ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

SUMMARY PROJECT REPORT

FOR
FLAKE ICE MAKING AND COLD STORAGE MACHINE INSTALLATION PROJECT AT FAZA, LAMU COUNTY

LATITUDE -2.055709, LONGITUDE: 41.113039

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CERTIFICATION

This Environmental and social impact assessment summary project report was prepared by a registered EIA/EA expert in accordance with the Environmental (Impact Assessment and Audit) (Amendment) Regulation, 2019 for submission to National Environment Management Authority (NEMA).

We, the undersigned, certify all the information contained in the report is accurate and a truthful representation of all the findings as related to the proposed project.

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Signature: _____

Date: 25/5/2022

Proponent: Rasini Fishermen cooperative society

Presented by: Chairman

Name: SOMBWANA OMAR IBAKARI

Designation: CHAIRMAN

Signature: _____

Date: 25/5/2022

ACKNOWLEDGEMENT

The Experts are sincerely grateful to the County Project Coordination Unit (CPCU), Lamu County for the support during this assessment. We also thank the management of the Rasini Fishermen Cooperative Society for their support and provision of relevant information necessary for the preparation of this report. We also thank all stakeholders for the technical input and support. Special thanks to all the partners, County Panel of Experts for their guidance during the preparation of this report.

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ABBREVIATIONS AND ACRONYMS

ACU	AIDS control unit
AIDS	Acquired Immunodeficiency Syndrome
CDE	County Director of Environment
COVID- 19	Corona Virus Disease of 2019
EMCA	Environmental Management Coordination Act
EMP	Environmental Management Plan
ESIA	Environmental and Social Impact assessment
ESMMP	Environmental and Social Management and Monitoring Plan
ESS	Environmental and Social Safeguards
FDGs	Focused Discussion Groups
GBV	Gender Based Violence
GoK	Government of Kenya
GPS	Global Positioning System
HIV	Human Immune Virus
KCSAP	Kenya Climate Smart Agriculture Project
KIs	key informants
NEMA	National Environment Management Authority
OSHA	Occupational Safety & Health Act
NPCU	National Project Coordination Unit
PPE	Personal Protective Equipment
PO	Producer Organizations
SEA	Sexual Exploitation and Abuse
SH	Sexual Harassment
SPR	Summary Project Report
TOR	Terms of Reference

EXECUTIVE SUMMARY

The proposed flake ice making and cold storage machine installation project at GPS Coordinates Latitude -2.055709, Longitude 41.113039 is a project by Razini Farmers' Cooperative Society Limited. The cooperative society has a membership of 512 persons (421 male and 89 female). The main aim of the project is to preserve fish at local market thereby reducing the post-harvest losses. The main objective is to provide a flake ice and cold storage facility for the fishermen's produce, hence increase fish shelf life awaiting sale, to ensure fishermen's benefit from better prices of their produce during sale, and to protect fishermen from necessary exploitation by middlemen. The proposed project development comprises of minor repairs, procurement /installation of two-flake ice making machines, repair one existing ice making machine and cold storage room. The proposed project cost is about Ksh. 9,812,000.00

The SPR was as a result of the recommendation of the County Director Environment (CDE) based on the screening report", and was prepared in accordance with the provisions and requirements of the Environmental Management and Coordination Act (EMCA) Cap 387 and subsidiary regulation - Environmental (Impact Assessment and Audit) Regulations, 2003 and Legal Notice 31 and 32 of 2019. The Bank also requires that all environmental and social risks and impacts of the project be addressed as part of the environmental and social assessment conducted in accordance with the operational policy 4.01 set out the obligations of the Borrower in identifying and addressing environmental and social risks and impacts that may require particular attention. The report will further guide the proponent in environmental protection through the Environmental Management and Monitoring Plan (EMMP) prepared and lastly, assists NEMA in making an informed decision while approving the proposed project

The ESIA (SPR) has been prepared in accordance to Environmental Management and Co-ordination (Amendment) Act (No. 5 of 2015& 2019) and Part II of the Environmental (Impact Assessment and Audit) Regulations 2003 the NEMA public notice 31 on processing of EIA reports of 12th March 2020 and the World Bank safeguards policy OP 4.01 Environmental Assessment. The other policies relevant policies included the Food Drugs and Chemical Substance Act Cap 254, Standards Act cap 496, Cooperative Society Act, the land title act cap 282, sexual offence Act No 3 of 2006, Occupation Health and Safety Act 2007, work injury and compensation Act, public health Act cap 242. The objective of this ESIA (SPR) was to assess the environmental and social impacts of the proposed project, propose appropriate mitigation measures and make recommendations on the approval by the National Environmental Management Authority.

The SPR process included preliminary assessment (screening), literature review, public consultation, field reconnaissance survey, direct observation, documentation and report submission to National Project Coordination Unit (NPCU) for clearance. The public participation meeting included public participation meeting, focused group discussion and key informant interviews using structured questionnaires. During the public consultation process, the main issues raised were employment of local people, noise and safety issues, health and safety issues and conflict during implementation and operations. The responses included the selected contractor to give priority to local people in employment of casuals, provision of appropriate personal protective

equipment contractor and the community to follow health regulations as well as grievance redress committee established to handle the conflicts

The key impacts include solid waste generation, dust pollution, noise pollution, electric accidents and fire outbreaks, spread of HIV/AIDs, insecurity, wastewater pollution, odour pollution and sexual abuse of workers. Some of the proposed mitigation measure include provision of appropriate personal protective equipment, proper training of employees , encourage counselling and testing of workers for HIV/AIDS at the start of contract, contractor to induct the workers with instructions that acts of insecurity , sensitize workers and local communities on moral ethics, installing waste bins , purchasing and installation of firefighting appliances such as electric fire extinguisher (dry powder and gas based), fire alarm, reel and hose, bucket of sand and sensitize workers and local communities on moral ethics and encourage counselling and testing of workers for HIV/AIDS at project. The approximate cost of the ESMMP during construction is ***Ksh. 199,000,*** *(One Hundred and Ninety-Nine Thousand Shillings Only).*

Based on the findings of the assessment the proposed project is not likely to result into significant negative impacts. It is therefore the view of the experts that the project be allowed to proceed and recommends approval by National Environmental Management Authority (NEMA) subject to an annual audit. The experts further recommend that the reports be shared with the selected contractors for the implementation of the contractors specific ESMMP. The County Project Coordination Unit (CPCU), Lamu County in consultation with relevant stakeholders shall monitor the implementation of the ESMMP and report on compliance

CHAPTER ONE
INTRODUCTION

1.1 Background

The proposed project is owned by Rasini Fishermen cooperative society (as attached registration certificate appendix 8). The has a membership of 512 persons (421 males, 89 female). Among the members there 21 members who are different abled. This project is located at Rasini village, Kwatongani sub-location, Faza location, Lamu east sub county, Lamu county. The broad objective of the project to improve the live hood of the fishermen through aggregation and sale of fish and ice to the market. The project will help fishermen to preserve more fish hence ensure availability of fish to the market throughout the week.

