxygen (DO) and Chemical Oxygen Demand (COD) and nutrients. This can affect environmentally sensitive areas like coral reefs and mangrove plantations within the bay.
- If offshore dumping of dredged materials is required and carried out inappropriately, it can cause adverse impacts to the marine ecosystem.

Impacts on Mangrove Forests

- Approximately 6km of mangrove will be cleared in the Manda Bay to make way for the construction of the berths.
- Mangrove forests will be at risk from direct human impacts. With the influx of population, the risk of Mangroves being felled for commercial and personal use will increase.
- The risk of pollution will similarly increase with the development of the hinterland. This will have a long-term effect on the availability of building materials for conserving old buildings and erecting new ones in the WHS and other historic settlements in the archipelago. Thus loss of knowledge by some in the building industry if the material acquisition becomes difficult and so loss of interest in the craft trade and attrition on the numbers that can maintain the buildings in WHP.
- There is also a possibility of loss of livelihoods from mangrove-related businesses.

Loss of the Iweni Community Marine Conservation Area

- This community conservation area, located in the Manda Channel, will be lost due to dredging. The loss of the Iweni Conservation Area will likely lead to loss of livelihoods for the communities who earn an income from it.

Impacts on Fisheries

- During the port construction, accessibility to fishing grounds will be restricted and fish stocks will likely be affected. Cumulative impacts on water quality may reduce fish stock in the area.

Impacts on Archaeological sites

- Excavation for port construction and other LAPSSSET components, as well as oil and gas related developments, will likely affect protected archaeological sites such as Mkokoni, Mashundwani, Ungu, Kiliana, Manda, Takwa, Pate, Shanga, Siyu, Bui and on the mainland the ones at She jafari, Mwambore , Mwandoni, Ishakani and Kiunga among others
- There is a high possibility of encountering archaeological artifacts on the seabed during dredging and construction. The existing marine archaeological survey off the southern tip of Pate Island will also be affected by construction
- It is also possible that old graves and sacred sites will be disturbed, as is already the case with Kililana.
- The northbound pipeline across northern Kenya will traverse a huge area with great archaeological heritage and even with rescue archaeology. There is basically no capacity



in the National Museums of Kenya to deal with both the anticipated interference with sites and collections that may come out of the rescue work

- On the archipelago alone, the losses will be great as roads and railways are built and metropolis comes up in the very heart of the Wa-Swahili origins landscape.
- If and when material culture/archaeological finds are retrieved, these will be in large quantities to curate and to store in the currently available museum storage space.
- The history that comes from the material within the Lamu archipelago has a direct bearing in the continuous understanding of Lamu and in further interpretation of its history and the improvement of the OUV

Impacts on Intangible heritage

- The development of the proposed port and metropolis will lead to an influx of migrant Kenyan and international workers in search of employment and business opportunities. This can cause a “dilution” of the local culture.

Impacts on Air and sound quality

- Construction equipment, truck traffic, work vessels etc may create nuisance, increasing noise levels and causing discomfort through vibration.

Waste management

- Dredging will generate a significant amount of construction wastes. Disposal of dredged material on land may cause destruction of plants, loss of vegetation, leakage of contaminated materials and salt, odour, an unsightly view and other nuisances to the communities.

Socio-cultural impacts

- Labour from outside may be a possible source of conflict with a local community.
- HIV/AIDS
- Prostitution
- Cultural dilution
- Social tensions
- Increase in costs of living due to competition for work and resources
- Increase in prices of goods due to high demand from the large immigrant population
- Possible drug related and other vices that follow such set ups
- Dropouts from schools to go work, hawk and do some kind of activities in the metropolis
- Possible street children phenomenon that is common in most Kenyan town but still lacking in Lamu
- Rich upcountry people buying off properties in the Lamu old town world heritage site of which they have no emotional or family ties with leading to loss of authenticity and integrity



6.7. Summary of likely negative impacts on Lamu WHS and archipelago during Operational Phase

| Component | Direct Impacts | Significance* | | | | | Indirect Impacts | Significance | | | | | | | | | | | | | |
|---|---|---------------|---|---|---|---|--|--------------|---|---|---|---|--|--|--|--|--|--|--|---|---|
| | | 1 | 2 | 3 | 4 | 5 | | 1 | 2 | 3 | 4 | 5 | | | | | | | | | |
| Port Area | Restricted access to traditional fishing grounds will affect livelihoods | | | | | X | Population increase with workers' migration to the area could create conflicts | | | | | | | | | | | | | | |
| | Air Quality could be affected as a result of emissions from ships | | | | X | | Cultural dilution is likely with the influx of new populations into the County | | | | | | | | | | | | | | |
| | Impact on fisheries as fishing stock will be affected by poor water quality as a result of port activities | | | | | X | Likely increase in STDs as a result of the presence of migrant workers | | | | | | | | | | | | | X | |
| | Fuel and other hazardous materials used during operations might pollute the coast line | | | | | X | Loss of fishing stock and area and cost of adopting alternatives | | | | | | | | | | | | | | |
| | Noise and vibration from port operation activities | | | | X | | Water quality could affect tourism (swimming and marine viewing) | | | | | | | | | | | | | X | |
| Industrial Area | Poor management of wastes from dredging could cause nuisance in the landscape | | | | | X | Loss of tourism due to change in landscape quality and character. | | | | | | | | | | | | | X | |
| | Clearance of indigenous vegetation | | | | | X | Loss of historic landscape memory and loss of quality for local inhabitants. | | | | | | | | | | | | | | |
| | Visual pollution due to architecture of industrial buildings and from smoke stacks – changed landscape character. | | | | | X | Population increase could increase solid wastes and sewage effluents into the Lamu bay | | | | | | | | | | | | | X | |
| | Introduction of alien and invasive species of plants and loss of indigenous plants | | | | X | | Possible change in the microclimate due to sun reflecting on a wider and larger area of corrugated iron sheets and other roofing materials | | | | | | | | | | | | | | |
| | Influx of people | | | | | X | Presence of migrant populations could lead to an increase in prevalence of STDs and HIV/AIDS | | | | | | | | | | | | | | X |
| Lamu New Metropolis and urban development | Cultural and virtual shock for local communities | | | | | X | Induced population growth along the corridor, especially at gateway | | | | | | | | | | | | | | X |
| | Influx of people | | | | X | | Blocked wildlife migration routes could lead to accidents with migrating animals | | | | | | | | | | | | | | X |
| | | | | | | | Fuel and other hazardous materials used during operations might pollute the coast line | | | | | | | | | | | | | | X |
| | | | | | | | Operational activities may cause noise and vibration | | | | | | | | | | | | | | X |
| | | | | | | | | | | | | | | | | | | | | | |
| Intermodal transportation hub | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |

| Component | Direct Impacts | Significance* | | | | | Indirect Impacts | Significance | | | | |
|------------------------------------|--|---------------|---|---|---|---|--|--------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | | 1 | 2 | 3 | 4 | 5 |
| Crude and Product Oil pipelines | Equipment malfunction could lead to serious environmental accidents | | | | X | | Sickness. | | | | X | |
| | Loss of fishing livelihoods | | | | X | | Displacement. | | | | X | |
| Oil Refinery | Dust and Noise | | | | X | | Oil spillages will affect the sensitive ecological balance | | X | | | |
| Resort City | Competition with the existing tourist asset: Lannu World Heritage site which will no longer be the main focus of tourism | | | | X | | | | | | | |
| | Proposed mass tourism model will drastically reduce the competitiveness of local tourism operators | | | | X | | | | | | | |
| | The management systems that will be put in place for the proposed satellite resort cities will affect traditional values | | | | X | | | | | | | |
| | Physical changes on the landscape in terms of hotel buildings and other facilities | | | X | | | | | | | | |
| | Smoke emissions from plant | | | | X | | Possible sicknesses associated with dust and smoke | | | | X | |
| Thermal Power Plant on Pate Island | Noise from industrial activity | | | | X | | | | | | | |
| | Warning of marine water and accidental fuel or other chemical spills | | | | X | | Sicknesses from water diseases | | | X | | |
| | Disturbance of ongoing marine archaeological survey | | | | X | | Loss of heritage and knowledge | | | | X | |
| | Coal delivery activities may affect navigation of locals | | | X | | | | | | | | |
| | Marine habitat will likely be affected by equipment installation | | | | X | | Loss of fisheries and so loss in livelihood | | | | | X |
| Oil and natural gas exploration | Discharge and management of waste e.g drill cuttings, waste mud and wash water and leakage/spillage. | | | | X | | | | | | | |
| | Disturbance to humans and animals from vibrations of extraction equipment | | | | X | | | | | | | |
| | Fishing stocks could be stressed by vibration from extraction equipment | | | | X | | Loss of livelihood for communities and the hotel industry | | | | | X |
| | Land acquisition and possible relocation of settlements in the path of the exploration activities | | | | X | | Loss of connection with the ancestral space; disorientation, need for recovery | | | | | X |

Significance from 1 (none/lowest) to 5 (highest)

1. Neutral/None 2. Slight 3. Moderate 4. Large 5. Very large

6.7.1 Likely negative impacts on Lamu World Heritage property and archipelago during the Operational phase

Impacts of shipping traffic and discharges

- Ship discharges such as bilge water, ballast water, oily wastes, sewage, garbage and other residues are possible sources of water pollution.
- Spills of oils, lubricants, fuels and other oily liquids may be other sources of water pollution. Already, oil slicks from motor boats are visible on the water surface in the bay in front of the WHS. These layers of oil in a tropical zone such as Lamu can undergo chemical reactions such as biodegradation and eventually form dense particles that sink.
- A concentration of oily compounds, affecting water quality, could have an effect on marine tourism.
- The location of the Port Works Repair facility at the point where the Mkanda Channel enters into Manda Bay increases the possibility for pollution of the sea water by toxic or harmful materials such as paints, or heavy metals. These could affect the mangrove and marine ecology



Impacts on marine environment

- Oil leakage and oily wastes, if disposed of in the bay/ocean, may cause direct damage to fishery resources, aquatic biota and the coastal habitat and seriously damage marine and coastal ecology.
- Oil and other toxic substances may contaminate fishery resources, including shellfish.

Impacts on air quality

- Ships are a possible source of airborne emissions such as gasses, smoke, soot and fumes. Gaseous pollutants generated by ships during maneuvering and berthing may affect air quality in the archipelago.

Impacts associated with waste management

- Ships generated wastes such as bilge water, ballast water, washing water, lubricant oil and other residues in machinery space; sewage and garbage; and cargo residues such as wood bark could either be discharged or spilt into the ocean. These wastes cause problems of oil pollution, floating garbage, unsanitary conditions, odour and other degradation of water quality.

Impacts on cultural heritage resources

- Oil and oily wastes discharged from ships may wash up to beaches in the archipelago and affect recreational and tourism activities, causing serious damage to tourism.
- Shipping traffic may disturb pleasure boat cruising and fishery boat operations.
- The possibility of accidents in the ship traffic is a worry to local people.

Impacts of cargo operations and industrial activities

- Runoff from raw material storage, spills from bulk cargo handling, and wind-blown dust could contaminate port water. Organic materials in runoff are decomposed to the inorganic form, spending dissolved oxygen and increasing the nutrient level in water. Accidental spills of toxic, harmful materials, oils or oily compounds, and other raw materials are also possible sources of contamination of water.
- The proposed factories for the industrial area, such as oil refinery and petro-chemical, wood processing, textile, ship repair centre and livestock quarantine area, are potential contributors to increased pollution in the archipelago. This is because effluent from port industrial activities may include toxic or harmful materials, unsanitary wastes, oily wastes and other hazardous materials.



- Electricity generation may release heated water and sewage treatment facilities produce nutrient salts, organic matter and some hazardous materials.
- Cargo handling and storage may cause runoff, spills or leakage of ingredients, which possibly include toxic or harmful materials, organic matter, or oily compounds. Water pollution and bottom contamination resulting from these effluents lead to deterioration of aquatic biota and fishery resources. Dust dispersion on land may cover plants and change terrestrial habitat.
- Toxic or harmful substances included in dust emissions may endanger the health of port workers and the archipelago's populations.
- Discharge from waterfront industries is a major source of water pollution which, induces deterioration of aquatic biota due to toxic and harmful materials, poor oxygen dissolution and eutrophication of water.
- Cargo handling equipment and road traffic to and from the industrial area may cause unacceptable levels of noise and vibrations.
- Cargo operations generate waste (remains of bulk cargo storage, rubbish from unpacking, wood bark from log handling, floating garbage and other wastes from daily activities) and the port industrial areas generate various kinds of wastes and some of them are disposed of in the port area or at sea
- The proximity of the port to Manda Island, Buyi?? Siyu and Pate villages with their historic sites and pristine natural settings, will impact greatly on their setting.

Impacts of Pate Thermal Plant(s)

- There is a possibility of thermal pollution from the proposed power plant to be located on Pate Island. The discharge of the cooling water could elevate the temperature in the surrounding sea, resulting in damaging conditions for fish larvae. Raised temperature can also affect other organisms around the outfall in the surrounding channels and thus affect the biodiversity in the area.

6.8 Other Impacts

Impacts on Terrestrial and Marine Wildlife

- While the protected areas of Dodori/Boni Forest Reserves and Kiunga Marine Park are outside the project boundaries, the induced impacts from the LAPSSET and other components will have an impact on the marine and terrestrial wildlife. Migratory routes and sustenance of marine flora and fauna will no doubt be impacted by induced changes from the port development.
- The development of the port will lead to increased wildlife-human conflict as the human population in the area increases. Migration routes for some wildlife may be interfered with. Wildlife will also be at risk from likely fresh water contamination.
- With opening up of the port and the metropolis, there is sure to be intensity in poaching and illegal export of wild animal parts such as ivory, rhino horns, skins etc. Already the country is suffering but Dodori/Boni has been spared because of its remoteness. Opening the area will mean quick transportation as well as easy hiding for the perpetrators.
- There are threats to remove the protected statuses of some gazetted areas and with population increase, there will be pressure at some stage to do this and free more land for human settlements.



Impacts of Lamu Metropolis

- Development of the urban development area may induce squatter settlements in the archipelago. This could lead to social and cultural tensions.
- The airport development will increase air traffic to the archipelago, especially large planes. This comes with associated noise pollution.
- The large population influx projected for the mainland will have an impact on sewage generation.



6.9. Impacts on livelihoods

The development will have an impact on various livelihood activities that currently sustain the populations.

- Income from tourism in the archipelago could be affected if the cultural and natural resources that are the focus of visitors' interest lose their unique values
- Traditional boat building
- The cumulative impacts on water quality will affect the fishing stock in the area and subsequently livelihoods from artisanal fishing

6.10 Risks

- There is a high probability of accidents during construction of marine structures. The contractor of the proposed project will have to apply very strict health and safety codes not limited to Legal Notice 40, the Factories (Building, Operation and Work of Engineering Construction) Rules 1984.



- The proposed oil refinery will export oil via a Single Point Mooring Bouy (SPMB) that will be located outside Manda Bay connected by pipeline. There is risk of accidents occurring offshore at the SPMB that could cause damage to critical marine habitats i.e. Coral Reefs, Sea turtle nesting grounds & Mangrove
- With the high influx of migrant workers in the area, there will be an increased risk of HIV/AIDS and ST Infections in the area. According to the Government of Kenya, Sentinel Survey of 2006, Coast Province, where Lamu district is found, has a HIV/AIDS prevalence rate of 8.1%. However, NASCOP estimate the prevalence rate in Lamu district at 3.2%. The challenge will be to keep this relatively low prevalence rate with the increase in population.
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6.11 Types of potential impacts on individual attributes

6.11.1 On individual tangible attributes of OUV

The port development will have limited direct impact on the individual attributes of OUV. The effects will more likely be induced.

Impacts on tangible attributes related to attributes inscribed under Criterion ii: "...architecture and urban structure of Lamu graphically demonstrate the cultural influences ...utilizing traditional Swahili techniques to produce a distinct culture."

- As the Lamu Port and associated developments take off fully, there will likely be an influx of new, cheaper, (and perceived as modern) building materials in the County. Induced population and technology growth in the Port area might likely increase the current influx of new building materials, technology and styles in the Old Town.