The facility is aimed of this project is to preserve fish at local market thereby reducing the post-harvest losses. The proposed project development comprises of installation of two flake ice making machines each with a capacity of 2 tonnes, one cold storage machine with a capacity to sustain temperature at -21 ^{0}C and servicing the two existing flake ice making machines.

The specific objectives of this proposed project are; to provide a flake ice and cold storage facility for the fishermen's produce, hence increase fish shelf life awaiting sale, to ensure fishermen's benefit from better prices of their produce during sale, and to protect fishermen from necessary exploitation by middlemen. The proposed project cost is about ksh. 9,812,000.00

1.2 Project Justification

The fish industry faces a challenge of proper storage of fish and fish products due to high perishability thus undermining quality and marketability. Faza area is one of the major landing sites in the county. Most of the residents are fishermen. The proposed project area majorly produces fish on average of 2.5 tonnes a day throughout the year. The area produces more fish than can be consumed locally, hence the need to preserve the excess.

Currently the cooperative ice flake machine produce little ice that cannot support the amount of fish being produced. This situation makes the fishermen suffer huge post-harvest losses or make them sell products at low prices which are controlled by the buyers only. The fishermen lack a functional storage that can preserve the produce being caught on daily basis. There are middlemen who dominate the market in the area leading to fishermen's exploitation by offers of poor prices.

The cooperative needs to aggregate fish in one place and maximize on economies of scale in marketing. For the fish to be aggregated at one place before sale, a cold store is needed. The ice flake machine needs to installed, the existing machines serviced and a cold store provided for fish preservation. The fishermen can preserve the fish when market forces are unfavorable and sell to the community and the traders at a later date when the market improves thus preventing existing exploitation of fishermen.

The storage facility is aimed at ensuring quality of the produce is maintained during storage and is safe for human consumption at the point of sale.

In addition to provision of a reliable ice storage facility, the proposed project will have other positive impacts such as:

- Reliable supply of ice and fish products to the fish traders

- Creation of direct and indirect employment opportunities during the construction and operation phases
- Contract fishing opportunities with fish traders in the market
- Increased revenue to the county government
- Increased income to the cooperative members during operation
- Improved food security within the project area and the country at large
- Improved aesthetic value of the project site

Development of the proposed project in Faza will therefore be of great benefit to the targeted primary beneficiaries and country at large.

1.3 Justification of conducting the ESIA

The SPR was because of the recommendation of the County Director of Environment (CDE) NEMA, based on the screening report as per the World Bank funded project requirements. The NEMA Public Notice on ESIA and Legal Notice No. 31 of the Environmental (Impact Assessment and Audit) (Amendment) Regulations, 2019, which identifies the proposed project as low risk; and legal notice No 32 directs the writing of an SPR for such projects.

1.4 Summary Project Report (SPR) Objectives

The objectives of compiling an SPR for the proposed project are:

a) To be in compliance with the law
b) To analyze the project location
c) To predict and assess the potential environmental and social impacts of the project.
d) To propose appropriate mitigation measures for any negative impacts predicted.
e) To allow for public participation by the people likely to be affected by the proposed project and the relevant stakeholders
f) To present findings that can guide informed decision making by NEMA.

1.5 SPR approach and methodology

This SPR was done through field assessments, desk studies and discussion with the proponent and project beneficiaries through interviews. The steps included:

a) Screening

The purpose of screening was to assess the environmental and social impacts of the proposed project to determine the appropriate environmental and social safeguard instrument. The screening report indicated the project was of low risk *(Appendix 1).*

b) Scoping

This involved the assessing and identification of environmental and social risk surrounding the project.

c) Field data collection

Data collection was carried out through observations during site visit and consultation with beneficiaries by use of questionnaires. Visual inspections were carried out in the proposed project

area to identify physical features, land use, vegetation, and existing infrastructure and land development.

d) Desk review

The data obtained was compiled and analyzed, ESM & MP developed, outcome discussed with the proponent for submission to NEMA office.

e) Public participation:

Public participation was done through stakeholder's consultation. This was through conducting a meeting, Focused Discussion Groups (FDGs) and use key informants (KIs). Information generated from all these groups was included in chapter four of this report.

1.6 Report outline

This SPR will be organized into the following chapters: Introduction, Nature of the project, Location of the project, Public participation and stakeholders' consultation, Potential project impacts and mitigation measures to adverse impacts, ESM & MP, Conclusion and Recommendations, References and Appendices.

CHAPTER TWO
NATURE OF THE PROJECT

2.0 Introduction

The chapter provide detailed description of the project with respect to project design, design of the plan, design criteria, project layout, project activities and project cost.

2.1 Proposed project design

The project is designed in a way that water is pumped form the well to the storage tank. This water is later passed through the pipes to flake ice making machines. The water at the machine is then converted into flake ice. This flake ice is then collected in a room. The flake ice is then transferred into a storage room or taken to a cold room. The cold room will keep the cleaned fish and freeze it at -20^{c}. The architectural drawings of the buildings and specification of the flake ice and cold storage machines shown as in the attached appendix 10

2.2 Project Activities

2.2.1 Planning Phase Activities

a) Planning meetings.

There was an inception meeting that involved the community beneficiaries and the technical departments in planning for the proposed project. Members discussed on the benefits of the project and it is to be implemented. There were other follow up meetings that took place before accepting undertaking proposed project.

b) Designs and Layout

The technical team helped the beneficiary community to come up with drawing and designs, bill of quantities and tender document. The flake ice-making and cold storage machines shall be installed in an existing building whose layout is as shown in appendix 9:(plant layout)

c) Resource mobilization

This involved gathering of materials, relevant project documents like land ownership title deed and any other legal authorization documents in order to get NEMA approval.

2.2.3 Construction Phase activities

a) Minor repairs

This will be undertaken to face-Lift the building. This will entail scrapping of walls and repainting of the building. The two existing machines that needs be repaired. During installation some electric and plumbering works will be done.

b) Procurement

The proponent will procure some building materials, ice flake machines, fittings and other fitments.

c) Repair of shallow well.

The proposed project will have to repair an existing well so as to have sufficient supply of water to be used for making the flake ice.

d) Transportation of materials

Materials will be transported to the site through various ways. Some materials will be transport by passenger boats and the vehicles on the main land before reaching the site.

e) Installation

Two ice flake machines will be installed in the existing building.

f) Testing

The machines that will be installed will have to be testing and commissioned before handing them over to the community.

2.2.4 Operation and Maintenance

a) Servicing and installation of machines

There exist two flake-ice making machines each with the capacity of producing one tonne of flake ice. However, due to wear and tear, the efficiency of the machines has plummeted thus adversely impacting on the total ice production per day against the ever increasing cost of production. The production of ice for each machine dropped from one tonne to 0.6 tonne per day. The enhanced cost of production against reduced ice production has made the project unsustainable, however, servicing of the same and addition of two brand new flake ice making machines each with the capacity of one tonne will enhance ice production and steer the project to profitability.

The activities at this phase will entail servicing the existing machines, procuring two brand new flake ice making machines each with a capacity of one tonne, transportation of machines and installation. Importantly to note is that transportation of machines will entail both land and marine transportation since the project site is located in Faza on Pate Island.

b) Fishing and evisceration

Fishing is undertaken in marine environment where fishermen use fishing gears such gill nets, hand line, fishing basket etc. to catch fish. To access fishing grounds, fishermen use boats made of wood or fiber and propelled by outboard engines or sails. Once fish are caught they are pulled from the water into the fishing boat deck where evisceration is done to mitigate on post-harvest losses. Spoilage of fish is accelerated by presence of entrails hence the need for immediate evisceration. Eviscerated fish is washed using marine water in the ocean and thereafter sorting and grading is done on board the fishing boat.

c) Sorting and grading

Sorting entails segregating fish depending on their species and sizes. There are over 30 fish groups targeted by fishermen in the area although they fall within three larger groups i.e. demersal, mixed pelagic and pelagic fish groups. Sorted fish by groups are then graded according to size into grade A – big size, grade B – medium size and grade C – small size. Grade C small sized fish are usually aggregated together and sold as a package referred as mixed species. Grade A fish are highly priced followed sequentially by grade B and C. Spoilt fish are separated from whole fish while at sea and either discarded there or brought at the shore to process into dry fish.

Sorted and graded fish are placed in well-cleaned crates and ideally they should be chilled using ice to safeguard fish quality. However, chilling is not done due to inadequate supply of expensive ice. Sorted and graded fish will be finally transported to the shore for weighing, valuing, aggregation and cold storage.

d) Weighing and storage

Weighing of fish will be done and receipt detailing the group of fish landed, respective grade, total weight of the consignment and corresponding value will be issued to the captain of the boat.

Weighed and valued fish will be subsequently aggregated and stored in the cold storage with room temperature sustained at -20 ^{0}C.

e) Marketing

The Rasini Fishermen Cooperatives Society Limited executive committee shall be tasked with the responsibility of coordinating activities at ice and cold room facility including but not limited to linking fishermen to the market, gathering and disseminating market information, negotiating for better fish prices and procuring fishing inputs at discounted prices on behalf of members. *(Selling of ice to the local)*

f) Payment

Cooperative executive committee shall sell and release fish from the cold storage facility to fish traders upon receiving full payment for fish sold. Bylaws guiding the commission to be deducted and how payment shall be made to contributing members are in place, however, there is need to review them as the model of operating the cold storage is novel to members of the cooperative. In principle, there is unanimous understanding that a commission be deducted from the total proceeds after selling fish and the remaining amount be paid to each fisher/captain commensurate to the quantity and grade of fish delivered in the cold storage facility.

g) Administrative works

The facility shall be operated on daily basis and the project management committee of the cooperative is mandated to oversee its operations through a lean management team consisting of a manager, clerks, casual laborers and technicians. Activities associated with the administrative work includes but not limited to duty allocation, record keeping, staff welfare, meetings, marketing, enquiries, loading and off-loading of fish in the facility, cleaning of the facility and accounting.

h) Waste management activities

Three categories of wastes are envisaged to be generated by the facility. These include: -

i) Solid waste: Solid waste associated with the facility includes skin, viscera, fish heads, fish bones, scraps of flesh, broken plastic shovel, damaged gum boots, pieces of broken, crates, water bottle and other general wastes.

ii) Liquid waste: Liquid wastes related with facility includes;

- Blood water from drained storage room,
- Water discharges from washing and cleaning,
- Scraps of flesh, blood and soluble substances from entrails,
- Detergents and other cleaning agents
- Sewage and waste water

iii) **Gas waste:** Odour is often the most significant form of air pollution in fish processing. Major sources include:

- Storage sites for fish waste,
- Fish quality may deteriorate under the anaerobic conditions found in the storage chamber. This deterioration causes the formation of odorous compounds such as ammonia, mercaptans, and hydrogen sulfide gas.

Activities related with waste management includes

- Engaging the mandated County Department on waste collection and disposal of waste handled appropriately on site
- Provision of solid waste handling dustbin
- Wastes will be properly segregated and separated to encourage recycling of some of them.
- Provision of dustbin receptacles at the entrance as the central collection point.
- Septic tank to be developed for holding liquid waste

i) Routine maintenance

In order to ensure continued operation of equipment, proper and timely maintenance and repairs are necessary. This periodic maintenance will be scheduled so that sections needing repairs and serving can be identified before breakdown occurs to the plant.

2.3.5 Materials and equipment

Flake ice making and cold storage machines shall be sourced from licensed and authorized dealers as per the specifications developed by the mechanical and refrigeration engineer. Machine specifications are attached in appendix 10 (machines speciation's). Since the project is highly specialized, it is advisable that the proponent or contractor be licensed by companies that supplies the refrigeration machines. Equally, for existing flake ice making machines that require serving should be serviced by qualified and licensed technicians.

2.4.6 Proposed project cost

The estimated budget for the development of the proposed project is Ksh. 9,812,000 exclusive of the cost of ESMMP. The cost of implementing the ESMMP during the construction phase is Ksh 199,000 *(should be included in the contract cost).*