- The character of the architecture of the World Heritage site might be affected by new motifs and elements which might affect the authenticity of the site.
- The increase in population could also lead to pressure on mangrove wood supplies for domestic and building needs. There is a high risk that mangrove will be cut for charcoal, by the new and existing populations, on account of its calorific value. This could affect the availability of wood for conservation purposes in the Old Town. Population increase could also lead to pressure on building sand and coral stone, especially if there is a demand for land on Lamu Island and other islands in the archipelago.
- The proposed Lamu Resort City on the mainland as well as the satellite sites on the archipelago could have the impact of devaluing the cultural heritage of the archipelago as the main cultural asset in the area. The facilities proposed will likely distract from the World Heritage Site. Of special concern is the proposed development on Manda Island. These elements will directly impact on the gazetted skyline that forms part of the buffer zone to the World Heritage site. The impact of developing casinos on Manda Island will likely erode cultural values in the Old Town, just across the harbor.
- The location of the Fisherman's wharf just across from the southern tip of Lamu Island could induce further development on the southern tip of the Island, with its long coastline and beaches.
- Over-extraction of water from the sand dune aquifers to serve the increased population could mean less water for the world heritage site making it less appealing to live in. This could lead to the abandonment of houses that they could go into deterioration and decay.
- The new population with enough money to rent could overcrowd the spaces within the old town leading to deterioration in the state of conservation and management.
- Today, Lamu is a safe place where one can walk any time of the night. The increase of population within the archipelago could introduce insecurity that could affect the old town adversely leading to its abandonment and deterioration
- Population increase could also lead to increase in waste that is already a problems; if the open drainages are closed as been suggested, there could be clogging and other problems.
- Population increase could also lead to increase in informal settlements in the upper reaches (farms). This could lead to sand erosion during rainy season that already has been causing havoc in the world heritage site.
- Loss of apprenticeship in the traditional building techniques with master craftsmen due to competition from building in cheap modern style could starve the heritage of people versed in its conservation and as such could lead to deterioration of the structures

Impacts on tangible attributes related to Criterion iv: "growth and decline of the seaports on the East African coast and interaction represents a significant cultural and economic phase in the history of the region which finds its most outstanding expression in Lamu Old Town."

6.11.2 On individual intangible attributes of OUV

The continuation of the island livelihoods and cultural expressions are threatened as are the age-long resilience and strength of the cultural system that sustains the material and immaterial cultural expressions of the island communities.

- As a major centre of religious scholarship in Lamu archipelago in particular, and the South Indian Ocean in general, this cultural expression will be threatened by the

imminent influx of new settlers that will be induced by the port development. Such a large wave of people into the area will likely subjugate this rich cultural expression. They will be followed by their religious faiths including the ever ambitious Pentecostal denominations. This has potential of creating religious competition and conflicts within the archipelago. The historic tempo of change, regulation and cultural evolution will be subjected to rapid cultural change and shifts in power-knowledge. There is a need for the ability to regulate space and place according to self-chosen regulations that are regulated by the local religious tradition and dogma.



- The population increase in the County might increase localized attendance of the traditional festivals, as new migrants join the festivities to celebrate the unique cultural expressions that have gained international renown.
- The unique festivals require maintenance of the unique cultural landscape
- The rapid inflow of non-Lamu people is a threat to the conservation of older versions of Kiswahili
- The Vistas and views: With the coming of the metropolis, the views and vistas from the world heritage of the Manda skyline if not addressed will be of iron and concrete and the stars at night would be replaced with the bright lights of the Metropolis. This indeed is a direct impact as it affects the people who own, live in and take care of the heritage properties that constitute the world heritage property.

The height of proposed Port buildings, up to 80m in some cases, in the direct line of sight from Lamu Old Town will affect the integrity of the view cone of the protected skyline in the property's buffer zone.

Port equipment and machinery such as silos, cranes and unloaders, will very likely be in the direct line of sight of the Lamu Old Town WHS and within the view cone of the protected skyline and compromise its integrity. The Berths and their loading cranes are in the line of sight from Lamu Old Town World Heritage property, and within the view-cone of the protected Skyline included in the Inscription.

The proposed resort city satellite development on Manda Island, with its casinos and hotels, could affect the integrity of the Ras-Kitau-Manda skyline that was gazetted, and subsequently the OUV of the WHS. Already the Manda beach all the way to Ras Kitau has been built on and any further construction behind would destroy the remaining greenery and blue that forms that skyline and that is part of the zone for views and vistas of the protected skyline.

- Visual quality: Lighting for night operations may cause nuisances to the nearby community. Port and industrial wastes, smoke from ships, bulk cargo piles, and waste stacks could affect the visual integrity of the protected Manda skyline as well as give an unpleasant impression, when viewed from the archipelago.

6.11.3 On overall OUV

The LAPSSSET corridor components will likely have a visual impact on the overall setting of the World Heritage property, interfering with the scenery of mangrove forests and Indian Ocean. The views and vistas from the world heritage looking into Manda island, and beyond had been defined by the greenery of Manda and the blue sky beyond, is already disrupted by the Port building at Magogoni. With the coming of the metropolis, the views and vistas from the world heritage if not addressed will be of iron and concrete and the stars at night would be replaced with the bright lights of the Metropolis.

This direct impact, will, affects the people who own, live in and take care of the heritage properties that constitute the world heritage property. The love and care of the community for the heritage is what protects it and ensures its authenticity and integrity and any change

in mind in terms of ownership due to the changed circumstances could pose a danger in the up keep and in the emotional and spiritual connection to the place.



The spirit of place of Lamu town and world heritage property is kept by among others the fluid and constant movements of people and good from and to the other islands: the boats that crisscross the seas through the Mkanda channel, the fishermen that bring in their daily catch to support households and tourist business as well as keep the fish market open. The same fishermen who anchor their boats from the islands, cooking in and at times sleeping in them by the pier; the general population whose daily movement to and from the WH property to the adjoining islands visiting relatives or just passing time in a different setting are all part of a traditional landscape with its multiplicity of voices and languages as different dialects are spoken, and understood, in one space. These may have to be rearranged or may slowly disappear as the seascape between Pate Island and Lamu changes to accommodate large ships, as the port authority take charge and restrict access, and communities of the archipelago become minority in their own lands.



By 2030, when most of the major developments would have taken place, the sense of place associated with the World Heritage site will almost be lost completely as Lamu Island will be surrounded by the various developments on the adjacent mainland and on Manda Island. Elsewhere in the archipelago, the semi-arid Manda Island will also see some unprecedented development that will completely change the skyline and impact on archaeological heritage and unprecedented pressure on fresh water supplies. If the water if from the Lamu sand dune aquifers then this will also be nearing drying up a threat to the world heritage itself.

The large scale development that LAPSSET is, and will induce, will greatly affect the cultural ecology of the Lamu archipelago and the unique relationship of the population with the ocean. While the Port will open up the Lamu archipelago in a manner reminiscent of the historical trading ports, in this new dispensation the decision making is not led by the local communities but by forces external to their world view. This will no doubt affect their interaction with the Port at the level of decision-making and development. The foreseen control of shipping access will likely restrict the traditional navigation route of local small and fishing boats through the existing Mkanda channel, across the Manda Bay and through the Siyu channel, north of Pate islands. Currently, small and fishing boats cannot navigate the outer sea but navigate through the route shielded by islands, during the monsoon seasons.

There is therefore a potential of not only marginalising the community but total disruption of a tradition and all sustaining traditional lifestyle developed and nurtured over millennia with attendant loss of their heritage. Traditional values, roots, freedom of movement and loss of a sense of community sharing common values with the associated linkages to highly significant archaeological sites that weave a common thread of history and sense of place and belonging is likely to be lost forever.

7. MITIGATION MEASURES

This Chapter of the Report includes proposed principles and the proposed methods to mitigate or offset the effects of a development proposals, including consideration of other options for the development including site selection/location and design revision. The HIA will indicate how the mitigation is acceptable in the context of sustaining OUV, including the authenticity and integrity of the WH property.



The ICOMOS *Guidance* (2011: 6-2) states that “Conservation is about managing sustainable change. Every reasonable effort should be made to avoid, eliminate or minimise adverse impacts on attributes that convey OUV and other significant places. Ultimately, however, it may be necessary to balance the public benefit of the proposed change against the harm to the place. In the case of WH properties this balance is crucial.”

The consultants have applied the principles of the ICOMOS *Guidance* (2011: 6-4) in developing this Report.

As a Greenfield operation, LAPSSET is a great opportunity to put in place visionary measures for sustainable environmental and social management in Lamu County. Its implementation in Lamu’s sensitive landscape should be precautionary, based on the best international practices in planning, construction and operation with a view to optimizing environmental and social advantages as part of responsible infrastructural development. Currently, the tourism sector contributes a large share to Kenyan GDP and it is important to keep this sector solvent in the Lamu archipelago, especially as the earliest anticipated economic benefits from LAPSSET might not come on-stream for at least three years.

7.1. Attribute specific mitigation for the Lamu Old Town World Heritage Site and Lamu Island

7.1.1. Mitigation during planning stage

Land tenure and security

Land use and planning is critical to achieving desired conservation results in the World Heritage property as a unit and on Lamu Island as a whole. It is important that land security be assured for the Island’s inhabitants, taking into consideration ancestral land claims will help to forestall land speculation and grabbing. It will also help secure the continued occupation of the Island by a critical mass of Lamuans vital for the survival of the heritage.

- Creation of a special conservation zone, funded through an agreement between the County Government, vouched for by the NMK, and SEZ authority. The SEZ authority will collect the revenue from various implementing agencies in the zone and put in a sequestered fund for the management of cultural and natural heritage
- Issue land titles to property owners in the World Heritage property and on Lamu Island to forestall illegal land grabs and speculation.

Integrity of urban and architectural character and quality of the WH property and Lamu island

- Strengthen and enforce existing planning regulations in the Lamu Old Town World Heritage property and extend heritage related planning regulations to the entire Lamu Island, with special recognition for the limitations of the land especially as concerns fresh water supplies, food security, as well as informal settlement.
- Strengthen and enforce existing planning regulations establishing controls on architectural attributes on the Island such as building height, details, material use.

Regulations should establish conservation benchmarks on the Island to allow for architectural variations taking into consideration the relationship of all other settlements on the Island to the WH property. A flexible approach is needed to ensure that pressure is taken off the WH property by the other settlements which accommodate crucial services for the WH property. This can include guidelines on materials, construction methods, height restrictions, urban patterns, as a function of location and proximity to the WH property.

- Existing settlement boundaries must be fixed and there must be a limit to any new settlement development on, or immigration to Lamu Island, to ensure the effective protection of its attributes into the future.
- Develop a training programme for young artisans, encouraging innovative approaches to conservation and new design to ensure a regular workforce readily adaptable to changing conditions, yet able to meet the demands for conservation.
- Given that the berths and Port Authority buildings must be located adjacent to the Berths, develop proposals for the alternative location of the Industrial and Commercial/housing components of the Metropolis, further away from the Port along the Corridor.



7.1.2. Mitigation during construction

Some of the mitigation measures described below will be implemented by contractors and must thus be included as clauses in contractual documents.

Mitigation for Intangible heritage

- Extend government and corporate support to local cultural events as part of the development of the tourism industry and the branding of the World Heritage property
- Provide support mechanisms to ensure that the local values remain: eg education, language, cuisine,
- Promote livelihood activities centered around the traditional cultural industries

Air and sound quality

- Control dust emission by spraying water in the construction site to reduce dust emissions. Use proper transport methods, such as a conveyor belt, for excavated material and install screens around the construction site.
- Reduce noise emissions by adopting low noise equipment or installation of sound insulation fences. Limit working hours to the day time to avoid disturbance.

Waste management

- Examine possibilities of using dredged materials land reclamation on the basis of identified needs.
- Use dredged material in the construction of retaining walls or reclamation of berth structures
- Examine the possibility of using dredged materials to shore up shorelines in the archipelago, building up the sea wall systems.
- Ensure respect of international best practices with respect to managing wastes from ocean floor dredging.

Socio-cultural mitigation

- Establish a social inclusive mechanism to prevent conflicts between local communities and migrant workers
- Reinforce the implementation of the national HIV/AIDS program for construction workers and local communities
- Provide infrastructure to accommodate population increase and risk of STD i.e. hospitals, VCT Centres, Awareness Programs, etc. all in line with National Guidelines.
- Implement a HIV/AIDS Prevention Program for the construction period.
- Develop resilience mechanisms for the local communities to deal with the realities of induced rises in costs of living due to competition for work and resources
- Establish anti-drug awareness programs for the youths
- Establish a permanent exhibitions of dhow building techniques, wood working and carpentry, centred around live demonstration of these crafts
- Establish businesses centred around traditional crafts and knowledge.
- Develop required social and urban services necessary for long term sustainability of the tourism market in Lamu Old Town.

Livelihood mitigation

- Apart from the proposed fishing ports, develop new fishing ports to replace those that will be destroyed by the port development.
- Establish alternative livelihoods for individuals who will lose their livelihoods as a result of the port construction.

7.1.3. Mitigation during operation

- Monitor established businesses and ensure that they are adaptive to the demands of the market, while respecting the underlying cultural values.

7.2. Overarching mitigation for the Lamu cultural landscape

7.2.1. Lamu cultural landscape: Mitigation during planning stage

Quality and integrity of regional character of the archipelago

- Effective development control in the archipelago (incl of Lamu Island and WH property) will greatly depend on the availability of information for informed decision-making. Existing records and documentation for the tangible heritage of the Lamu WHS should be collated, gaps identified and included into a database to develop a baseline to facilitate information retrieval. The database for the WH property will form a critical foundation to be built upon for the entire archipelago. Support and resources are needed for the urgent systematic completion of the documentation and analysis of all the significant tangible and intangible heritage of the archipelago, to be available as baseline data for the impact assessment and control of the many developments in the near future.
- An adequate management plan that is clear about the instruments of integrated management (for example the UNESCO HUL approach), better control of development, settlement boundaries, land use rights and land ownership on the island, as well as the delineation of a more effective Buffer Zone (as agreed to re the UNESCO Decisions) are urgently required to counter pressure due to the anticipated migration wave. The management plan will be more effective if it is streamlined and forms an integral component of County Urban and Planning guidelines and regulations;

- Define the southern limits of the Metropolis to confirm a suitable distance from the WH property that will ensure there is no visual contact and enforce an effective 'no-build' and no development buffer area between the southern limits of the metropolis and the WH property to ensure that the current condition remains and that southward growth of the metropolis will not be allowed to occur.
- Define, in its byelaws and regulations for the Metropolis and Industrial City, THE heights of buildings so that they are not visible from the viewcone at the WH property towards the protected skyline.
- Draft heritage specific urban spatial development guidelines for all interventions within the archipelago.
- Draft heritage specific urban by-laws for all interventions in the archipelago.
- There must be a limitation to LAPSSSET related immigration to or related urban development and large infrastructure on Manda island.
- There should be no land bridge between the mainland and Manda Island in order to inhibit rapid growth and urbanisation which is a sensitive component of the setting of the WH property's OUV.

Cultural dilution

- Extend government and corporate support to local cultural events as part of the development of the tourism industry and the branding of the World Heritage property
- Provide support mechanisms to ensure that the local values remain: e.g. education, language, cuisine,
- Promote livelihood activities centered around the traditional cultural industries such as cuisine, straw weaving, wood carving, boat making, carpentry, etc.
- Develop local cuisine by promoting local food production and identifying opportunities for sustainable entry into the commercial supply chain for tourism and future markets in the County.
- Identify the possibilities of extending existing homestay practices and establish a plan to put in place the required social and urban services necessary for long-term sustainability.
- Place limitations on land ownership by non-island inhabitants.
- Provide alternative design for the Metropolis - move those components of the metropolis that are not directly essential to the Port management and operation northwards along the Corridor.

Visual quality of Lamu archipelago cultural landscape

- Explore possibility of positioning and creating vegetative cover or land-scaping to screen off the visual effects of container handling equipment on the protected Manda skyline. A careful selection is required to determine which indigenous tree species can successfully create the desired effect.
- Screen the existing 4 storey building Port Building with vegetation in the viewcone from Lamu Old Town and for remainder of city development propose and apply by-laws in Metropolis and Industrial city to control heights of buildings to not be visible from Lamu Old Town.
- Propose and apply approved screening, through natural elements at selected spots between Lamu Old Town protected viewscape and the Port, and same for Buyi, Pate and Manda town, to mitigate visual impacts of container stacks and cargo- and cruise-ships at quayside or at anchor at water-based loading berths.

- Provide alternative design for the Metropolis - move those components of the metropolis that are not directly essential to the Port management and operation northwards along the Corridor.

Land tenure and security

Land use and planning is critical to achieving desired conservation results in the County as a whole. It is important that land security be assured for the archipelago's inhabitants, taking into consideration ancestral land claims. Inclusion of the local communities through land adjudication will greatly facilitate their ownership of the changes in their landscape.

The pressure on land resources needs to be urgently addressed in order to ensure land security for the archipelago's communities.



The establishment of a special conservation area, through an inter-ministerial approach, is crucial for the effective integrated conservation of the sensitive natural ecological landscape of Kenya's northern coast as well as its cultural landscape. Doing this will enable the conservation of not only the valuable ecosystem services of the natural environment, but also the cultural resources, inclusive of heritage. It is suggested that a special integrated conservation authority whose primary function shall be that of strategic and effective management of the County's cultural and natural resources. The Special Conservation Authority shall be responsible for land use management in the archipelago as well as the sequestered Trust Funds set up for its function. Funding for the Trust Funds shall be negotiated with the SEZ authority based on the "polluter pays" principle as stated in the *Environmental Management and Coordination Act of 1999*.