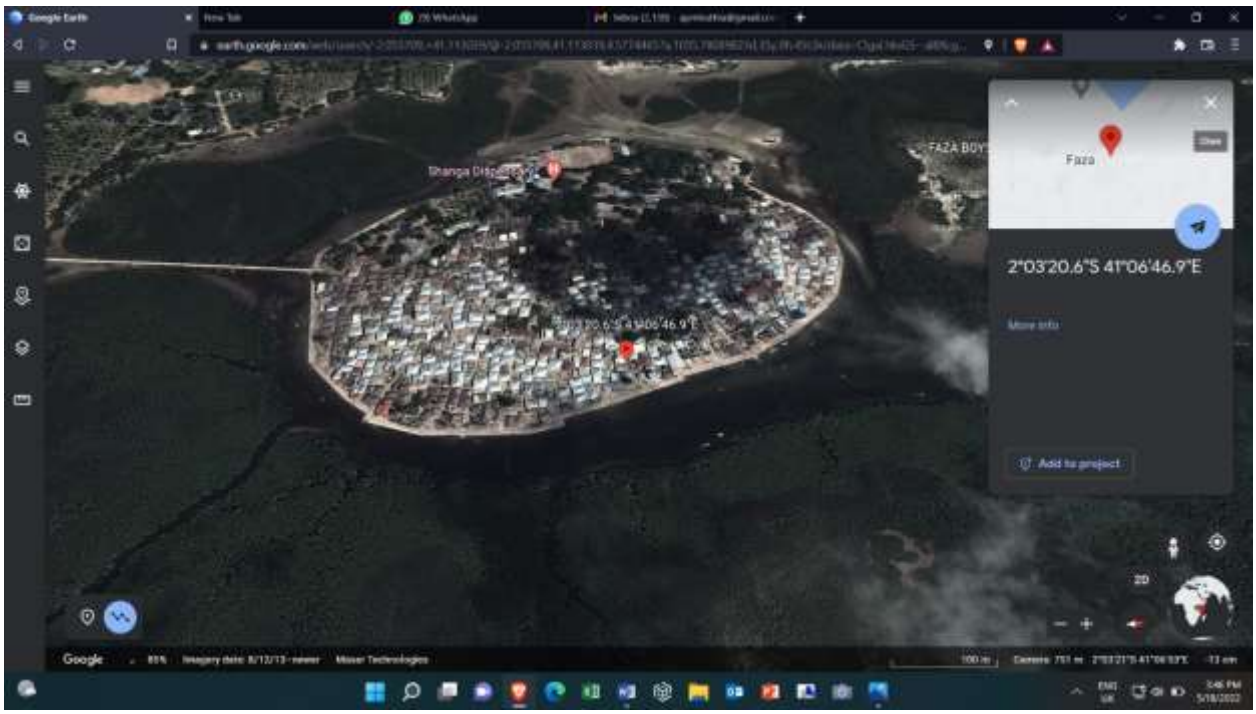
CHAPTER THREE
THE LOCATION OF THE PROJECT

3.0 Introduction

This chapter provides critical detailed information on location and site description, status of land ownership of the proposed project. Additionally, the chapter captures information on availability of supportive environmental management infrastructure and explains whether the proposed project is in conformity to current land use or zonation plan.

3.1 Location description

The proposed flake ice and cold storage facility will be developed on Plot No. Lamu East/Faza Scheme/726. The proposed site administratively is in Faza Division, Faza Location and Kwatongani Sub Location, Lamu East Sub County, Lamu County. The proposed site is at GPS coordinates Lat: -2.055709, Long: 41.113039 and elevation of 2 M above sea level.



3.2 Site Ownership

The land *LR NO. Lamu East/Faza Scheme/726* on which the proposed project will be developed is owned by Rasini Fishermen Cooperatives Society Limited *(See Appendix 2 for title and appendix 3 for land search report)* and measures approximately 0.036 Ha. The title deed and search certificate issued by the Department of Lands.

3.3. Environmental sensitive area

The site for the proposed project is at Faza which is an island on the larger Pate Island in the Indian Ocean. Although the small island of Faza is surrounded by a marine environment, mangroves are located across the channel encircling the island. There are no mangroves on the island itself. This is probably because mangroves on the island were cleared a long time ago in order to make way for implementation of the various construction projects currently present there. The sea shore

along the island is built with a seawall for protection against spillovers of seawater in high tides. Also, there is a cabro walkway pavement for beach traffic for most of the sea shore encircling the island.

The proposed project is planned to be implemented in an existing building near the seashore where soak pits were earlier constructed for safe disposal of wastewater there. The fact that the proposed project is planned for implementation in an already built environment with wastewater disposal infrastructure and the lack of any mangroves at the neighbouring seashore makes this site to be environmentally not sensitive.

3.4. Environmental Management infrastructure

3.4.1 Energy: Electricity in Faza and indeed in the proposed site is supplied by Kenya Power and Lighting Company through a diesel powered generator stationed 2 KM from the site. The proposed site is already connected with the electricity, however, there is need of undertaking minor electrical repairs to the existing electrical infrastructure.

3.4.2 Water: The area source water from wells and masonry micro water catchments (*djabias*). Water from wells is available throughout the year although it is slightly saline in nature whereas water from *djabias* is fresh rain water which is seasonal and does not serve the residents throughout the year. In this regard, proposed project should not source water from existing *djabias* as this will be competing with the residents over scarce resource. Importantly to note is that LAWASCO in conjunction with the County Government of Lamu is implementing a project of connecting residents with fresh water and as such the proposed project may apply for water connection.
Project site is characterized by a well whose water is slightly saline. Water is pumped for storage in an overhead tank for subsequent distribution into the facility for making ice, cleaning etc.

3.4.3 Waste water/liquid waste

Waste water will arise from blood water from drained storage room, water discharges from washing and cleaning, scraps of flesh, blood and soluble substances from entrails and detergents and other cleaning agents. Effluents shall be directed or channeled to the existing soak pit, however, a septic tank is recommended.

3.4.4 Solid waste: In the area, solid waste is managed at source i.e. household level where wastes are segregated into recyclable and non-recyclable wastes. Recyclable wastes are mainly placed in the dustbins whereas non-recyclable waste which are mainly general wastes are used to feed domestic animals such as donkeys, cats etc. Other non-recyclable wastes are placed in strategic locations in the village for subsequent collection and disposal by personnel from the Department of Public Health, Lamu County.
In view of the above, the Project Management Committee shall provide normal dustbins to handle dry solid wastes and water proof waste bins with tight lid to handle wet solid wastes for subsequent proper management by mandated county department.

3.4.5 Transport and communication: The proposed site is accessed from Lamu Town via sea transport using motorized boats. Within the Island, the site is accessed through earthen roads linked to the sea front concrete paved pathways which are passable thought-out the year.

Additionally, the project site is covered by mobile connectivity from a number of private companies in Kenya, namely; Safaricom and Airtel telecom companies.

3.4.6 Security and safety: The proposed site is safe and favorable for the earmarked project as Rasini is the headquarter of Lamu East Sub County hosting Deputy County Commissioner and Sub County Police Commander. Faza police station is approximately 0.5 KM from the proposed site.

3.5 Conformity to land use plan

The proposed project site is owned by the cooperative society with a title deed (Appendix 2 and 3. This implies that they are authorized to carry out the activities related to fishing and therefore conforms to the land use plan

CHAPTER FOUR
PUBLIC PARTICIPATION AND CONSULTATION PROCESS

4.1 Introduction

This chapter gives details of the objectives of the public consultation, categorization of community participants and stakeholders, methodology of public participation and consultation and summary of issues raised by the community and stakeholders. Although the Summary Project Report process does not require public participation, it is a policy requirement by the World Bank and a Government of Kenya constitutional requirement that beneficiaries and members of the public living near any project sites who have a stake or interest in the project, be consulted to seek their views and opinions regarding the projects before they are implemented.

4.2 Legal Requirements for Public Consultations

The Environmental Management and Coordination Act, Cap 387; sets out the minimum requirements for stakeholder consultation and engagement. Further details of the legal and regulatory requirements that apply to the project are provided in Chapter 5 of this report.

The Constitution of Kenya, 2010 under Article 174 (c) gives power of self-governance to the people and enhance the participation of the people in the exercise of the powers of the State and in making decisions affecting them. Article 184 (c) provides for participation by residents in the governance of urban areas and cities. Article 10 (2) (a) under national values and principles of governance provides for patriotism, national unity, sharing and devolution of power, the rule of law, democracy and participation of the people.

4.3 Broad Objective

The broad objective for public participation is to involve all stakeholders to raise their environmental, social and health concerns of a proposed project and come up with the appropriate mitigation measures.

4.4. Specific objectives

i) Inform the local people, leaders, and other stakeholders within Faza about the proposed project and its objectives;
ii) Initiate public involvement processes in a bid to induce and cultivate a sense of peoples' belonging to the project;
iii) Suggest and facilitate the peoples' roles in the project's sustainability, in terms of management, maintenance, and productivity;
iv) Seek views, concerns, and opinions of people in the area concerning the project.
v) Establish if the local people foresee any positive or negative environmental effects from the project and, if so, how they would wish the perceived impacts to be addressed;
vi) Find out if there are issues or places of cultural/or religious importance to the local communities that the project and its infrastructure could negatively impact.

4.5 Stakeholder identification

There are several stakeholders as fishermen, cooperatives members, government departments (fisheries, local administration, public health, cleansing section**,** ward administrator, trade). Other

stakeholders are boat operators and businesses in the neighbourhood. Their roles to the project is attached on *Appendix 12.*

4.6 Public Participation Process

The ESIA team used a variety of methods to collect information from the stakeholders, Interested and Affected Parties by the project. A questionnaire was used as a guide in collecting information during the public baraza. A public baraza was held on the 16th May 2022 at Faza Social Hall where 64 people comprising of 36 males and 28 females *(Appendix 5).* The community members attended the meeting which was chaired by the area chief. The lead expert led the community in the data gathering exercise (lead expert certificate appendix 11). The information being sought mainly was on the anticipated positive and negative impacts in order to come up with mitigation measures. The information from the public baraza has been captured in the attached copy of minutes *(Appendix 4).* The focused group discussions (FGD) were conducted on 17th May 2022 targeting female cooperative members where 11 female participated. (see attached appendix 6).

Additionally, questionnaires *(Appendix 7)* were administered to the main key stakeholders namely: staff from the Department of Fisheries, Ward Administration and Public Administration with a view of seeking their views on the proposed project. This exercise was conducted between 16th and 17th May 2022 while a public meeting was held at Faza Social Hall on 16th May 2022.

4.7 Summary of the issues raised and response

The assessed feedback from the stakeholders was that this project was welcomed as it would contribute immense benefits to the local economy in terms of short term employment and opportunities for supply of foodstuffs during installation phase. During the operations phase, in addition to more employment opportunities, the fish merchants and local fishermen would benefit by accessing ice flakes nearby instead of the present situation where ice is accessed from Lamu or Malindi. Accessibility to flake ice will enhance fish quality, reduce post-harvest losses, improve fish prices and subsequently enhance overall returns to fishermen.

At installation phase, negative impacts attributed to the project were noise although negligible and minimal dust due to the nature works. Majority of respondents were concerned about liquid waste disposal and suggested use of a septic tank and soak pit conveyance system. Respondents also felt that storm water could also be harnessed into a storage tank to conserve this scarce resource from running into the sea.

FGD for cooperative members

Meeting with community members at Faza Social Hall

a) **Employment of the Local people:** During the implementation phase of this project there will be opportunities for both skilled and semi-skilled labour. The respondents felt that while skilled labour may be imported due to inadequate local capacity but all semi-skilled labour should be sourced from the local community. The unemployed youth to be given chance work and earn for livelihoods. This will be enforced during contract-signing.
b) **Noise and Safety at the project site**: A project of this nature may emit noise and /or vibration causing disturbance and affect the quality of life of those who reside or work nearby. However, this may be for a short duration. The mitigation for noise and safety is taken care at the ESMMP.
c) **Health and safety issues**: During the installation phase, community noted that there could be transmission of COVID 19 and HIV/AIDS. The community to follow health regulation to protect themselves from contracting the infections.
d) **Conflict during implementation and operation**: Conflict can arise during the various phases of the project. Conflict will be handled by committee.

CHAPTER FIVE
POTENTIAL IMPACTS AND MITIGATION MEASURES

5.1 Potential Beneficial Impacts

5.1.1 Improvement of livelihoods of fishers

In the operational phase, this project is planned to produce ice mainly for sale to fishers and fish traders for preservation of fish catches. This is expected to improve the livelihoods of fishers in the following ways:

- Easy availability of ice to fishers will result in reduction of post-harvest losses due to spoilage.
- Fishers will not sell their catches at throw-away prices which they currently do due to existential reality of incurring losses from possible fish spoilage.
- Fishers will buy ice at a cheaper price than they currently buy from places as far away as Lamu and Malindi.

5.1.2 Job creation

Jobs will be created by the project in all phases of the project: implementation, operational and decommissioning.

During the implementation phase, the task of carrying out the installation of the flake ice machines is expected to be carried out by skilled technician sourced outside Lamu County. Jobs in this phase will be offered by the contractor carrying out installations and minor repairs.

During the operational phase, the project is expected to employ about four (4) people at the facility. Two (2) of these will be machine operators, one a records keeper and one serving both as a cleaner and a watchman. Jobs in this phase will be offered by the Project Management Committee for Rasini Fishermen Cooperative Society.

During the decommissioning phase, there will be both skilled and unskilled jobs. The skilled jobs will be the uninstallation of the ice machines. The other unskilled jobs which the locals will be made to benefit from are jobs such as the demolitions of septic tank and soak pits, the uninstallation of plumbing works and the dismantling of the metallic structure supporting the overhead water tank. However, these jobs will be offered by the decommissioning contractor.

5.1.3 Support to local businesses

During the implementation phase, the workers at the site will require supply of ready food during the day so that they avoid disruption of their work schedules. This will offer a business opportunity to food vendors in Faza.

During the operational phase, the expected easy availability of ice from this plant which will also be sold to anyone in need, will spur the start of ice-related businesses in Faza and its environs. Examples of such businesses are: making and selling of ice-creams, making of cold fruit juices and sale of iced chocolates.

During the decommissioning phase, businesses of food vendors will also be boosted when the decommissioning process gets underway.