- Issue land titles to property owners in the archipelago to forestall land grabs and speculation.
- Ensure that compensation is paid to project-affected communities in line with the outcomes of the land surveys and reports held in 2013/2014.

Thermal Plants on Pate Island

- Explore alternative locations with a view to concerting environmental management that efforts all around the archipelago.
- Carry out thermal dispersal studies and simulation to determine long term environmental effects of locating such a facility in this sensitive ecological system.

Quality of Marine and coastal ecology



- Conduct studies of the fragile marine and coastal environment to enable appropriate design of construction methods to ensure long-term protection and sustainability of the fish stocks. The studies should serve to inform decision making in choice of construction and dredging methods as well as disposal of dredged material.

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7.2.2. Lamu cultural landscape: Mitigation during construction stage

Water Quality

- Port construction methods should be designed based on study of minimal invasion and disruption of the marine environment so as not to disrupt the fishing stocks and thus fishing livelihoods.
- Care should be paid to the identification of dump sites for dredged materials to minimize disruption of the marine environment.

Mangrove Forests

- Port and metropolis development should include conservation efforts to protect mangrove forests.
- Initiate mangrove afforestation programme and involve communities through financial incentives to plant and manage mangroves
- Explore possibilities of mangrove recovery for commercial purposes in other areas of the coast.

Mitigation for the Kiweni Community Marine Conservation Area

- Identify a suitable area to compensate the loss of the Kiweni Conservation area, both for fishing stocks and for the conservation of sea turtles.

Mitigation for Fisheries

- Compensate lost fishing grounds by identifying and developing offsets
- Protect local fishermen from competition from foreign trawlers and improve their access to fishing stocks beyond the continental shelf. Provide appropriate equipment adapted for deep sea fishing (motorized boats etc) and provide training for beneficiaries to operate new equipment
- Contribute to the value chain by (i) assisting fishermen in the identification of new markets and the development of business skills (ii) establishing a medium-size fish-processing industry.
- Provide market facilities by creating an advantage for local fishermen in the new metropolis
- Investigate the possibility of marine fish farming and provide financial support to local fishermen to enable them kick start their own businesses.

Mitigation for Archaeological sites

- Compensation for moving graves or sacrificial rituals for the dead,
- Compensation for loss of valued resources by secular activities
- Avoidance of archaeological sites of interest (where technically possible)
- Voluntary Burial (a layer of soil is placed on the site if the planned infrastructure are temporary)
- Develop chance finds procedures for implementation in the event that archaeological heritage is disturbed (see annex XXXX)
- Carry out archaeological excavations in priority areas to record maximum information on the sites: (i) inventory of sites, objects and data collected, (ii) description of the sites and artifacts (iii) radiocarbon dating, (iv) data analysis, (v) safeguarding the vestiges of the National Museum of Kenya, (vi) publication of data.
- Provide necessary support for LIDAR mapping of the area to determine trace layers of land use and occupation
- Provide necessary support to the NMK to enable it carry out its functions in this regard as part of implementation of proponents' environmental management plans. Ensure the presence of archaeologists at project sites during excavations for all projects.

7.2.3. Mitigation during operational phase

Shipping traffic and discharges

- Ensure that the Port authorities provide sufficient facilities for managing wastes generated from shipping activities, in accordance with international standards
- Establish fines for any non-compliance with waste management regulations

Air quality

- Ensure regular monitoring of air quality to ensure emission compliance with national and international standards.
- Implement guidelines on air quality control in accordance with local, national and international regulations

7.3. Further Investigations and actions required to implement the mitigation recommendations



- Carry out a cost benefit-analysis of the tourism industry and eco-system services, in the short and long term, in comparison with the likely losses that can be incurred when impacts diminish or kill the industry. The study should also examine the economic impacts of increase in demand of goods and services as a result of the project and the impact this will have on the economic situation of the local communities.
- Establish a baseline of the natural resources in the archipelago environment: determine what the goal of any remediation should be along with the projections for recovery. The international obligations under the Nairobi Convention cannot be ignored, given the increase in current port developments in Member States (Tchobanine deep water port complex in Mozambique and the Bagamoyo Deep Water Port in Tanzania), a collaborative effort is needed to address the cumulative impacts of these developments on sensitive coastal environments. This study will take into consideration the prescribed actions in existing plans such as that of the Integrated Coastal Zone Management Develop, State of the Environment reports, etc. The development of a national mangrove plan is critical.
- Disclosure of Resettlement Action Plan (RAP) to reassure the communities



- Study of the planned shipping lanes to define a plan of action that does not restrict the movement of the archipelago's inhabitants between the islands, by boat. Such a study should be carried out in consultations with the local communities in order to identify the most effective possible routes to avoid conflicts between the populations, port. As the compensation to the fishery communities along the coast for environmental impacts, the possibility of dredging shallow sections in the Siyu channel (to where? To Siyu and after that?) for local boats might be studied to enable boat to transport through the whole seasons in a separate study (FS, 4-1.6). No restrictions of access using boats between the islands
- The Feasibility Study (2011: 15:3-1) suggests the creation of a "*shallow water basin shielded from outer wave intrusion and replantation of existing mangrove*", as a mitigation measure for mangrove and wetland depletion. Such a mitigation measure can only be effectively designed if the necessary baseline and recovery measures are established in a separate study by the Forestry Department.



- A Strategic and Cumulative Impacts Assessment study is required to establish the sum total of the development's impacts on the northern coast of Kenya, the long-term impacts on tourism and GDP earnings from the area. The study can also examine alternatives to location for project components such as the metropolis, airport and technology facilities. Alternatives in technology and sewage treatment should also be closely examined as a

way of mitigating the impacts of sewage effluents in the bay, given the population projections by 2050.

7.4. Institutional responsibilities for mitigation

The recommended mitigation for the impacts on the Lamu archipelago cultural landscape will be most effective when viewed from the global context of the individual responsibilities of the various stakeholders, each being responsible and accountable for implementation. If all the institutions play their statutory roles the environmental and social issues should be addressed correctly.

7.4.1. National Museums of Kenya (NMK)

The NMK is responsible for the conservation of the Lamu Old Town World Heritage site and the 40 other protected sites in the County. The NMK should:

- As lead agency in charge of the implementation of Kenya's international obligations for heritage conservation, participate and contribute to the development process, providing advisory services to the LAPSET authority and County Council.
- Develop, and make available to NEMA, sample ToRs for heritage consideration in SEA and project-specific EIAs, for use by the NEMA in its reviews of consultant ToRs for project-specific EIAs, submitted by project proponents.
- In collaboration with the County Government, Department of Fisheries, Department of Forestry, Kenya Wildlife Services and KMFRI, identify in the Feasibility Study the areas of greatest concern to conservation efforts in the archipelago, identify and define the boundaries of a special conservation zone and present this to the relevant authorities for legal protection.
- In collaboration with the afore-named institutions, draw up a strategy for integrated management of change in the special conservation zone through the various stages of project development.
- Update the current *Lamu Old Town World Heritage Site Management Plan 2013-2017* to include for the new considerations for the Port development.
- Reinforce the current capacity of Lamu Old Town Conservation Office to ensure a rapid response to the emerging issues and ensure effective implementation of the management plan.
- Collaborate with the Ministry of Tourism and the Lamu community to brand Lamu archipelago as a unique tourist destination in Kenya.

7.4.2. Lamu County Government

As part of its constitutional responsibilities, with respect to heritage and environmental conservation, Lamu County Government should:

- Reinforce the existing County urban development regulations, especially County Physical Planning Liaison Committee and the Local Planning Commission and the special requirements for Lamu Old Town. In this respect, it will also dedicate a staff member to liaise with the NMK's Lamu Old Town Conservation Office to enforce planning regulations for Lamu Old Town and the other significant living historic settlements in the Lamu archipelago cultural landscape, as well as in the rest of the County. This should also include specific sections in its byelaws and regulations for the Metropolis and Industrial City, that clearly define the heights of buildings so that they are not visible from the viewcone at the WH property towards the protected skyline.

- Develop, in collaboration with the NMK, specific guidelines for the evaluation of planning and building proposals in the significant historic settlements. These shall build upon the existing guidelines for the Old Town.
- Develop planning regulations to establish limits on settlement boundaries and building heights in designated areas in the Lamu archipelago cultural landscape and other relevant areas in the County so as not to distort, or devalue, the protected values of the World Heritage property.
- Collaborate with the NMK and the local community to develop sustainable waste and sewage disposal systems for the various Lamu archipelago settlements.
- Commission and cause to be implemented, as stated in the Feasibility Study, an extensive EIA, as soon as possible, that includes a detailed examination of the direct, indirect, and cumulative impacts of the Lamu Metropolis development on the World Heritage property. It will also ensure that the terms of reference for the EIA consultant include a requirement to examine alternatives for sewerage and waste disposal through reuse and recycle and include a Waste Management Plan.
- Develop guidelines for the establishment of a waste management company in the County, with specific attention to the needs of the archipelago's populations and ecological sensitivity.
- Perform, in a participative manner, an exhaustive bio-cultural survey of the area impacted on by the Lamu Port and allied components to act as baseline for monitoring mitigation and the future operational phase of the projects.
- Drive the process for establishing a special authority for the management of the special conservation zone of the northern Kenyan Coast. It will establish suitable relationships between the SEZ authority, County Metropolitan Planning Board, ensure the tie-in between them and the special conservation authority.
- Develop, in consultation with the local communities and in line with its integrated management plan, the development of fishing port facilities to address the loss of fish landing sites through port development
- In collaboration with the proponents and local communities, define the local economic development content of new developments and the level of compensation due as a result of loss of livelihoods due to the proposed developments, for upgrading equipment and for livelihood restoration for affected fishermen and others to operate in a changed environment.
- Develop, and examine, proposals for the alternative location of the Industrial component of the Metropolis, housing and commercial components so as not to affect the visual integrity of the World Heritage property. .
- Upgrade County educational facilities and quality to prepare community to step up to the challenges of change and enable competitive engagement in all levels of the emerging new economic sectors.



7.4.3. Lamu community

The Lamu communities are responsible for the maintenance of the tangible and intangible attributes of their cultural assets. The primary responsibility for conserving intangible heritage in the face of inevitable change over time lies with the people. The community should:



- Mobilise itself to define its own aspirations with respect to their own culture in changing socio-cultural, socio-economic and natural landscapes.
- Engage with the County government for inclusion in the participative framework that is part of the World Heritage management process as envisaged in the

Operational Guidelines for the implementation of the World heritage Convention 2013.

- Collaborate with the NMK to participate in identification and assessment of significance of tangible and intangible cultural and natural heritage
- Participate and contribute to the consultations required for the development of the Environmental management Plans for the proposed projects
- Monitor and bring to the attention of NEMA and the County government any infringements on the Environmental plans by the proponents.

7.4.4. LAPSSET Corridor Development Authority (LCDA)

As coordinating agency responsible for policy, implementation, operational coordination and technical oversight of LAPSSET, the LCDA should:

- Coordinate with the various ministries involved in LAPSSET to ensure that an SEA is carried out as soon as possible and that the concerns of compliance with respect to Kenya's international obligations regarding heritage conservation are adequately considered
- Finance a baseline study of the Lamu marine environment in 2014, and establish projected recovery levels to guide future project developers in developing their project specific EIAs.

7.4.5. Ministry of Transport and Infrastructure (MoTI)

As the government department responsible for the implementation of LAPSSET gateway, the MoTI should:

- Commission and cause to be implemented, in line with NEMA's 2012 SEA guidelines, a Strategic Environmental Assessment (SEA) to establish policy level guidance on the LAPSSET project and its components. The SEA should address the long-term vision of the project development (up to 2050) over long-term objectives, using relevant models for these projections. It should develop a flexible framework for decision making with respect to the various components, with location, technology adapting to changing contexts and strongly focused on the main issues in a wider context. The SEA should address the main issues which influence decision-making: societal values, cultural contexts, mind-sets, sustainability matters, and thus establish environmental and sustainability priorities. The SIA will thus strengthen and streamline sectoral EIAs each LAPSSET component by providing the planning, management and monitoring guidelines. The SEA shall also consider the cumulative impacts of the development up till 2050.
- Commission and cause to be implemented, as stated in the Feasibility Study, project EIAs at least one year ahead of implementation, giving enough time for consultation with the various stakeholders.
- Develop proposals for the alternative location of the Industrial and Commercial/housing components of the Metropolis, further away from the Port along the Corridor to preserve the visual integrity of the World Heritage property.

7.4.6. Ministry of Land, Housing and Urban Development (MLHUD)

The MLUJD should:

- In collaboration with the NMK, KWS, County Government and NEMA, demarcate the spatial boundaries of the special conservation zone taking into consideration the concerns for cultural and natural conservation.
- Adjudicate on outstanding land tenure matters and issue title deeds to community members who have substantiated land claims on Lamu Island and archipelago.

- Ensure the prompt resolution of outstanding compensation payments under the existing Resettlement Action Plan for project-affected communities

7.4.7. National Environmental Management Agency (NEMA)

The NEMA should:

- Urgently provide a roadmap for environmental and social compliance for all the anticipated LAPSSET developments. This roadmap will include, among others, a set of investment-specific instructions.
- Facilitate the implementation of a LAPSSET SEA
- Cause to be conducted by the LCDA, a baseline study of the Lamu marine environment in 2014, and establish projected recovery levels to guide future project developers in developing their project specific EIAs. It will thus monitor that cumulatively, the projected recovery levels are adequately covered by each developer and thus ensure that Kenya meets its international obligations under the relevant environmental conventions (Nairobi, Ramsar, World Heritage, etc)
- Ensure that project-specific EIAs are in compliance with the SEA guidelines
- Ensure, in consultation with the NMK, that the terms of reference for each project-specific EIA Consultant includes a requirement for full consideration of likely impacts on the Lamu World Heritage site and Lamu cultural landscape. Guidance for these ToRs can be found in the last updated ICOMOS *Guidance*.
- Monitor the implementation of environmental management plans for project components for which it has issued environmental licenses
- Exercise its regulatory function by varying or canceling any EIA licenses that have been issued but whose implementation is not in compliance with agreed plans.



7.4.8. Ministry of Energy and Petroleum (MOEP)

As the institution responsible for policy and regulatory frameworks in the oil and gas sector, the Ministry of Energy and Petroleum should:

- Contribute to the SEA study commissioned by the MoTI in order to develop a global vision of the cumulative impacts of all the LAPSSET-related projects on the cultural and natural landscapes of the Lamu archipelago.
- Commission and cause to be implemented, as stated in the Feasibility Study, project EIAs in the oil and gas sector, at least one year ahead of implementation, giving enough time for consultation with the various stakeholders.
- Review the existing EIA for the Pate Gas Prospect by placing it in relation to the WH property and its setting (or larger buffer zone) and reformulating the impacts and mitigation from the assessment from an HIA following the ICOMOS *Guidance*.
- Examine alternatives for the location of the thermal electric plant currently proposed for Pate Island, on the mainland and contribute to the creation of a special conservation zone for Lamu archipelago.

7.4.9. Ministry of Tourism (MoT)

The MoT should:

- Contribute to the SEA study commissioned by the MoTI in order to develop a global vision of the cumulative impacts of all the LAPSSET-related projects on the cultural and natural landscapes of the Lamu archipelago.



- Develop, in collaboration with the NMK, County Government and local communities, an alternative tourism strategy for Lamu County in which the focus of all tourism will be the cultural resources of the archipelago. Such alternatives should consider land ownership issues and lease matters for operators for the benefit of all parties. It should also consider the inclusion of Lamuans as master developers and any tourism development should not allow land ownership or very long land leases by archipelago inhabitants. The new proposals should be guided by the principles of Responsible Tourism. Also consult with the communities on the appropriate location for cruise ship berths in a manner that is not obtrusive to their cultural practices and to the protected view cone.
- Review proposals for development on Manda Island. The current proposal is incompatible with the nature of the cultural landscape and relocate to an alternative location outside the archipelago

7.4.10. Kenya Wildlife Service (KWS)

The KWS should:

- Identify, in collaboration with the County Government Department of Fisheries, NMK, Department of Forestry, and KMFRI, identify in the Feasibility Study the areas of greatest concern to conservation efforts in the archipelago, and define the boundaries of a special conservation zone for presentation to the relevant authorities for legal protection.

7.4.11. Kenya Forest Service (KFS)

The Kenya Forest Service should:

- In collaboration with the KWS and in consultations with the local communities, develop Replantation and Afforestation Schemes for mangrove areas outside the conservation areas managed by the KWS
- In collaboration with the KWS, examine the possibility for relocating/increasing existing mangrove forests to increase the mangrove cover, as compensation for loss due to port development
- Identify, in collaboration with the County Government, Department of Fisheries, NMK, and KMFRI, within the Feasibility Study the areas of greatest concern to conservation efforts in the archipelago, and define the boundaries of a special conservation zone for presentation to the relevant authorities for legal protection.