5.1.4 Availability of fish food throughout

Fishers in Faza do not go fishing on Fridays as the day is considered holy in the Islamic faith and is dedicated for prayer and worship. This makes fish food inadequate to residents on Fridays. However, with availability of ice that will be used for fish preservation during the operational phase, fish food will be adequately available to Faza residents throughout. This benefit will only be possible in the operational phase of the project.

5.2 Potential Impacts During Construction Phase

5.2.1. Solid waste pollution

During the implementation phase, solid waste will be generated. The expected waste to be generated will be used cement packets, inert construction waste, plastic bottles, waste plumbing pipes, general waste and plastic insulations of electrical wires.

Proposed mitigations

- Installation of 3 colour-coded waste bins for use by people to deposit various types of solid wastes as follows: green for biodegradables, blue for non-biodegradables and yellow for hard plastics.
- There should be no generation of plastic carrier bags waste since their use has been banned in Kenya since August 2017.
- Engage the mandated Department of Public Health to regularly empty waste bins once they get filled up.
- Inert construction waste to be sold or given out for free to other project proponents of new construction sites for reuse.
- Hard plastics waste and cement packets waste to be taken for incineration.
- Hard plastics should be collected and stored for sale to the plastics recycling plant at Wiyoni in Lamu.
- Waste plumbing pipes to be sold to scrap metal dealers.

5.2.2 Dust pollution

During construction of the septic tank for management of wastewater and other minor repairs that may need cement, there will be dust emissions that will arise from cement causing dust pollution.

Proposed mitigations

- Sprinkle water to dusty sand and ballast before mixing with cement.
- The site where excavated sand stock-piled for temporarily storage should be sprinkled with water to settle down resultant dust.
- Site workers should be provided with nose masks and be required to wear them while working at construction site.

5.2.3 Noise pollution

Noise is likely to be generated by use of drilling equipment during installation of the ice making machines and for the minor repairs. Also noise can be generated by onsite workers during the implementation phase when minor construction works and installations will be carried out.

Proposed mitigations

- Noisy equipment such as drilling machines be fitted with silencers.
- Machines to be installed must incorporate noise management devices.
- Undertake routine maintenance of ice making machines.

- Site workers to be required by the contractor to converse in low voices as they carry out their assigned tasks.
- Site workers and visitors to be provided with earmuffs.
- Establish a complaint register.

5.2.4 Electric accidents and fire outbreaks.

The power supply category for the planned project is a 3-phase supply. This is a high voltage power supply which the flake ice making machines require in order to operate. If the electrical wiring is not properly done, there is a possibility for electric shocks or electric fires. Such accidents can cause injuries or in extreme cases, deaths. Additionally, ordinary fire outbreaks can happen at the facility either as an accident or by arson.

Proposed mitigations

- Electrical wiring to be carried out by a certified electrician.
- Purchase and installation of firefighting appliances such as electric fire extinguisher (dry powder and gas based), fire alarm, reel and hose, bucket of sand etc.
- Establish fire assembly point
- The flake ice machine operators to be trained on the precautions for the safe operation of the machines.
- All workers to be trained on safety measures such as safe use of electricity and electrical appliances, firefighting and first aid.

5.2.5 Spread of HIV/AIDS

Spread of HIV/AIDS is expected to arise from two scenarios:

1. The inflow of migrant workers to Faza. The newcomers are expected to be brought in by the contractor engaged for the installation of the flake ice machines. Some of these may be infected and spread to other community members.
2. When some community members get sufficient money, they can easily be engaged into reckless sex hence contact HIV/AIDS.

Proposed mitigations

- Encourage counselling and testing of workers for HIV/AIDS at the start of contract
- Promotion safe sex and use of condoms.

5.2.6 Insecurity

Due to the expected presence of technical migrant workers coming to Faza to carry out the installations of the ice flakes making machines, they be deemed to be financially endowed by the locals hence being targeted for robbery or mugging.

Proposed mitigations

- The site workers to be vigilant and alert, and report to the police any suspicious characters.
- The contractor to be required to induct the workers with instructions that acts of insecurity from them will be unacceptable and will not only cause them instant dismissal but will get them reported to the police as criminals.
- The police and public administration to strictly enforce the security laws.

5.2.7 Sexual abuse of workers

Although sexual exploitation of workers is commonly done by males to their junior female workers, the reverse can also happen where a female does it to her junior males. Cases of sexual abuses of workers are common in all work places and it is difficult to stop.

Proposed mitigations

- Sensitize workers and local communities on moral ethics.
- Introduction of a suggestion box where workers can secretly report cases of sexual advances to them from their seniors.
- Severe disciplinary action to be taken by the contractor for workers found to be engaging in sexual abuse of their juniors. Such disciplinary action could even be dismissal.
- Establishment of a Grievance Redress Committee by the Rasini Fishermen Cooperative Society in order for the committee to address any complaints of sexual abuse of workers.

5.2.8 Sexual exploitation of minors

This is likely to happen to girls under the age of 18 years who may be lured into sex by migrant workers during the installation phase.

Proposed mitigations

- General public to be alert and vigilant and report suspected cases promptly to the Children's Officer or to the Police.
- Enhancement of morality through sensitization.

5.3 Potential Impacts Operational Phase

5.3.1 Solid waste.

In the operational phase, solid wastes generated will mainly be waste plastic bottles, fish skin, fish heads, pieces of fish flesh, fish entrails and fish bones.

Proposed mitigations

- Installation of 3 colour-coded waste bins for use by people to deposit various types of solid wastes as follows: green for biodegradables, blue for non-biodegradables and yellow for hard plastics.
- There should be no generation of plastic carrier bags waste since their use has been banned in Kenya since August 2017.
- Engage the mandated Department of Public Health to regularly empty waste bins once they get filled up.
- Hard plastics should be collected and stored for sale to the plastics recycling plant at Wiyoni in Lamu.

5.3.2 Wastewater pollution

Generation of wastewater will take place during the operational phase. Wastewater will contain the following: blood from fish washings, soluble from fish entrails and detergents from general cleanings.

Proposed mitigations

- Construction of a septic tank and replacement of missing soak pit manhole covers.
- Apply for annual Effluent Discharge Licenses (EDLs) from NEMA.
- Compliance with NEMA's standards for effluent discharges to the natural environment.

5.3.3 Odour pollution

This is expected to arise from fish spoilage, improperly cleaned eviscerated fish characterized with traces of entrails and general unhygienic conditions of the facility.