7.4.12. Department of Fisheries (DoF)

The DoF should:

- Identify, in collaboration with the County Government, Kenya Forest Service, Kenya Wildlife Services, NMK, and KMFRI, within the Feasibility Study the areas of greatest concern to conservation efforts in the archipelago, and define the boundaries of a special conservation zone for presentation to the relevant authorities for legal protection.

7.4.13. Kenya Marine and Fishing Research Institute (KMFRI)

The KMFRI should:

- Identify, in collaboration with the County Government, Kenya Forest Service, Kenya Wildlife Services, and NMK, within the Feasibility Study the areas of greatest concern to conservation efforts in the archipelago, and define the boundaries of a special conservation zone for presentation to the relevant authorities for legal protection.

7.4.14. The Private Sector

The implementation of LAPSSSET is planned as a Public Private Partnership venture with various private sector operators in the different sectors that will be developed. The private sector investors should:

- Include in their project-specific EIA ToRs specific reference to cultural heritage by proposing and applying approved screening through natural elements at selected spots between Lamu Old Town protected viewscape and the Port, and same for Buyi, Pate and Manda town, to mitigate visual impacts of cranes, unloaders, silos, and .to screen against intrusive night-time lighting of the Port.
- Ensure respect for cultural and natural heritage conservation during construction and operation of their investments
- Implement HIV/AIDS Prevention Program during construction and operational period

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ANNEX 2 LIST OF CONSULTEES AND CONSULTATION RESPONSES

Summary

| | |
|------------------|---|
| December 2013 | |
| 26 December 2013 | Matondoni Village: Participants from Matondoni and Kipungani villages, Makafuni |
| 28 December 2013 | Patte: Participants from Pate village, Siyu village, Shanga, Ishakani and Shanga Rubu |
| 28 December 2013 | Faza: Participants from Kizingitini, Mbwajumwali, Nyabogi, Tchundwa and Faza. |
| 31 December 2013 | Participants from Lamu Old Town |
| 4 January 2014 | Participation of UNESCO HIA team, Lamu communities and NGOs |
| 14 February 2014 | Nairobi: Participation of key Government stakeholders |
| | |

Record of meetings conducted by the NMK

Matondoni Village - 26th December 2013

Congregation and Opening The meeting held at Matondoni village and constituted representatives of both Matondoni and Kipungani villages. Representatives from Makafuni areas of Lamu Island were also invited. There were a total of 70 participants. The sub-chief of Kipungani village Mr Mutakani gave the opening remarks on behalf of the area chief who could attend the meeting due to earlier engagements. Mr Mutakani observed that the national government was committed to improving the livelihood of all Kenya and it was through these kinds of projects that developments that jobs can be created. He also noted that the government was aware of concerns raised on the ground and was willing to listen and find appropriate solutions collectively so that the eventual project benefits the entire Kenyan community with fewer disruptions at the epicenters. He welcomed the team from the National Museums of Kenya citing the great contributions of the NMK within the Lamu archipelago which span over the last 100 years. He wished all participants a fruitful discussion

Curator, Lamu Museums Mr Salim Bunus

Mr Salim Bunu gave an introductory talk which defined what constitutes heritage and the existing legal tools for their protection. He elaborated on the National Museums and Heritage Act 2006 highlighting the relevant sections that govern the management of national cultural heritage assets. He went on to introduce the Lamu Old Town as one of the national cultural heritage sites that are under protection from the heritage act. In addition he pointed out that Lamu was also a world heritage site and explained the process for enlistment of a site into the world heritage list. The curator further discussed the world heritage convention and its operational guidelines emphasizing that in addition to national laws and procedures Lamu old town was also subject to international conventions to which Kenya is a signatory state party. Both the national legislation and the international conventions provide mechanisms that are aimed to protect the heritage sites from losing their most significant attributes as a result of unchecked developments.

He also introduced the Lamu Old Town explaining to the participants the attributes that make her unique among the other Swahili stone towns. He pointed out the town's architecture, centre of Islamic scholarship from medieval times and the intangible heritage

as the towns most prized attributes. He went on to highlight the threats that the Old Town has been subjected to over the last ten years including the encroachments onto the sand dune water catchment and the accelerated dilapidation of urban infrastructure from sudden population triggered by inordinate rise in tourism development as a result of the sites inscription in the prestigious list in 2001. He asked the participants to consider the extreme pressure that Shella and Ras–Kitau have been subjected to over the last ten years. Pressure from the port development will be so much more and it was thus important to ensure that proper mitigation measures were put in place to safeguard the significant attributes of Lamu Old Town.

Presentation by the Conservation Officer, Haji Mohammed

He gave a presentation on the OUV for the Lamu World Heritage Site highlighting the nature of threats that could possibly affect the OUV. Citing the population projections from the Lapsset project plans the population of Lamu is expected to rise to 500,000 over the next 5 years and by 1,500,000 in the next 15 years. This sudden rise in population will mostly be immigration from other parts of the country into Lamu with possible overhaul of the demographic profile and also possible inundation of the local culture. Heavy engineering associated with the port development will definitely impact on the natural environment that is the setting of the ancient Swahili settlements of the Lamu Archipelago including the Lamu Old Town. He observed that the sudden rise in large scale construction will definitely bring with it many changes including structures that will have a profound visual effect on the heritage sites of the Lamu archipelago. It was thus the main aim of the heritage impact assessment to bring out the possible threats on the culture so that suitable mitigation measures can be designed and implemented as the project is being rolled out.

Presentation by Dr Azra Mahmoud –Community Representative

Dr Azra Mahmoud is a recent medical graduate who was invited by the organizers to give a talk on the authenticity and integrity of the site and also lead the community discussions as a community representative. The organizers intended to give ownership of the discussion to the community so that they could be as objective as possible.

She expounded on the authenticity of the old town citing the location, character and socio-cultural life of the town as one of the most authentic attributes of Lamu town .she noted that these attributes were true to town and her people and for continuity purposes required extra effort in their development and protection. She also discussed on the integrity of the sites cultural heritage expounding on the mechanisms that support her authentic attributes and how negative impacts on these mechanisms could lead to loss of authenticity. She commended the organizers of the manual Maulidi festival and the Lamu cultural festivals stating that most of the body of tradition could be carried to future through the festivals.

Community Contributions

Dr Azra led the participants in a candid discussion on what their thoughts were in respect to the port project.

The fishermen's representative stated that the fisher folk have been hearing news about the envisaged shipping channel that cuts across their path leading to prawn fisher grounds in Dodori creek. The fishermen's concern is that once the shipping channel is operational the small fishing vessels will not be allowed to sail through these waters.

The representative of the sand harvesters observed that Matondoni has traditionally been the only village to undertake sand harvesting of pit sand along the mainland coast opposite Lamu Island. This is the only known source for clean sand around the archipelago and especially the port site. The sand harvesters fear that once the port contractors move their heavy equipment to this site they will be prevented from accessing the site due to safety

concerns. This will definitely lead to loss of livelihoods both for the harvesters and their dhows.

The local Cleric/Imam raised concerns with the possibility of undesired social behavior creeping into the seemingly innocent Swahili villages from the sudden influx of huge number of people into region. He observed that already young boys had already adopted weird dressing habits like the hanging trousers which were against the Islamic and local principles. Similarly teen girls were also aping undesired habits from television and visitors to Lamu. Drug abuse and petty crime were also on the increase. This was a clear indication that the self preservation mechanisms of the community against assimilation have to be reviewed. Members of the community also raised concerns with how employment opportunities would be distributed. Even though the region had a low levels of education locals should be considered for manual and low skilled jobs. Training and re-training of locals should also be undertaken to ensure that the locals are able to be absorbed.

The congregation also highlighted the perpetual poverty within Lamu County and recounted how the area had been neglected for a long time. Lamu County is probably one of the marginal areas of Kenya and has been missing from the national development agenda. The participants cited the Lamu - Garsen road that had not been tarmaked since independence .The community still remains skeptical on the intentions of the government and does not see the project as principally aiming the local communities .

Issues Raised by Matondoni Community

| Possible Threat | Possible solution |
|---|--|
| Dodori and Ndununi covers around 65% of the fishing areas for the fishermen of Matondoni and shall be lost to the shipping lane | Conservation of the natural resource areas |
| Cultural Assimilation (cultural + religious) | Cultural programmes and campaigns to advocate for stronger values and embracing of cultural traits |
| Drug Abuse and Influence | deliberate effort to counter |
| Land grabbing and Control the sale of land | Institute provisions of new land legislation and establishing Land ownership |
| Petroleum exploration and oil terminus | Zoning (for petroleum dealers) and strict implementation of EIA recommendations |
| Tenewi and other enclaves Dodori and Milihoi | Conservation of the natural resource areas |
| Destruction of monuments and sites | Conservation of monuments e.g. mosque |
| Extreme changes to cultural landscape | New development to take cognizant of community welfare. Expand documentation and gazettement of historical assets in Matondoni and Kipungani |
| Loss of traditional modes of transport and seafaring culture | Cultural funds from the port development kitty to strengthen development of traditional cultural activities |
| | Employment opportunities to the youth |

| MATONDONI | | | | |
|-----------|--|--------------------|--------------|----------------------------|
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| 2. | BAKARI ATHMANI KHAMIS | | | |
| 3. | ALI BWANAKWELI | | | |
| 4. | BWANAMKUU BAKARI | | | |
| 5. | MUHSIN RUBEN MOH'D OMAR (ASST. CHIEF) | Ass Chief | 0712527597. | |
| 6. | ABDU MAHMOUD | Imam. | 0719571172. | |
| 7. | ALI BAKARI (CHIEF) | | | |
| 8. | KASSIM SAID | Teacher | 0712851400 | |
| 9. | OMAR SWALEH | fisherman / Casual | N/A. | |
| 10. | MWANAHALIMA ATHMAN | House Wife | 0716203331 | |
| 11. | SALIM BWANAHANI | Teacher | N/A. | |
| 12. | MBARUK SOUD | | | |
| 13. | ALI MOH'D ALI | Fisherman | 0712851400 | |
| 14. | NAJMA ALI BAUSI | | | |
| 15. | ZAINAB ALI SAID | | | |
| 16. | ALI OMAR SUBETI | Madrasa Teacher. | N/A. | |
| 17. | KHADIIJA ABDALLA FADHIL | | | |
| 18. | OMAR SAID ALI | | | |
| 19. | ESHA ALI OMAR | House wife | | |
| 20. | FATMA MOHAMED | | | |
| 21. | ALI AHMED ALI | Casual Labourer | 0704628492 | |
| 22. | MOHAMED BAKARI KHALAF | Village Elder | 0729916122 | |

| | | | | |
|-----|---------------------|--------------|--|--|
| 23. | JAFAR MOH'D | | | |
| 24. | OMAR SINANI | Imam | | |
| 25. | MOH'D HASSAN | Businessman. | | |
| 26. | MOH'D BWANAHANI | Fisherman | | |
| 27. | ABDALLA BAKARI | Fisherman | | |
| 28. | MOHAMED FAMAU | | | |
| 29. | ABDALLAH MOH'D OMAR | | | |
| 30. | SINANI OMAR SINANI | Fisherman | | |
| 31. | OMAR ALI SUBETI | | | |

| KIPUNGANI | | | | |
|-----------|----------------------|-------------|-------------|-----------------------|
| NO | NAMES | DESIGNATION | CONTACT | E-MAIL ADDRESS |
| 1. | MUTAKINA HUSSEIN | Asst Chief | 0723023215 | Mutakina@gmail.com |
| 2. | ASMA ABDU | C.H.W | 0721783249 | - |
| 3. | HARFUNI | Fisherman | 0728572862 | - |
| 4. | SAIDA ABDALLA | Teacher | 0701715587 | - |
| 5. | BABU ATHMAN | Businessman | 0713278672 | - |
| 6. | ALI ABDALLA FAMAU | Teacher | 0710978258 | - |
| 7. | HUSSEIN M. TWALIB | Businessman | 0720865448 | - |
| 8. | HASSAN KALE | Businessman | 0716803679 | - |
| 9. | SALIMU HUSSEIN | Businessman | 0785951212 | - |
| 10. | ATHMAN MOH'D BOOK | Fisherman | 0705584770 | - |
| 11. | TIMA MOH'D | Clerical | 0728-380279 | timamohamed@gmail.com |
| 12. | ALI FAMAU | Businessman | 0711819058 | - |
| 13. | SAID ABDALLA | Businessman | 0700885372 | - |
| 14. | MOHAMED SAID | Fisherman | - | - |
| 15. | HAWA HUSSEIN | C.H.W | 0711528848 | - |
| 16. | FATHIYA HASSAN MOH'D | House wife | | |
| 17. | EDA WANGARI | C.H.W | 0716004676 | - |
| 18. | JAMILA MOH'D | House wife | 0708573493 | - |
| 19. | FATUMA HAMADI | House wife | 0727870558 | - |
| 20. | AHMED AZWAJ | Fisherman | 0707916019 | - |

Patte Village - 28 December 2013

Congregation and opening: The meeting held at Pate primary included representatives from Siyu and the two Shanga villages. The meeting was opened by a word of prayer from, Sheikh Abu-Bakr of pate after which opening remarks were made by the area assistant chief in the absence of the area chief who was away on official duty. The assistant chief affirmed the government's support towards uplifting the livelihoods of pate island residents which had lagged behind for a long time. He highlighted the recently completed gas exploration survey on Pate Island as a project that would create jobs and contribute significantly to the areas standard of living. He also observed contrary to wild accusations the Government had commissioned an EIA for the exploration exercise a copy of which is available at the offices of Nema in Lamu. He assured the organizers that the government was in support of the HIA initiative by the NMK as it would provide critical information for making informed decisions thus lead to minimal effects on the county's natural and cultural assets.

Presentations

Three presentations were made by the organizers. The Curator Lamu Museums gave the first presentation which introduced the heritage assets in general and the existing laws for their protection. The presentation goes further to highlight the protected sites within Lamu County of which the most significant is the Lamu Old Town. The Curator further discussed the attributes which make Lamu unique and also the processes the town underwent in order to be enlisted into the world heritage list. The curator also informed the participants on the world heritage convention and its operational guidelines which are the main tools for managing enlisted properties. He also noted that the operational guidelines gives specific guidelines on what must be done in the event a mega project is envisioned within the precincts of a listed property.

It is under these circumstances that Lamu had received assistance from UNESCO to undertake a heritage impact assessment through three international heritage consultants who would visit the site in the first week of January 2014. The presentation also spelt out the challenges which the site is currently facing and the initiatives that had been adopted to resolve the sites problems.

The Conservation Officer, Mr Haji Mohammed, made the second presentation whose theme was on the OUV of the Lamu World Heritage Site. The presentation covered the attributes that constitute the OUV for Lamu Old Town and the nature of threats that would compromise the OUV. He further informed the gathering on the circumstances in which the OUV would change spelling out the limitations on the acceptable parameters. Mr Haji reiterated that all the conservation efforts and programmes dispensed by the NMK within the old town were simply geared towards safeguarding and advancing the sites OUV. He observed that loss of OUV may be equated to the losing of a Soul and would leave a site dead or with severely diminished heritage value.

The organizers had also invited a member of the local community to moderate the community discussions with a view of making the whole process participatory and more acceptable to the community. Dr Azra Mahmoud a recent medical graduate also made a brief and tailored presentation on the sites authenticity and integrity to assist the community to fully appreciate how a sites intrinsic values are diminished or lost.

Community Discussions

Dr Azra led the participants in a candid discussion on the perceived impacts of the Lamu port on the regions cultural and natural heritage. The participants were particularly passionate about land issues. Pate and Siyu are principally farming communities unlike the settlements on the northern half of Pate Island which is mostly fishing communities states a participant. He goes further to elaborate that the pate and Siyu people own farms both in

Pate Island and on the adjacent mainland coastline. He further explains that the mainland farms are not a new phenomenon and their ancestors had always maintained these farms since time immemorial. It is only during the *Shifita* insecurities of the 1960s and 1970s that activities on these mainland farms was significantly reduced. However during the 1980s when security had been restored farmers from Siyu and Pate started to plough their mainland farms once again. Each farming family knows exactly where their farms are located and they have no ownership disputes amongst themselves.

Unfortunately, the authorities failed to register these parcels to their respective owners and now a catastrophe is in the offing .the participant believes that dishonest individuals have gone to Nairobi and fraudulently acquired deeds for parcels of land sitting on the traditional farming areas on the mainland. Traces of historic use and occupation by the local Siyu and Pate owners is evidenced by permanent fruit trees and other makeshift structures. The participant fears that this may not be enough to go by.

Historically, the most significant city states on Pate Island are the city states of Siyu, Pate and Shanga. The archaeological sites within these three settlements are perhaps the most significant within the entire Swahili landscape. The locals believe that this in itself is reason enough to accord Pate Island special protection and all other developments must conform to that status. The participants felt strongly that the recent gas exploration exercise did not give any indication of a deliberate effort to treat these historic and serene environments with the care it deserves.

The participants reiterated the seclusion that Pate Island had suffered for more than fifty years. They reiterated the isolation of the island from major development enjoyed by other part of the country. They cited Mpeketoni, a settlement established in the 1960s had received special care and provided with all necessary social infrastructure yet ancient settlements had been ignored. The participants further observed that even though scanty technical details of the port project have been in the public domain, this critical information has not been availed to the layman on the ground generating anxiety among locals who cannot envision the scale of the project and even cannot imagine the magnitude and nature of impacts that may be encountered. Still many of the residents on Pate island have had little encounter with mega structures, many have had very little interaction with major urban areas, with some having visited towns like Mombasa and Malindi only occasionally. With this background a local school teacher feels expecting an accurate picture of negative changes in life on Pate Island may be too much to ask for.

Another participant feels that the whole project is a mockery and is the final blow to an already neglected people. For years nobody in government seems to have lost sleep from the poverty levels on Pate Island. Pate and her neighbours are perhaps one of the most undeveloped in the country. He notes that the poverty level on Pate Island is very visible and extremely widespread yet the national poverty index tells of a different story. In fact the poverty index suggests that pate and Lamu in general is a potentially rich territory effectively denying Lamu to qualify for special funds. Today there is an overwhelming interest of Pate and Lamu in general, quite flattering but it seems all the plans have been prepared well in advance, information to the locals on the on goings is mostly from rumors or vague reports in the press. Seemingly it is expected that we the people of Pate Island must fit our miserable lives into this project that we had nothing to do with in the first place and most obviously has no concrete plans for us.

The participants reiterated the fact that there are a lot of stories circulating on the technical details of the port project most of which reads like science fiction. Some of the stories suggest the sinking of Manda Toto Island, there have been suggestions of closing the Mkanda channel. There is talk of mega ship port with an insane number of berths, we also know this is not a natural harbour therefore the cost of building this special facility will be

tremendous and will require state of the art engineering knowhow to accomplish. We are told of planned off shore facility for pumping oil onto ships, we hear stories of major industrial installations with giant cranes and giant ships for dredging the shipping channels. You don't need to be a surgeon to understand that life on Pate Island will change and the environment will be affected. Our interaction with the maritime space around us will change; Pate Island technically falls within the 60km radius of port operation area which is ideally means it is a security area and also means that Pate Islands relationship with the sea around her has also changed forever. Another participant states that what we know for sure is that even projects much smaller in scale and complexity have their impacts. For example, the 2002 dredging of the Lamu harbor and Mkanda channel and the hotel developments on Ras-Kitau from 2004.

We supply *makuti* roofing thatch to hotels in Ras Kitau and we have observed over the last ten years since construction began that the islet has been eroded by more than 30 meters (originally the plots on Ras Kitau had a frontage of over 30 meters –this has been eroded over the last ten years), the dredging of Mkanda was poorly executed simply because the contractors did not seek advice from the users.

Issues raised by Patte community

| Possible Impacts | Possible Solutions |
|--|---------------------------|
| Drugs abuse which cause social , economical problems | |
| Change of culture | |
| Heritage to be conserved | |
| Oil pollution in the fishing grounds | |
| Accessibility of lands | |
| Movement of small dhows will be affected | |
| Clearing of heritage sites e.g. Shanga | |
| Deforestation due to the space which people will require | |
| Dilution of culture and religion | |

| SIYU AND SHANGA LIST | | | | | | | |
|----------------------|-------------------------|-------------|--------|---------|----------|----------------|-------------|
| NO | NAMES | DESIGNATION | Amount | CONTACT | I.D.N.O. | E-MAIL ADDRESS | SIGN. |
| 1. | BWANAHAMADI M'MAKA | | 500 | | 3165654 | | RAD |
| 2. | OMAR DUMILA BWANALASIRI | | 500 | | 2307892 | | QAS |
| 3. | MOH'D OMAR MWENYE | | 500 | | 8515144 | | M.A. M.M.M. |
| 4. | ABU ALI | | 500 | | 2346882 | | Abdi |
| 5. | UMI MUKURI | | 500 | | 0205205 | | Umi |
| 6. | ATHMAN KHERI | | 500 | | 1293418 | | Athen |
| 7. | OMAR ISRAKA | | 500 | | 3165683 | | Om |
| 8. | TIMA BAKARI BUNU | | 500 | | 2501901 | | Timb |
| 9. | BWANDUMIYA YUNUS | | 500 | | 4565782 | | Bw |
| 10. | SALIM DUMILA | | 500 | | 1453718 | | Salim |
| 11. | AWESO MMADI | | 500 | | 2594983 | | Aw |
| ✓ 12. | MOH'D ALI KIJHO | | 500 | | 2238936 | | Kejo |
| ✓ 13. | KHADIJA OMAR | | 500 | | 35921621 | | KAD |
| ✓ 14. | SHEEMINA | | 500 | | 87401180 | | She |
| 15. | SWABIRI MOH'D | | 500 | | 20278895 | | Sw |
| 16. | AHMED MOHAMED BUNU | | 500 | | 20562889 | | Ahmed |
| 17. | OMAR ABOUD | | 500 | | 20318506 | | Omar |
| 18. | USTADH FEISWAL MOHAMED | | 500 | | . | | Ustadh |
| 19. | CHIEF HUSSEIN ABOUD | | 500 | | 28249314 | | Chief |
| 20. | OMAR ILE | | 500 | | 22155397 | | Omar |
| ✓ 21. | ABBAS DULO | | 500 | | 3765719 | | Abbas |
| ✓ 22. | ABOUD MIULI | | 500 | | 8525120 | | Aboud |
| ✓ 23. | NANA OMAR SABURI | | 500 | | 22152061 | | Nana |
| 24. | ATHMAN BWANAKHERI | | 500 | | 8238947 | | Athen |
| 25. | Yaye aia | | 500 | | 2229335 | | Yaye |
| 26. | Salem Bwanaka | | 500 | | 312926 | | Salem |
| 27. | Ali Nzee | | 500 | | 2829001 | | Ali |

| PATTE LIST | | | | | | | |
|------------|-----------------------|-------------|--------|---------|-----------|----------------|-------------|
| NO | NAMES | DESIGNATION | Amount | CONTACT | I.D.N.O. | E-MAIL ADDRESS | SIGN. |
| 1. | AHMED ABII BAKARI | | 500 | | 3940494 | | Ahmed |
| 2. | SALIM MOH'D KHALIFA | | 500 | | 6782439 | | Salim |
| 3. | MOHAMED SWALEH | | 500 | | 2857852 | | Mohamed |
| 4. | ABOUD ATHMAN BAKARI | | 500 | | 4537611 | | Aboud |
| 5. | ZENA ABDALLA SWALEH | | 500 | | 26201056 | | Zena |
| 6. | SAID HASSAN MWALIM | | 500 | | 071825937 | | Said |
| 7. | BAKARI MOH'D ABDALLAH | | 500 | | 22846739 | | Bakari |
| 8. | ESHA MOH'D | | 500 | | 26102052 | | Esha |
| 9. | RIDHWAI SUFYANI | | 500 | | 11629151 | | Ridwai |
| 10. | BAKARI MIKI | | 500 | | 26152501 | | Bakari |
| 11. | MWENYE KHERI BAKARI | | 500 | | . | | Mwenye |
| 12. | ABOUD MOH'D HAMID | | 500 | | 8525 | | Aboud |
| 13. | SAID ATHMAN BWANANKUU | | 500 | | 14537354 | | Said |
| 14. | HARUN SAID MWALIM | | 500 | | . | | Harun |
| 15. | FATMA ATHMAN MOHAMED | | 500 | | 8545775 | | Fatma |
| 16. | Abou Bakar | | 500 | | 11141315 | | Abou |
| 17. | Dhaherino Yusuf | | 500 | | 13405572 | | Dhaherino |
| 18. | Chief Bwanaka | | 500 | | 5355316 | | Chief |
| 19. | Asst. Chief Azali | | 500 | | 8454775 | | Asst. Chief |
| 20. | Abubaka Adnan | | 500 | | 10391258 | | Abubaka |

FAZA - 28TH DEC 2013

Opening: The meeting was opened with prayers led by Ustadh Twamtwawy from Kizingitini. The participants introduced themselves. The exercise was led by Mrs. Sauda Kassim who introduced the officials whom she came with from Lamu.

Mrs. Sauda expressed her views on the importance of the conservation programme. She added it was necessary to strive to educate every member of our community. She said if every one of you had a chance of attending should feel free and be prepared to take part in this seminar full for the betterment of our area.

Mr. Faku Kassim Kupa who is the area chief said that whenever there is development also appears quite a number of distractions. Example when we start building the Lamu port what we look forward is to sustain our norms as per the Bajuni culture for the inheritance of our beloved children.

Presentation By Lamu Curator, Mr. Salim Bunu

He emphasized on whenever you are invited to any sort of a meeting you should be willing to attend. Lamu is amongst the town which is recognized worldwide. Lamu consists of different island such as Patte, Ndau, Kiwayuu and the mainland including Kismayu. Lamu stands to the oldest town in East Africa since 13th century. Concerning importation and exportation, Lamu had started since then it is not newly made as one may think. He emphasized the culture of similarly running parallel with the Muslim attire, type of their food etc. He said we should be proud to have our own type of buildings, religion, education and also our carpentry systems.

Restoration of the old buildings in Lamu. Provision of 80 of the total cost of building being provided by the Lamu Museum. He gave the example of the newly build port authority office at sea front – Lamu Socio Economic.

Using donkeys for transportation

Tangible heritage: houses, doors, windows

Intangible – mashairi, kirumbizi and other type of dances.

We should protect the system of our entertainment. He gave an example of Patte where it showed they kept their town as per their cultural ways of living. Museum cemented the whole village of Patte.

Lamu Port

We should prepare to sustain our cultural norms since when we start having port quite a number of people would come down with different types of living system which might affect our cultural system of living.

Risk preparedness:

The area should be included as buffer zone so that the people who live at Patte island benefit.

Heritage Impact Assessment by Dr. Azraa Mahmoud

Ms Azraa explained the meaning of heritage impact, also she emphasized that we should put all effort in protecting them. Example traditional dance like vugo, instead of using wood we use horns, the way of getting our living such as fishing, building and other norms also to preserve that has remained as our cultural impact. She gave an example of the visit of her highness Binunu who by then was the wife of Syd. Said Khalifa to lay stone of her uncle who was killed at Siu and buried at Faza next Faza Police, and Iran water project station. She emphasized on protecting most of our produce which had been simplifying our living standard e.g using Kamba ya Mnazi, ukambaa, kusowa (pounding), kupata makuti, usitu etc. She emphasized the riches the Bajuni community have in heritage impact.

The Threats that face our Culture

We should find means and ways to protect against cultural impacts. So we should teach our children at length and have them understand. The biggest reason to this would be caused by intervention of big number of people brought by construction of port. The population would rise from where we are to 1.25million people. So through interaction of big number of people brings fear that we may lose our cultural norms.

Heritage Threats by Mr. Haji of Lamu Museums

Our cultural ways and norms are sustained world wide. He said we should be collectively be one in protecting them.

He said that an example of our petroleum products, we should at big percentage benefit when all of these earth we have, we ought to benefit. Title deeds given to foreigners and forget the residents. If this is not done, later we would blame ourselves for the coming children of ours. We should also be prepared for quite a number of changes which would be cause the range of big projects such Lamu, port, railways line, pipe line international air. Tourist resort 400 compartments.

We should also be looking forward of informal, rise of the sea.

He mentioned the cause of the rain water Matondoni, Kipungani and Shella sand dune of a aquifer. Without that cause of water in Lamu it could have the greatest problem ever. The gazette notice of Lamu on water issue is the one which has made Lamu and it people to be able survive the living.

He said we should protect all our belongings, fishing, agriculture and our cultural ways of living.

Sensitization on Environmental Threats – Madam Sauda Kassim

She said that we should not pave ways in any activities taking place in our area. We should always lead and let other follow. The outcome of the negligence causes a lot through our livelihood. She gave an example of pasts this causes a lot of our environmental surrounding. When our animals eat nylon type of paper bags it causes a lot of damage, also if we throw waste to the sea we damage fishing system. She said most of the diseases are caused through our negligence and how we make our area clean. She said even the Islamic religion doesn't support dirtiness. We should be the cleanest people. She said when we develop and use drainages this would cause a lot of passage of the used and rain water run. She said that God is always ready to help those who are prepared to help themselves.

Effects On Environment Caused By Building The Port

We are promised by China Government that they would put up quite a number of projects in turn which were not achieved. He blamed NEMA where the port would be built is where most of the fishermen use to fish. He said quite a number of problems would rise through different aspects, fishing, farming, lobsters divers etc.

We should not wait until the port is ready and then start preparation it would be too late.

Revision of modern facilities to educate our present generation and the coming one and due compensation of hand. Dialogue between the stakeholder and the concerned. The government should be ready to compensate the entire negative that would come because of the port.

The team which would request before the meeting on 4th should be fully monitored.

The blame lies with the government itself, so it make hard for everything to be impossible.

Unesco has agreed to take the grievances from the stakeholders to represent to the government of Kenya from the Lamu East especially the Patte island which would be dealing the cause of negativities which would be brought by the port, fishermen, farmers, businessman and other stakeholder at large.

Land – restriction on provision of title deeds to foreigners especially all part of Barani, Vumbe, Mwazi, Kiengani and the rest. First priority to be given to the residents themselves.

Throwing of the chemical by shipping this would cause a lot of damage to human lives as well as living creatures and children. We are supposed to be informed in time, he gave an example of an Indian Navy where they were not ready to let the residents to be in position what is going on the area.

The culture should be highly respected, all chances arises with port the first priorities should be assigned to the right residents of the area. It were proposed the remaining of the fishing areas should not be restricted by the management of the port.

Issues Raised by Faza Community

| POSSIBLE IMPACTS | POSSIBLE SOLUTIONS |
|---|---|
| Operation of large ships will bring threat to local fishermen and divers | NEMA should do environmental impact assessment |
| Disruption of fishing and breeding grounds especially the much discussed sinking of manda toto island to widen the access for mega ships | Early preparations in terms of fishing and farming |
| Lack of adequate and tailored information on the lapsset project and latest developments on its implementation | To educate our present generation and the coming |
| Petroleum exploration and oil terminal facilities off the pate island coast line will disrupt most traditional means of livelihood | Government should be ready to compensate all the negatives that would come |
| Closing of the Mkanda channel .pate island risks being isolated from Lamu by cutting the umbilical chord that has existed and one which allowed traditional travel modes to be the main communication vessels | Pate island |
| Loss of traditional fishing grounds within the sheltered waters of the archipelago leaves the local fishermen only with the option of the deep waters which they are poorly equipped to face | Provision of modern facilities on fishing and farming |
| Land problems (land grabbing etc) | Compensation on land |
| "SHROUD OF MYSTERY" the overall lapsset project is still a mystery to most of the locals .this lack of information and updates on project progress has heightened their skepticism to extreme levels | Dialogue between stakeholders and the concerned to enhance mutual understanding and promote local acceptance of the project and alleviate suspicion |

| KIZINGITINI LIST | | | | | AMOUNT | SIGNATURE | |
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| NO | NAMES | DESIGNATION | ID/NO | CONTACT | E-MAIL ADDRESS | | |
| 1. | IDARUS SAID MOHAMED | | 0165104 | 0728159384 | | 500/= | [Signature] |
| 2. | ALI BAKARI | | 8526916 | 0723756367 | | 500/= | [Signature] |
| 3. | ZUBEDA YUSUF | | 22467525 | 6715620573 | | 500/= | [Signature] |
| 4. | BAKAR BUNU | | 0634640 | 0718291221 | | 500/= | [Signature] |
| 5. | USTADH TWANTWAWI | | 0654457 | 0722641646 | | 500/= | [Signature] |
| 6. | QABLIA ABUSHIRI | | 20231144 | 0727802128 | | 500/= | [Signature] |
| 7. | FATMA AHMED | | 9353512 | | | 500/= | [Signature] |
| 8. | FARIDA BAMKUU | | 24708098 | 0721490206 | | 500/= | [Signature] |
| 9. | SHAKUE BAUSI | | 2235989 | 0724279870 | | 500/= | [Signature] |
| 10. | AMINA HASSAN | | 23109233 | 0710127780 | | 500/= | [Signature] |
| 11. | SHAKUE MSALAM | | 8520467 | 6729176410 | | 500/= | [Signature] |
| 12. | SULEMANI SARAI (Comms) | | 0654074 | | | 500/= | [Signature] |
| 13. | SAID AHMED | | 24907274 | 0714103499 | | 500 | [Signature] |
| 14. | KHADUA OMAR | | 27135024 | 0721800763 | | 500/= | [Signature] |
| 15. | YAYE BAKARI (BAWA) 12 | | 21292421 | | | 500/= | [Signature] |
| 16. | YUSUF OMAR | | 0657948 | 0721844989 | | 500/= | [Signature] |
| 17. | MUNA BAHSAN | | 20289224 | 0704966207 | | 500/= | [Signature] |
| 18. | JAHA HUSSEIN | | 24762032 | 0717579565 | | 500/= | [Signature] |
| 19. | AHMED ADNAN | | 2268466 | 0729876352 | | 500 | [Signature] |
| 20. | MUHAJI SHEYUMBE | | 8525017 | | | 500 | [Signature] |
| 21. | MWANAISHA MOHAMMED | | 31692828 | 0706538361 | | 500 | [Signature] |
| 22. | AHMED MOHAMMED MUSA | | 23603614 | 0726710460 | | 500 | [Signature] |