Proposed mitigations

- Fish to be thoroughly inspected to ensure only fresh fish are stored in the cold room.
- The Plant Manager should adhere to Standard Operating Procedures (SOPs) for fish admission to the cold room.
- Maintenance of high hygienic standards at the facility through routine cleaning and disinfection of the facility

5.3.4 Electrical accidents and fire outbreaks

The power supply category for the planned project is a 3-phase supply. This is a high voltage power supply which the flake ice making machines require in order to operate. If the electrical wiring is not properly done, there is a possibility for electric shocks or electric fires. Such accidents can cause injuries or in extreme cases, deaths. Additionally, ordinary fire outbreaks can happen at the facility either as an accident or by arson.

Proposed mitigations

- Purchase and installation of firefighting appliances such as electric fire extinguisher (dry powder and gas based), fire alarm, reel and hose, bucket of sand etc.
- The flake ice machine operators to be trained on the precautions for the safe operation of the machines.
- All workers to be trained on safety measures such as safe use of electricity and electrical appliances, firefighting and first aid.

5.3.5 Sexual abuse of workers

Although sexual exploitation of workers is commonly done by males to their junior female workers, the reverse can also happen where a female does it to her junior males. Cases of sexual abuses of workers are common in all work places and it is difficult to stop.

Proposed mitigations

- Sensitize workers and local communities on moral ethics.
- Introduction of a suggestion box where workers can secretly report cases of sexual advances to them from their seniors.
- Severe disciplinary action to be taken by the contractor for workers found to be engaging in sexual abuse of their juniors. Such disciplinary action could even be dismissal.
- Establishment of a Grievance Redress Committee by the Rasini Fishermen Cooperative Society in order for the committee to address any complaints of sexual abuse of workers.

5.3.6 Sexual exploitation of minors

This is likely to happen to girls under the age of 18 years who may be lured into sex by migrant workers during the installation phase or they are lured into early sex by workers at the facility when the facility is in operation.

Proposed mitigations

- General public to be alert and vigilant and report suspected cases promptly to the Children's Officer or to the Police.
- Enhancement of morality through sensitization.

5.3.7 Inducement of body fevers and flus

The production of ice and presence of the cold store during the operational phase will create an environment of very low temperatures for the workers at this facility. This condition can induce body fevers and flus arising from severe cold temperatures.

Proposed mitigations

- Administrative control by restricting access of cold room by unauthorized personnel.
- Workers to be provided with warm clothing, gloves and gum boots for protection against severe cold temperatures.

5.3.8 Spread of HIV/AIDS

During the operational phase, the high incomes expected to be earned by fishers and the general community improved incomes arising from the invigorated local economy buttressed by the proposed project in Faza may encourage indulgence in reckless behavior, especially among the youths. This may cause a spike in cases of HIV/AIDS.

Proposed mitigations

- Encourage counselling and testing of workers for HIV/AIDS at project.
- Promotion safe sex and use of condoms.
- Establish AIDS control unit (ACU).

5.4. Decommissioning Phase

5.4.1 Electric shocks to uninstallers

The power supply category for the planned project is a 3-phase supply. This is a high voltage power supply, during uninstallation there is a possibility for electric shocks or electric fires. Such accidents can cause injuries or in extreme cases, deaths. Additionally, ordinary fire outbreaks can happen at the facility either as an accident or by arson.

Proposed mitigations

- Electrical uninstallation works to be carried out by a certified electrician.
- Decommissioning contractor to provide firefighting appliances such as electric fire extinguisher (dry powder and gas based), fire alarm, reel and hose, bucket of sand etc.
- Establish fire assembly point

5.4.2 Dust pollution

During decommissioning, dust will arise from the uninstallation works that will cause air pollution.

Proposed mitigations

- Sprinkle water to the materials before uninstalling to reduce dust.
- Sprinkle the stock-piled materials to reduce resultant dust.
- Site workers should be provided with nose masks and be required to wear them while working at site.

5.4.3 Solid waste pollution

During the decommissioning phase solid waste will be generated. The expected waste to be generated will be inert construction waste, waste plastic bottles, waste plumbing pipes, general waste and plastic insulations of electrical wires.

Proposed mitigations

- Installation of 3 colour-coded waste bins for use by people to deposit various types of solid wastes as follows: green for biodegradables, blue for non-biodegradables and yellow for hard plastics.
- There should be no generation of plastic carrier bags waste since their use has been banned in Kenya since August 2017.
- Engage the mandated Department of Public Health to regularly empty waste bins once they get filled up.
- Inert construction waste to be sold or given out for free to other project proponents of new construction sites for reuse.
- Hard plastics waste and cement packets waste to be taken for incineration
- Hard plastics should be collected and stored for sale to the plastics recycling plant at Wiyoni in Lamu/ or any other that may be available at that time.
- Waste plumbing pipes to be sold to scrap metal dealers.

CHAPTER SIX
THE ENVIRONMENTAL, SOCIAL MANAGEMENT AND MONITORING PLAN

6.1 Introduction

The objective of this Environmental, Social Management and Monitoring Plan is to ensure that the implementation, operation and possible decommissioning of the Rasini Cold Store and Ice Flake Making Machine Installation Project does not result in environmental degradation and that any adverse impacts predicted are adequately mitigated. It is also to ensure that monitoring indicators are correctly crafted and clearly stated in all the 3 phases of the project cycle in order to facilitate monitoring.

6.2 ESMP Implementation

The ESMP will be implemented in all phases of the project. At the construction phase the contractor will undertake and ensure all the fore mentioned mitigation measures are done. The relevant agencies during this phase should ensure the contractor complies. At construction phase, the budget to implement ESMP is included in the BOQ. At the operational phase implementation will be done by the proponent. The proponent may seek help from other stakeholders and government agencies to ensure implementation is done per this ESIA (SPR) recommendation.

6.3 ESMP Monitoring

Monitoring for the ESMP will be conducted by several government departments to ensure the proponent comply to the recommendations made in this SPR. Some of the agencies include NEMA, department fisheries, public health, trade, KEBS and DOSH. An environmental and social management monitoring plan (ESMMP) will be drawn to be used as a guide during the monitoring period. All the relevant agencies have to work hand in hand with the proponent to ensure all mitigations are implemented.