| LIST OF FAZA | | | | | | |
|--------------|--------------------|------------------------|-------------|----------------|--------|-----------|
| NO | NAMES | DESIGNATION ID/No. | CONTACT | E-MAIL ADDRESS | Amount | SIGNATURE |
| 1. | RASHIDA SULEIMAN | 20220932 0717473687 | 0711473687 | | 500 | |
| 2. | YUMBE KASSIM | | | | | |
| 3. | GHAZAL ABDUL MAKAL | 27563601 | 015122921 | | 500 | |
| 4. | TIMA ISLAM | 21237007 | 0720357396 | | 500 | |
| 5. | ALI KIDADI | 065443249466 | 0729249466 | | 500 | |
| 6. | FEISWAL SHALI | 23505358 | 0725750778 | | 500 | |
| 7. | SHAHIB HUSSEIN | 0654270 | 074695090 | | 500 | |
| 8. | NUREIN SWADIQ | 8520799 | 07224612711 | | 500 | |
| 9. | SHEKUWE SHIBU | 01140562 | 0711972161 | | 500 | |
| 10. | MOHAMED ABOUD | 8524396 | 0775066977 | | 500 | |
| 11. | ADNAN ABUBAKAR | 13536427 | 0720518678 | | 500 | |
| 12. | MUNDHIR ALI | 24636052 | 0701355882 | | 500 | |
| 13. | MWENYE ZEIN | 23923390 | 0714548924 | | 500 | |
| 14. | FATUMA SAID | 22639414 | 0700655989 | | 500 | |
| 15. | PEMBO SOMOEBWANA | 0163613 | 0724630943 | | 500 | |
| 16. | ZAITUNI ALI | 29901917 | 0708351304 | | 500 | |
| 17. | ALI STAMBUL | 0183543 | 0720039657 | | 500 | |
| 18. | SALIM BWANAHAMADI | 27563632 | 0722260290 | | 500 | |
| 19. | KASSIM ABUBAKAR | 29670229 | | | 500 | |
| 20. | TWAHA SHAHIBU | 29975422 | 0710739280 | | 500 | |

| TCHUNDWA | | | | | | |
|----------|-------------------|--------------------|--------------|-------------------|--------|-----------|
| NO | NAMES | DESIGNATION ID/No. | CONTACT | E-MAIL ADDRESS | Amount | SIGNATURE |
| 1. | TIMA SHAURI | 25820839 | 0729290642 | | 500 | |
| 2. | YUSRA MSUO | 23759836 | 0719601926 | | 500 | |
| 3. | TIMA AHMED | 27527537 | 0701103501 | | 500 | |
| 4. | H'DAYA TAUZI | 25392508 | 0704307275 | | 500 | |
| 5. | OMAR FAMAU | 25343584 | 0710127706 | | 500 | |
| 6. | MOHAMED MSUO | 22152426 | 0729751720 | | 500 | |
| 7. | MOHAMED TAUZI | 5355750 | | | 500 | |
| 8. | NYENYE MSUO | 14587167 | 0727508434 | | 500 | |
| 9. | BAUSI YAKUBU | 28002013 | 0715-121-304 | Tilly23.yk@juceit | 500 | |
| 10. | ABDALLA ALY ABASS | 29901527 | 0720041447 | | 500 | |
| 11. | SWABRINA SHEOBO | | | | | |
| 12. | LOO ABOUD | 24122230 | 0724919924 | | 500 | |
| 13. | YAYE SHEOBO | 28337921 | 0724049662 | | 500 | |
| 14. | MULIA ABOUD | 20484234 | 0723164719 | | 500 | |
| 15. | SHEMOTE MSUO | 103958 | 0713496294 | | 500 | |
| 16. | MOHAMED LOO | 20142355 | 0728221082 | Looh@1998.com | 500 | |
| 17. | AMIED FAROUK | 935372 | 0715632262 | | 500 | |
| 18. | MINE MUDAHARA | 20147720 | 0729025482 | | 500 | |
| 19. | SHARIA AHMED | 1164928 | 0727504892 | | 500 | |

| MBWAJUMWALI LIST | | | | | | |
|------------------|--------------------|--------------------|----------------|----------------|--------|-------------|
| NO | NAMES | DESIGNATION ID/No. | CONTACT | E-MAIL ADDRESS | Amount | SIGNATURE |
| 1. | BAISHE ISLAM | 8224720 | 07 60 19 05 08 | SB | 500 | [Signature] |
| - 2. | NANA MUHAJI | 11625349 | 0915169071 | | 500/- | [Signature] |
| 3. | NAFISA BWANAKHERI | 0655427 | | | 500/- | [Signature] |
| 4. | MOHAMED KHERI | 3164215 | 0711262246 | | 500/- | [Signature] |
| - 5. | MAKTUBU | 28854500 | 0716604816 | | 500/- | [Signature] |
| 6. | MWANAISHA SHEBWANA | 535495 | 0702634501 | | 500/- | [Signature] |
| 7. | SHALI HASSAN KOMBO | 27517940 | 0712742837 | | 500/- | [Signature] |
| - 8. | KASSIM FAMAU | 28469243 | 0713202915 | | 500 | [Signature] |
| 9. | OMAR BINI | 11625261 | 07101388626 | | 500/- | [Signature] |
| 10. | MOHAMMED USI | M01/27517357 | 0 | | 500/- | [Signature] |
| - 11. | MZEE BAKARI BORA | 24762082 | 0717579665 | | 500/- | [Signature] |
| 12. | ZULEYHA M. SHARIF | 27321330 | 0716744425 | | 500/- | [Signature] |
| 13. | AMMAR OMAR | 9353970 | 0700602364 | | 500/- | [Signature] |
| 14. | RASHIDA MUSA | 30546606 | 0725629349 | | 500/- | [Signature] |
| 15. | REHEMA OMAR | 3941202 | 0723533379 | | 500/- | [Signature] |
| 11. | MUHAMMAD MOOR | 95880482 | 0713549981 | | 500/- | [Signature] |

| MYABOGI LIST | | | | | | |
|--------------|------------------|--------------------|------------|----------------|--------|-------------|
| NO | NAMES | DESIGNATION ID/No. | CONTACT | E-MAIL ADDRESS | Amount | SIGNATURE |
| 1. | THUREA HASSAN | 10391279 | 0700365929 | | 500 | [Signature] |
| 2. | TIMA HAJI | 0654246 | 0713682375 | | 500 | [Signature] |
| 3. | UMI SHEE | 10391278 | 0724615062 | | 500 | [Signature] |
| - 4. | MR. NAGI MOHAMED | 20276743 | 0725115283 | | 500 | [Signature] |
| 5. | MBWAJUMWALI | | | | | |
| 6. | SULIYMAN OMAR | 13618169 | 0723533379 | | 500/- | [Signature] |
| 7. | MUHAMMED SAADIA | 5355087 | | | 500 | [Signature] |
| 8. | SHANI OMAR | 23280441 | | | 500 | [Signature] |
| 8. | HADI HASSAN | 29433288 | 0703150972 | | 500 | [Signature] |

Lamu Fort - 31 December 2013

Congregation and opening: The chairman of the Kenya Marine Forum, Lamu, Mohammed Athman was selected to lead the proceedings for the day. The meeting was organized to partly sensitize the participants on the processes of the ongoing HIA for the Lamu Old Town World Heritage Site and also to provide a community discussion platform where the participants can give views on possible impacts of the Lapsset project on the heritage assets within the vicinity.

The Curator Lamu Museums Mr. Salim Bunu gave his opening remarks by thanking the participants who expressed their enthusiasm towards Lamu's heritage assets by turning up in large numbers despite the fact that it was the last day of the year and many people had proceeded to mark the New Year holiday. He observed that the discussion of Lamu's future in general in light of the port project had yet to receive the attention it deserved. Even without significant natural and cultural assets to be protected any developments being undertaken in today's age affected populations are encouraged consider the potential impacts which will ultimately impact on their lives. He highlighted concerns that had been raised by the UNESCO World Heritage Centre on the potential threats of the project to the heritage assets within the Lamu archipelago especially the Lamu Old Town. He requested the invited participants to discuss diligently their views on the probable impacts so as to enrich the HIA process.

Presentations

Three presentations were made (presentations prepared for all the stakeholder meetings).

The first presentation was delivered by the conservation officer, Haji Mohammed, and covered the different types of heritage assets and the governing legislations. It also highlighted the enlistment criteria of the Lamu World Heritage Site and the procedure for enlistment including the world heritage convention and its operational guidelines. The presentation also highlighted at length the significant attributes of the Lamu World Heritage Site and the challenges that had been encountered since her enlistment to the world heritage list. The second presentation was also delivered by the conservation officer and discussed the OUV of the Lamu World Heritage Site and the nature of threats that could affect the OUV .in addition the second presentation showcased the richness of Lamu's Swahili Culture and how these intrinsic values could be affected. A third presentation was delivered by Dr Azra Mahmoud who had been invited as a member of the local community who would also facilitate the community discussions.

Community Discussions

The facilitator explained to the participants that Lamu Old Town was at the core of the HIA investigations. The risks on the sites OUV could only be effectively mitigated if the potential threats were accurately drawn out.

A participant pointed out that very little details on the nature of the ports development had been shared at the local level making it difficult for the locals to discuss the potential impacts more effectively. The participants observed to the amusement of other participants that the project in question was an engineering marvel in its own rights and was being pursued from the highest echelons of power, how then does a lay local community pretend to critic such a project.

Another participant pointed out the following critical areas as most important for consideration:-

- Remains of ancient settlements within the port area to be studied/relocated.
- The Lamu Old Town to be one of the components of the LAPSET project and to be accorded a proper budget for developing its heritage status.
- The architecture for the new port facilities and port city should be a reflection of the local building style and should exude the ambience of Lamu's architecture. This in itself will be a sign of recognition and respect to the local community hence contribute towards acceptance.
- Encourage use of simple technology and solutions. The port project though enormous and complex should adopt green solutions that will significantly reduce CO₂ emissions.

A participant brought to light that the potential threats on the heritage of Lamu from the port were definitely so many and complex probably why the subject had been deliberately avoided by the first ESIA conducted through tax payer's money. The haste in which the project is being secretly undertaken also raises concerns. Therefore one of the major threats to Lamu's heritage is actually the blatant lack of commitment exhibited by the lead implementing agencies towards this cause. Furthermore there has been no regard for historical materials met in the cause of opening up the port road and during excavations for the port building yet we are certain historical materials were encountered and even deliberately destroyed before proper documentation by the concerned department.

The issues raised By Amu Community

| Potential Threat | Potential solutions |
|---|--|
| Lack of follow up on important resolutions and poor implementation of resolutions | Implementation of the resolutions passed |
| Lack of comprehensive information for historical sites and monuments | Interpretation of the sites |

| | |
|------------------------------------|---|
| Poor upkeep of sites and monuments | Poverty eradication |
| | Collaboration with NEMA and county government on the environmental issues e.g. waste disposal |
| | Cohesion within the community |
| | Advocacy programs on heritage |
| | Loss of the impact on cultural practices |

Programme of January 2014 Consultations held by the HIA Team

| LAMU | | |
|----------------------|--|---|
| Date | Morning | Afternoon |
| Friday, 3 January | | Arrivals and Finalization of the programme |
| Saturday, 4 January | Lamu Fort : Familiarization | Site visit to Mokowe and port area and consultation with Kililana farmers |
| | Town tour | |
| | Meeting with SAVE Lamu | |
| Sunday, 5 January | Main Stakeholder meeting at Lamu fort | Visit to Matandonis by boat |
| Monday, 6 January | Visit to Pate Island | |
| Tuesday, 7 January | Visit to Lamu Planning Officer, Mokowe | Courtesy call on Mr Issa Timamy, governor of Lamu County |
| | Review with the site management the results of the three days work/mission, provision of any pending documents, inputs into the management plans and way forward | |
| | Consultation with NEMA, Lamu County | Departure for Nairobi |
| NAIROBI | | |
| Wednesday, 8 January | Meeting at Ministry of Land, Housing and Urban Development – Amb. Wambua | Meeting at the NEMA – Prof Wahungu |
| | Meeting at Ministry of Tourism and Wildlife – Mrs Odemba | Meeting with DG, NMK – Dr Farah |
| Thursday, 9 January | Meeting with LAPSSSET – Mr Kasuku | Meeting at Department of Culture – Mr Kanyenze |
| | | Departures |

List of persons consulted by HIA Team in January 2014

| S/No | Name | Institution | Contacts |
|-------------------------------------|--------------------|---|--|
| National Museums of Kenya | | | |
| | Dr Idle Farah | Director General | |
| | Athman Hussein | Assistant Director, Coast Region, NMK | |
| | Dr Kirop Lagat | Ag Director, Sites and Monuments | |
| | Mr Hosea Wanderi | Research Scientist | |
| | Ms Metune Wakhungu | Legal Officer | mwakhungu@museums.or.ke |
| | Saleem Bunu | Curator, Lamu Museum | |
| | Mbarak Abdulqadir | Curator, Fort Jesus Museum | |
| | Mohammed Mwenje | Lamu Town Conservation Office | |
| | Haji | | |
| | Sumaiyyah Anwar | Intern, Lamu Fort Museum | +254 707 345 309 |
| Kililana Farmers Association | | | |
| | Omar Jalan | Secretary, Kililana Farmers Association | |
| | Mohamed Rajab | Member, Kililana Farmers Association | |
| | Bakar Bilal | | |
| | Athman Bwanachuon | | |
| | Lali Mohamed | | |
| | Mohamed Lali | | |

| | | | |
|--|------------------|--|--|
| | Thaumu Somobwana | | |
| | Amikna Mohamed | | |
| | Abuu Ramadhan | | |
| | Ali Harun | | |

| | | | |
|--|--------------------------|--|---|
| Ministry of Lands Housing and Urban Development | | | |
| | Amb Magdalene Wambua | Director of Administration | +254 20 271 8050 wambua.magdalene@gmail.com |
| | Mrs Edith S. Ohando | Deputy Director, National Land Commission | +254 72 69 87 557 |
| | Mrs Priscilla Nyaga | Assistant Director, Land Adjudication and Settlement | +254 724 362 903 nyagapw2@yahoo.co.uk |
| Ministry of Tourism and Wildlife | | | |
| | Keziah Odemba | Assistant Director | +254 20 313 010 tourism@nbnet.co.ke kizzyod@yahoo.com |
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| | Fredrick J. Omondi | | +254 721 595 848 jomondi@tourism.go.ke |
| National Environment Management Authority | | | |
| | Prof Geoffrey M. Wahungu | Director General | +254 20 6009694 gwahungu@nema.go.ke gmwahungu@yahoo.com |
| | Francis Chwanya | Compliance and Enforcement Officer, EIA | fchwanya@nema.go.ke |
| | Moses Ombogu | NEMA, Lamu County | ombogomoses@yahoo.com mombogo@nema.go.ke |
| | Issa Timamy | Governor, Lamu County | |
| | Vincent Osewe | Lamu County Physical Planner | osewemax@gmail.com +254 72 11 00 448 |
| Ministry of Sports, Culture and The Arts | | | |
| | Robinson M. Kanyenze | Acting Director, Department of Culture | +254 20 2727980-4 +254 721 571 646 robbykanyenze@gmail.com |
| | Ndua Chege | Head, Information, Education & Research, Department of Culture | +254 722 606 201 chegendua2005@yahoo.com |
| | Julius Shoboi Mwachunga | Senior Cultural officer | +254 722 824 740 +254 731 077 607 mwachungajulius@gmail.com |
| LAPSSET Corridor Development Authority | | | |
| | Silvester Kasuku | Director-General/CEO | +254 20 317 270/+254 723 716 842 kasukus@yahoo.com |
| SaveLamu | | | |
| | Mohammed Mbwana | Vice Chair (Shungwana Land Resources NGO) | |

| | | | |
|--|-----------------------------|---|--|
| | Hadija Ernst | Treasurer | |
| | Abubakar Khatib | Organising Secretary (representing religious institutions) | |
| | Mohammed Athman | Member, Management Committee (Chairperson of Lamu Marine Forum) | |
| | Isa Abubakar | Volunteer Member | |
| | Mohammed Athman Mohammed | Coordinator | |
| | Khadija Shekue | Administrator | |

Consultation With Institutional Stakeholders, Nairobi - February 2014

Remarks by Dr. Ahmed Yassin A.g. DG NMK

The people of Lamu are apprehensive about the influx of people from other areas and affect the resources such as land. Already, there are land speculators who have acquired large swathes of land in Lamu. The question has also been how the Lamu people stand to benefit in terms of employment as a result of the project.

There is also the concern of the loss of political power of the Lamu people in the occasion of the immigrant populations.

Presentation by Prof. Bakker and feedback from participants

Professor Karrel Bakker took the participants through a list of the foreseen cultural, economic, social and environmental impacts as raised by communities met by the expert group in January 2014.

Major issues of concern that emerged were the specific impacts that could affect the Lamu WH site in the future. These were categorized into two major groups;

- a) Negative/ positive impacts
- b) Direct and indirect impacts

Of note are the possible effects on the Old Town's integrity and authenticity owing to the LAPSSET development.

1. There is also the issue of entitlement rights of the communities of the traditional fishing areas and fishermen landing bays. There are already two fish landing ports that have been lost. However, two fishing bays will be built. The Lamu Communities are apprehensive about the possibility of curtailment of free movement across the shipping channels and around the ship berths during the construction and after the port is opened.
2. It was heard that there would be interference with the ecotourism being developed in the Lamu area owing to the change of scenery and landscapes once the oil refinery replaces the natural landscape.
3. There is also apprehension about the imposition of external control where the Lamu people have no guarantee for any control of benefits accrued from the port development activities.
4. There is also the possibility of irreversible closing of the elephant migratory corridor from the mainland to Manda Island once the channel is deepened.

5. Water and sewage management was also a source of community apprehension about the project. The meeting felt that more research needs to be conducted for the proposed desalination plant. As regards the issue of water quality and the general coastal hydrology, possible solution was working between the tides.

Possible solutions for sea bed and hydrology issues

1. For the proposed dredging of the sea floor, it was seen appropriate for the government to do a finer study and encourage the different ministries e.g. Fisheries to establish the distribution of benthic organisms.
2. Use of dredged soils to reclaim burrowed pits

There was also the issue of dust during the construction process

The possible mitigation was work on open site between the construction site and the community as a buffer zone and sprinkling of water on the spot of construction to avoid dust clouds that could affect the health of the surrounding communities.

The entire Lamu area is said to have numerous heritage sites that are known though many possibly are yet to be discovered. There is thus need to see whether there are potential archaeological sites in the entire corridor. There is already a proposal from the NMK to conduct a survey of the entire corridor. NMK has been involved before e.g. in the expansion of the Mombasa port and the pipeline to Eldoret town. Thus archeologists need to be involved before the project commences to a higher scale.

Conflicting information from government source

It has been said that there is an inter-ministerial group working on the ground. However there seems to be a disconnect between and among the different committees/meetings dealing with the LAPSET project. It was thus suggested that there is need for the NMK to be proactive and give their contributions early enough for them to be involved in decision making.

Tourism

Proposed Resort City

It is assumed that people will spend money in the resort city. It is not yet understood how the resort city could affect the drastic change of the culture of the Lamu people. Tourism should happen on the terms of the local people and not having them as spectators. The dilemma of the Lamu people is their quest to maintain their culture e.g. dressing style which will be very different from the new resort city though outside the Old Town.

The planners of the resort city have considered that the spaces, building, architecture should not be used too much removed from the Lamu people. This will be done through engagement with community representatives.

The feeling of the Lamu community is that they are going to lose more than they will gain.

Land grabbing

There is need to seek clarity in the whole development plan. In the event of compulsory acquisition of land, the Lamu people want the government to acknowledge that 'a family has been living there for generations' before financial compensation is executed. According to the Ministry of Lands, the challenge with the Coastal land is that much of it has not been adjudicated and thus not registered which makes it hard to determine who to legally compensate, how much land for each person/family and how to compensate. This challenge

affects the Chief Government Valuer in making the right decisions. The compensation of such lands involves consultations with the village elders for verification.

There is also the challenge of how compensation of the loss of cultural sites and monuments will be made. The NMK should liaise with the Ministry of Lands on the issues of the monuments. For the community shrines, the queries should be addressed by the Kenya Ports Authority, while the NMK should go and authenticate what should be in the consultative report.

Cultural dilution

The concern is that this will happen at a very fast pace. However, there was the notion that culture is in itself dynamic. It is impossible to arrest culture in a static mode for culture that afford that eventually die out. The Swahili culture is itself an emergence through interaction of more than four cultures. A new culture might emerge and still be distinct. What can be done is to inventory what has been taking place through ICH and have mitigation design measures for the same.

Final remarks

NMK should take leadership as regards conservation of the Lamu culture. Forums such the consultative meeting of Lamu HIA should be held often to preempt threats that would be hard to reverse once they happen. The NMK and the department of Culture should therefore touch base on this issue.

NMK should write to the LAPSSET Authority Chief Executive Officer requesting to be involved in all meeting regarding the project development.

We also need to educate land owners and help them to position themselves to take advantage of the LAPSSET project.

Programme for Nairobi Meeting, February 14, 2014

| Time | Activity | Facilitator/Actor |
|----------------------|--------------------------------------|--|
| 08.30-09.00 | Registration of participants | Beatrice Nyandieka (NMK) |
| 09.00-09.30 | Welcoming note and introductions | Mr. Athman Hussein (Ass. Director Coast Region) |
| 09.30- 09.45 | Opening remarks | Dr. Purity Kiura (Ag. Director Museums Sites & Monuments, NMK) |
| 09.45- 10.00 | Overview of the meeting | Ms. Ngulube Mulekeni |
| 10.00 - 10.30 | Health break | |
| 10.30-11.30 | Presentation of the HIA of Lamu | Prof. Karel Bakker |
| 11.30-12.30 | Reactions to the report | All |
| 12.30-12.45 | Listing of key issues/concerns | David Mbutia (NMK) |
| 12.45-13.30 | Wrap up and way forward | Prof Karel Bakker/Dr Purity Kiura |
| 13.30-14.30 | Lunch | |
| 14.30 | Participants leave at their pleasure | |

ATTENDANCE

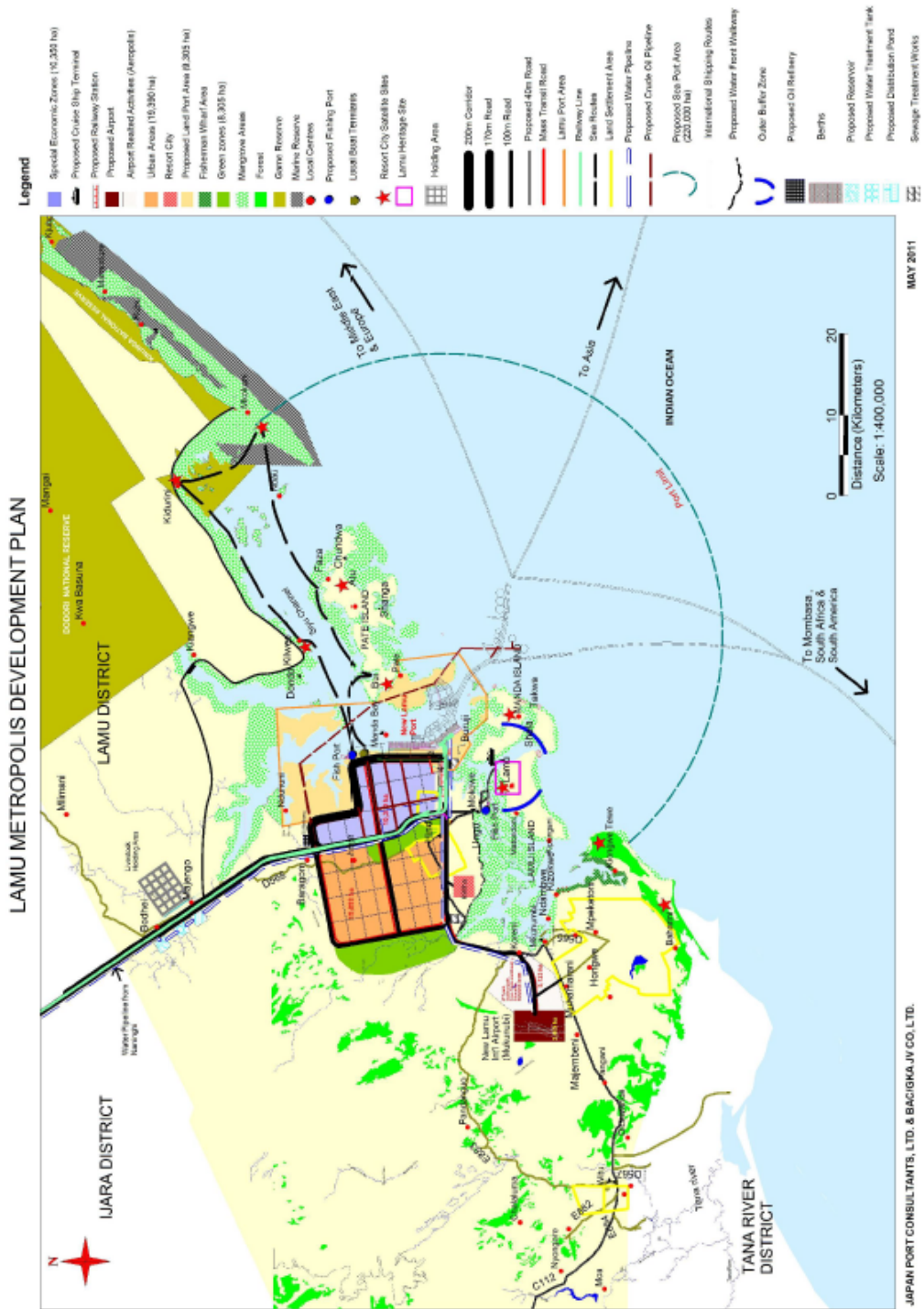
Facilitator

Prof Karel Bakker – University of Pretoria (Leader of the HIA experts) (South Africa)

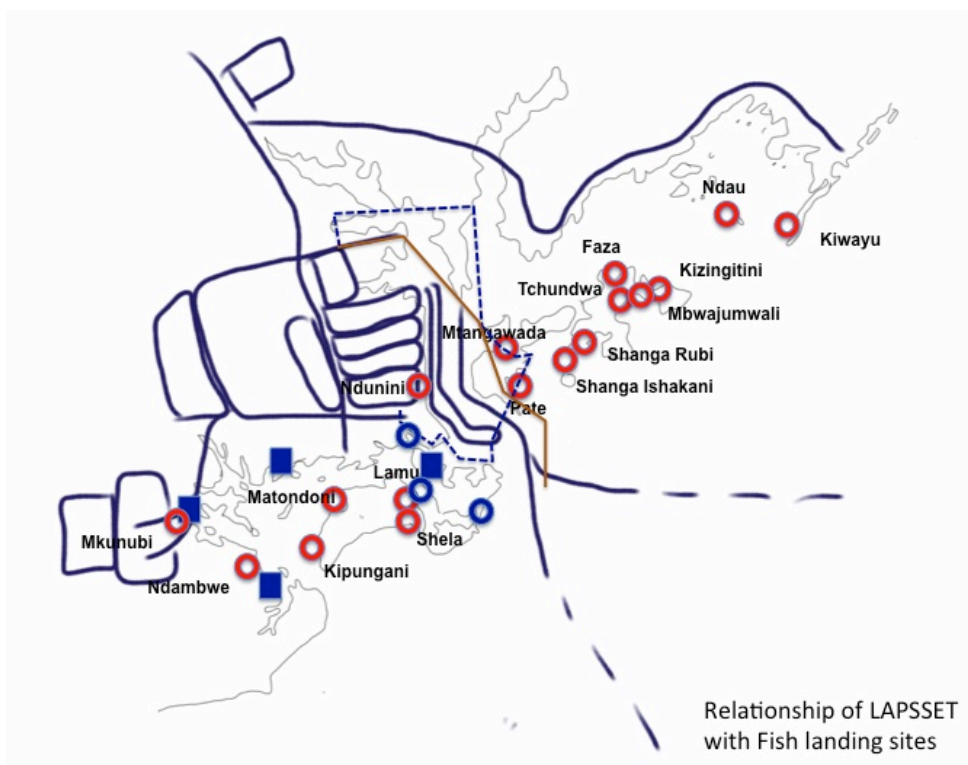
List of participants

1. Ms. Ngulube Mulekeni-UNESCO Nairobi Office
1. Mr. Zephaniah Ouma- NEMA
2. Mr. Athman Hussein- Ass. Director Coast-NMK
3. Priscilla Nyaga-Ministry of Land , Housing & Urban Development
4. Mr. Julius Mwahunga-Senior Cultural Officer Department of Culture, Ministry of Sports, Culture and the Arts
5. Mr. Ndua Chege-Head Information, Education & Research Department of Culture, Ministry of Sports, Culture and the Arts
6. Easter Ciombane-Africa Culture Regeneration Institute
7. Peter Kahuho- Ministry of Land, Housing & Urban Development
8. Ms. Keziah Odemba- Ass. Director of Tourism, Ministry of Tourism and Wildlife
9. Dr. Ahmed Yassin - Ag. DG NMK
10. Dr. Purity Kiura- Ag. DMSM
11. Dr. Mzalendo Kibunja-Archaeologist-NMK
12. Mr. Mohammed Mwenje- Architect, Lamu Museums
13. Linda Mboya-PA DG-NMK
14. Josephine Gitu-DMSM-NMK
15. Hoseah Wanderi-DMSM-NMK
16. David Mbuthia-NNM-NMK

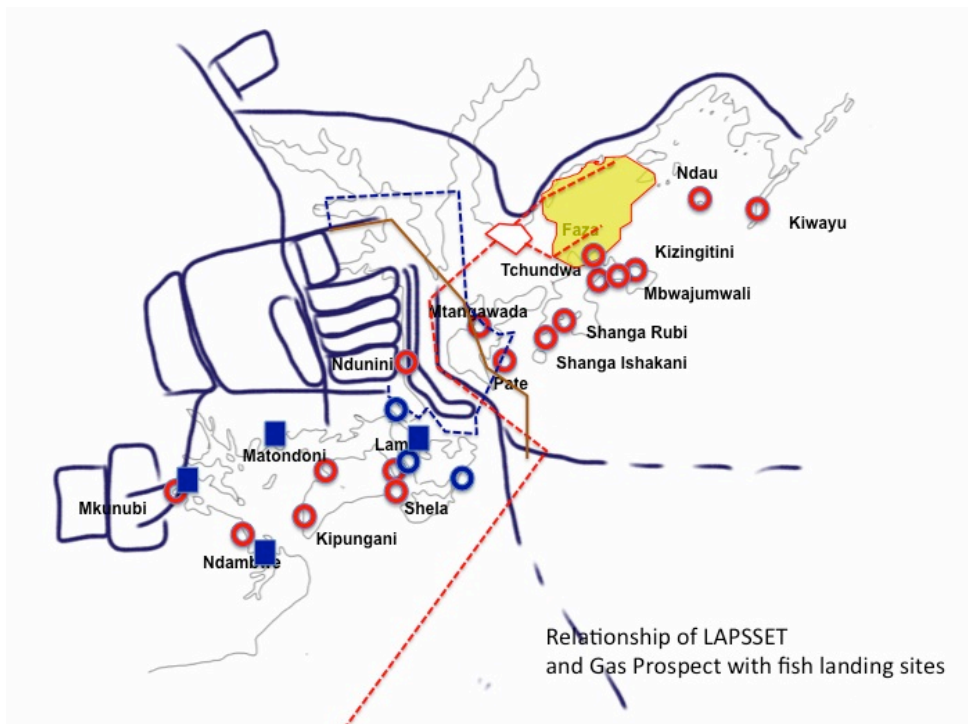
ANNEX 3 ILLUSTRATIONS

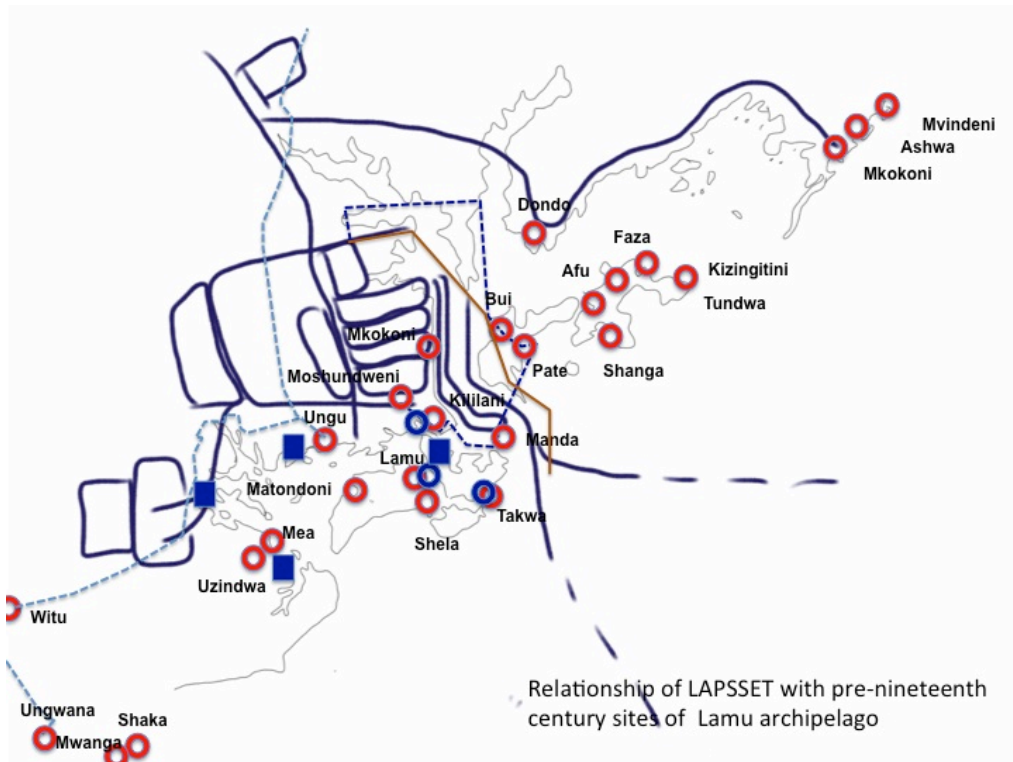


(JPC 2011: Important maps)

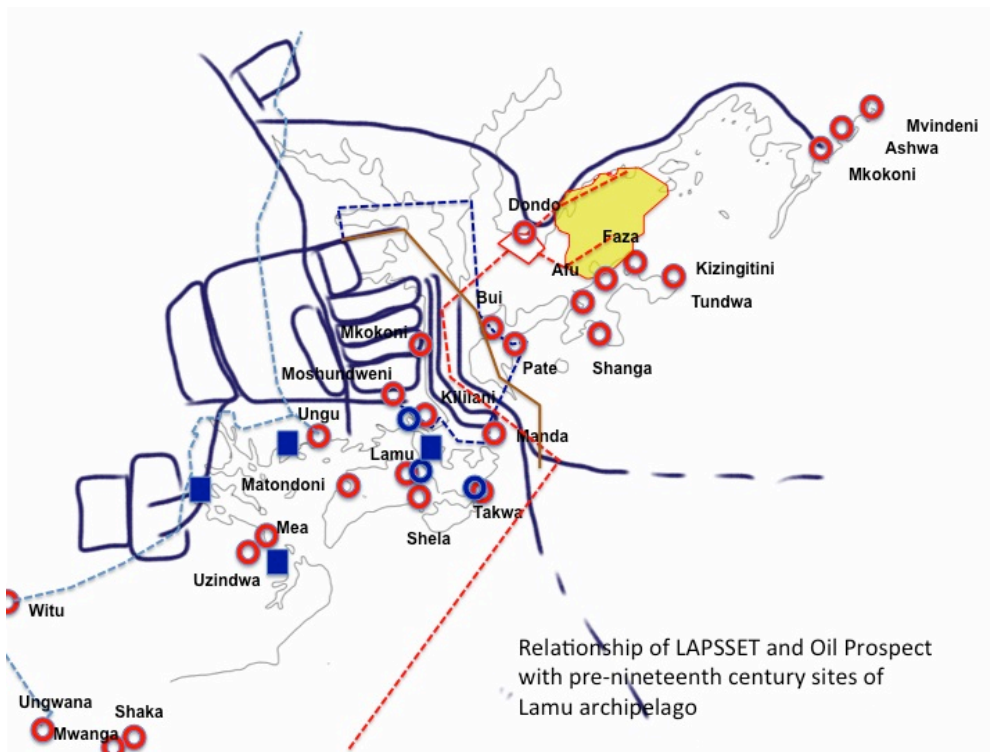


Illustrations of relationships (HIA Team)





Illustrations of relationships (HIA consultants)



ANNEX 4 CHANCE FINDS PROCEDURES

(Adapted from World Bank Physical Cultural Resources Safeguard Policy— Guidebook)

Contracts for civil works involving excavations should normally incorporate procedures for dealing with situations in which buried archaeological heritage are unexpectedly encountered. The final form of these procedures will depend upon the local regulatory environment, including any chance find procedures already incorporated in legislation dealing with antiquities or archaeology.

This general guidance is provided where there will be an archaeologist on call. In exceptional situations in which excavations are being carried out within archaeologically-rich areas such as a UNESCO World Heritage site, there will often be an archaeologist on site to monitor the excavations and make decisions on-site. Such cases would require a modified version of these procedures, to be agreed with the cultural authorities.

Chance finds procedures commonly contain the following elements:

1. Heritage Definition

This section should define the types of physical cultural resources (PCR) covered by the procedures. In some cases the Chance finds procedure is confined to archaeological finds; more commonly it covers all types of PCR. In the absence of any other definition from the local cultural authorities, the following definition could be used: “movable or immovable objects, sites, structures or groups of structures having archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance”.

2. Ownership

This paragraph should state the identity of the owner of the artifacts found. Depending on the circumstances, the owner could typically be, for example, the state, the government, a religious institution, the land owner, or could be left for later determination by the concerned authorities.

3. Recognition

This is the most difficult aspect to cover. As noted above, in PCR-sensitive areas, the procedure may require the contractor to be accompanied by a specialist. In other cases, the procedures may not specify how the contractor will recognize a PCR, and a clause may be requested by the contractor disclaiming liability.

4. Procedure upon Discovery

Suspension of Work

This paragraph may state that if a PCR comes to light during the execution of the works, the contractor shall stop the works. However, it should specify whether *all works* should be stopped, or only the works immediately involved in the discovery, or, in some cases where large buried structures may be expected, all works may be stopped within a specified distance (for example, 50 metres) of the discovery. This issue should be informed by a qualified archaeologist.

After stopping work, the contractor must immediately report the discovery to the Resident Engineer. The contractor may not be entitled to claim compensation for work suspension during this period.

The Resident Engineer may be entitled to suspend work and to request from the contractor some excavations at the contractor's expense if he thinks that a discovery was made and not reported.

Demarcation of the Discovery Site

With the approval of the Resident Engineer, the contractor is then required to temporarily demarcate, and limit access to, the site.

Non-Suspension of Work

The procedure may empower the Resident Engineer to decide whether the PCR can be removed and for the work to continue, for example in cases where the find is one coin.

Chance Find Report

The contractor should then, at the request of the Resident Engineer, and within a specified time period, make a *Chance Find Report*, recording:

- Date and time of discovery;
- Location of the discovery;
- Description of the PCR;
- Estimated weight and dimensions of the PCR;
- Temporary protection implemented. The *Chance Find Report* should be submitted to the Resident Engineer, and other concerned parties as agreed with the cultural authority, and in accordance with national legislation. The Resident Engineer, or other party as agreed, is required to inform the cultural authority accordingly.

Arrival and Actions of Cultural Authority

The cultural authority undertakes to ensure that a representative will arrive at the discovery site within an agreed time such as 24 hours, and determine the action to be taken. Such actions may include, but not be limited to:

- Removal of PCR deemed to be of significance;
- Execution of further excavation within a specified distance of the discovery point;
- Extension or reduction of the area demarcated by the contractor. These actions should be taken within a specified period, for example, 7 days. The contractor may or may not be entitled to claim compensation for work suspension during this period. If the cultural authority fails to arrive within the stipulated period (for example, 24 hours), the Resident Engineer may have the authority to extend the period by a further stipulated time. If the cultural authority fails to arrive after the extension period, the Resident Engineer may have the authority to instruct the contractor to remove the PCR or undertake other mitigating measures and resume work. Such additional works can be charged to the contract. However, the contractor may not be entitled to claim compensation for work suspension during this period.

Further Suspension of Work During this 7-day period, the Cultural authority may be entitled to request the temporary suspension of the work at or in the vicinity of the discovery site for an additional period of up to, for example, 30 days. The contractor may, or may not be, entitled to claim compensation for work suspension during this period. However, the contractor will be entitled to establish an agreement with the cultural authority for additional services or resources during this further period under a separate contract with the cultural authority.

ANNEX 5 DECISION 37 COM 7B.40

The World Heritage Committee,

1. Having examined Document WHC-13/37.COM/7B.Add,
2. Recalling Decision **36 COM 7B.43**, adopted at its 36th session (Saint-Petersburg, 2012),
3. Takes note of the documentation submitted by the State Party in regard to the Lamu Port – South Sudan – Ethiopia Transport (LAPSSET) corridor and the new Lamu Port and Metropolis Development Project and also for the Management Plan for the property;
4. Reiterates its deep concern about the likely negative impact of the LAPSSET corridor and the new Lamu Port and Metropolis Development Project on the Outstanding Universal Value (OUV) of the property;
5. Requests that the State Party urgently carry out a full Heritage Impact Assessment (HIA) which focuses on potential impacts on the OUV of the property following ICOMOS Guidance, covering not merely the first three berths of the Lamu Port, but for the full scope of the project; the HIA should focus not only on the possible impacts on the built heritage and natural environment of the property, but also on the social, cultural, and religious impacts to the property and its surrounding landscape and setting;
6. Also requests the State Party to halt all work on the LAPSSET corridor and the new Lamu Port and Metropolis Development Project until the HIA has been carried out and its results discussed by the World Heritage Committee;
7. Further requests the State Party that a chapter on management issues, specifically related to the LAPSSET corridor and the new Lamu Port and Metropolis Development Project, be written and integrated into the management plan;
8. Reiterates its request from its 34th (Brasilia, 2010), 35th (UNESCO, 2011) and 36th (Saint-Petersburg, 2012) sessions that the State Party furnish maps clearly showing the boundaries of the property and its buffer zone;
9. Requests furthermore the State Party to submit to the World Heritage Centre, by **1 February 2014**, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 38th session in 2014.

ANNEX 6 CONSULTANTS' TERMS OF REFERENCE

The Kenyan Government intends to carry out several distinct development projects in Lamu County and its environs. These developments are the Lamu Port, the South Sudan-Ethiopia Transport (LAPSSET) corridor and the Metropolis Development Project (LPMDP).

In line with Kenyan legislations and regulations, the feasibility study for the proposed development recommends the implementation of Environmental Impact Assessments (EIA) and Archaeological Impact Assessments for the various component projects. It appears that the feasibility study does not recommend an assessment of the overall development in order to give an overview of all the component projects and their potential direct and cumulative impacts on the Outstanding Universal Value of Lamu Old Town.

Following up on the recommendations of the feasibility study, an EIA has been carried out, and disclosed, for Berths 1-3 of the Lamu Port and associated infrastructure. It is not clear if the EIA for the Metropolis Development Project is available. The EIA for Berths 1-3 and associated infrastructure recognizes the World Heritage status of Lamu Old Town, and other nationally protected sites in the Lamu archipelago. The assessment, recommendations and proposed mitigation measures in the EIA do not include measures that would fully address the potential direct and cumulative impacts on the property's OUV.

At its 37th session in Cambodia in June 2013, the World Heritage Committee, in Decision 37 COM 7B.40, requested the State Party of Kenya to urgently carry out a full Heritage Impact Assessment (HIA) to evaluate the potential impacts of the full scope of the proposed Lamu Port, LAPSETT and LPMDP development on the OUV of Lamu Old Town World Heritage Site. The Committee also requested that the impact assessment should be based on the Guidelines of the International Council on Monuments and Sites (ICOMOS).

In line with the request of the World Heritage Committee, UNESCO with financial support from the Netherlands Funds-In-Trust, UNESCO will carry out a comprehensive Cultural Heritage Impact Assessment of Lamu World Heritage Site and its environs in order to identify potential threats posed by the envisaged Lamu Port and associated infrastructure developments to the Outstanding Universal Values of Lamu World Heritage Site. UNESCO will contract three experts; one national and two international to carry out the assessment and submit a Heritage Impact Assessment Report.

Within this context:

1. A Team of 3 experts will undertake a Comprehensive Heritage Impact Assessment on Lamu World Heritage Site and its environs in line with Kenyan legislations and the World Heritage character of Lamu World Heritage Site.

In this regard:

2. Undertake desk review as follows:
 - (i). Use the ICOMOS Guidance on HIA for cultural heritage in WH properties);
 - (ii) Perform desk-based research based on the various documents already published on the proposed projects and on the Heritage Site including EIAs and management plan for the Site; Identify shortcomings in the EIA for the LAPSSET Project Berth 1-3;
 - (iii) Identify relevant local, national and international legislations and Statutory Requirements concerning the property and proposed development, as well as any compliance issues.
3. Carry out consultation meetings with stakeholders as follows:

- (i) Engage and discuss with the various stakeholders and parties involved in and concerned with the development projects Lamu Port, LAPSETT and LPMDP (construction, operational and financial) especially the Kenyan regulatory institutions and stakeholders; as well as Lamu World Heritage Site management;
 - (ii) In consultation with national authorities, contribute to and attend meetings with local communities members to discuss issues related to conserving the property and to ensure buy-in into long term conservation measures;
 - (iii) Provide input into planning of, consultation meetings with stakeholders and local communities being organised by National Museums of Kenya/Ministry of Culture, and assist in recording, filing, and assessment of data emanating from those consultations.
4. Site visits as follows:
- (i) Undertake site visit/s, and carry out field survey and interviews, building on the results of the socio-economic assessment of the ESIA and addressing the major issues linked to the property's value;
 - (ii) Assess the existing condition of Lamu Old Town and its relationship with the surrounding natural environment through written and photographic documentation. Also assess the state of conservation of the property in terms of previous changes to the physical fabric, its attributes, tangible and intangible values and significance to establish a baseline;
5. Analyse the information from desk review, consultation meetings and site visits in order to:
- (i) Understand the proposed development (LAPSSET and LPMDP) as a sum of its individual parts/projects, and how these could potentially affect the existing cultural and natural landscapes as well as its adherence to existing regulations, guidelines and standards, and proposed management before, during and after construction and during operation;
 - (ii) Identify sources of potential direct and cumulative impacts on all aspects of OUV - whether tangible or intangible - at pre-construction, construction, post-construction and operational phases;
 - (iii) Assess the severity of potential impacts on individual attributes and overall OUV /Significance, as far as is possible in the absence of an ESIA for the complete development. Provide an evaluation synthesis and advisory containing a summary of potential impacts;
 - (iv) Assess, with the national institutions, possibilities for alternative options, mitigation measures and conservation methods in order to avoid or limit the negative potential impacts on the property, at specific and overarching levels. Consult the existing the management plan for an understanding of current conservation methods;
 - (v) Clearly identify, and engage with the parties responsible for each mitigation measure and receive input with regard to impact of such measures; Provide a summary of mitigation and monitoring measures with an advisory on the implications of inaction, the risk to protection status, potential benefits if the recommendations of the CHIA are carried out;
 - (vi) Develop input for cultural heritage considerations for future integration into the overall Environmental Management Plan (EMP) for the project(s);
 - (vii) Provide relevant maps pertinent to the interplay between the development projects and the property, photographic illustrations and all references concerning the interviews and sources consulted.
6. Contribute to the current management plan
- (i) Review current conservation management plan of the Lamu Old Town (2013-2017) to identify lacunae relevant to meeting the conservation challenges that will result from the LAPSETT development project;
 - (ii) Make recommendations to the State Party for integration into a chapter on LAPSETT-related management issues, as requested by the Committee in 37COM 7B.40 (para 7).
7. Report Related Tasks
- (i) Provide strategic progress reports to WHC as required;
 - (ii) Prepare a Draft to be finalized in collaboration with Kenyan authorities;

- (iii) Present the Draft Report at a final stakeholder's workshop and share the findings of the CHIA in order to receive feedback and for their validation. Integrate feedback in the Draft CHIA Report;
- (iv) Present the Draft Report to relevant Kenyan authorities to discuss the DRAFT Report and how to integrate it HIA and Archaeological reports into all environmental assessments for the LAPSSET and LPMDP projects.
- (v) Consult with the NMK on possible recommendations to be integrated into the Lamu Old Town Management Plan.
- (vi) Submit Draft CHIA report of Lamu Old Town to World Heritage Centre

8. Preparation and Submission of Reports

- (i) Submit Work Plan, Project Tasks & Desk Review Report for HIA;
- (ii) Submit Inception Report for the HIA Study;
- (iii) Submit 1st Draft Report of the HIA Study based on the field work;
- (iv) Submit Final Heritage Impact Report with Recommendations to be integrated into the Lamu Old Town Management Plan. (The Report must incorporate feedback from stakeholders during Presentation of Result