6.4 Environmental, Social Management and Monitoring Action Plan

6.4.1 Environmental, Social Management and Monitoring Plan during Construction phase

No.	Potential Impacts	Proposed Mitigation Measures	Monitoring Indicators	Responsible	Means Of Verification	Time Frame	Estimated Cost (Ksh)
1	Solid waste pollution	Installation of 3 colour-coded waste bins for depositing various types of solid wastes as follows: green for biodegradables, blue for non-biodegradables and yellow for hard plastics	Presence of 3 colour-coded waste bins at the site during implementation	Rasini Fishermen Cooperative Society (RFCS)	Receipt showing purchase of the bins Photos of the bins	July and August 2022	20,000
		Engage the mandated Department of Public Health to regularly empty waste bins once they get filled up.	Evidence of regular collection of waste from the mandated department Unfilled waste bins at all times	Department of Public Health RFCS	A schedule for waste collection.	July and August 2022	Nil
		Inert construction waste to be sold, disposed properly or given out free to project proponents of other construction projects for reuse	List of people the waste was given to Absence of inert construction waste at the site	Contractor Department of Public Health	Photos of trucks removing Inert waste	July and August 2022	Nil
		Hard plastics and cement packets waste to be taken for incineration or for the hard plastics, collected, stored and later sold to the plastics recycling plant at Wiyoni in Lamu	Receipts for deliveries of hard plastics to the plastics recycling plant at Wiyoni, Lamu	Contractor	Records of weighed plastics	July and August 2022	10,000

No.	Potential Impacts	Proposed Mitigation Measures	Monitoring Indicators	Responsible	Means Of Verification	Time Frame	Estimated Cost (Ksh)
		Waste plumbing pipes to be sold to scrap metal dealers.	Absence of plumbing pipes waste at the project site Record of scrap metal dealer where they were sold.	RFCS	Receipts of scrap metal dealers.	July and August 2022	Nil
2	Dust pollution	Sprinkling of water on dusty sand and ballast for dampening before mixing with cement	○ Presence of dampened sand and ballast ○ Absence of dust ○ Registered complaints	Contractor	Records used to show records of water bill during sprinkling	July and August 2022	5,000
		Workers to be provided with nose masks and be required to wear them while at work	Site workers to be seen wearing nose masks	Contractor	Records/register of issuance of PPEs	July and August 2022	2,000
3	Noise pollution	Site workers be required to converse in low voices as they carry out their assigned tasks	Level of noise	Site foreman	Register to complaints on noise	July and August 2022	Nil
		Drilling machines to be fitted with silencers	Presence of noise silencing devices	Contractor	Register to complaints on noise	July and August 2022	20,000
4	Electric accidents and fire outbreaks	Electrical wiring to be carried out by certified electricians	A record of the electrician's qualifications or CV for verification	○ Contractor ○ RFCS	A copy of contract award filed	July and August 2022	Nil

No.	Potential Impacts	Proposed Mitigation Measures	Monitoring Indicators	Responsible	Means Of Verification	Time Frame	Estimated Cost (Ksh)
		Purchase and installation of fires extinguisher (dry powder and gas based), fire alarm, fire reel and hose, bucket of sand	Presence of fighting appliances such as fire extinguishers, fire alarm etc	RFCS	Photos of the extinguisher Receipts	July and August 2022	35,000
		The flake ice machine operators to be trained on the precautions for safe operation of the machines	Certificates of participation in trainings	○ Contractor ○ RFCS	Training time table photos	July and August 2022	50,000
		All workers to be trained on safety measures such as safe use of electricity & electrical appliances, firefighting and first aid	Certificates of participation in trainings	○ Contractor ○ RFCS	Photo Invitation letters	July and August 2022	50,000
5	HIV/AIDS	Encourage counselling and testing of workers for HIV/AIDS in all phases of project cycle	Number people tested and counselled	Contractor	Record verifying counselling and testing	July and August 2022	Nil
		Promote safe sex and use of condoms	Presence of condom dispenser	Contractor	Photos of disperser	July and August 2022	5,000
6	Insecurity	The site workers to be vigilant and alert, and report to the police any suspicious characters	Cases of insecurity reported to the Police	Site workers	Records at the occurrence book at the police	July and August 2022	Nil

No.	Potential Impacts	Proposed Mitigation Measures	Monitoring Indicators	Responsible	Means Of Verification	Time Frame	Estimated Cost (Ksh)
		The contractor to be required to induct the workers with instructions that acts of insecurity from them will be unacceptable and will not only cause them instant dismissal but will get them reported to the police as criminals	Signed contracts	Contractor		July and August 2022	Nil
		The police and public administration to strictly enforce security laws	Record of insecurity cases at the police station	The police and public administration	Records at the occurrence book at the police	July and August 2022	Nil
7	Sexual abuse of workers	Sensitize workers and local communities on moral ethics	Number of reported cases	○Contractor ○RFCS ○Police	Records at the police	July and August 2022	Nil
		Introduction of a suggestion box where workers can secretly report cases of sexual advances to them from their seniors	Presence of a suggestion box at the facility	Contractor	Minutes of discussion for every opening of the boxes. photos	July and August 2022	2,000
		Severe disciplinary action to be taken by the contractor for workers found to be engaging in sexual abuse of their juniors. Such disciplinary action could even be dismissal	Number cases reported	○Contractor ○RFCS	Record of disciplinary measures taken	July and August 2022	Nil
		Establishment of a Grievance Redress Committee (GRC) within the RFCS to address any complaints of sexual abuse of workers	○ Presence of a GRC ○ Registered grievances	RFCS		July and August 2022	Nil

No.	Potential Impacts	Proposed Mitigation Measures	Monitoring Indicators	Responsible	Means Of Verification	Time Frame	Estimated Cost (Ksh)
8	Sexual abuse of minors	General public to be alert and vigilant and report suspected cases promptly to the Children's Officer or to the Police	Number of Reported cases	○Contractor ○RFCS ○Police ○The general public	Records/register of cases	July and August 2022	Nil
		Enhancement of morality through sensitization	Number of sensitization meetings conducted	○Contractor ○RFCS ○Police	Records of sensitization meetings	July and August 2022	Nil

6.4.2 Environmental, Social Management and Monitoring Plan during operational phase

No.	Potential Impacts	Proposed Mitigation Measures	Monitoring Indicators	Responsible	Means Of Verification	Time Frame	Estimated Cost (Ksh)
1	Solid waste pollution	Retention & replacement of waste bins for depositing various types of solid wastes as follows: green for biodegradables, blue for non-biodegradables and yellow for hard plastics	Presence of 3 colour-coded waste bins at the site during implementation	PMC	Receipt showing purchase of the bins Photos of the bins	From start of operations to decommissioning	10,000/year
		Engage the mandated Department of Public Health to regularly empty waste bins once they get filled up.	○ Evidence of regular collection of waste from the mandated department ○ Unfilled waste bins at all times	○ Department of Public Health ○ PMC	A schedule for waste collection	From start of operations to decommissioning	Nil
		Hard plastics waste to be taken for incineration or collected, stored and later sold to the plastics recycling plant at Wiyoni in Lamu.	Receipts for deliveries of hard plastics to the recycling plastics plant at Wiyoni, Lamu	PMC	Records of weighed plastics	From start of operations to decommissioning	20,000/- per load
2	Wastewater pollution	Construction of a septic tank and replacement of manhole covers of existing soak pits	○ Presence of a septic tank ○ Replaced soak pit covers	○ PMC ○ Contractor	Copy of BOQ, Designs	From start of operations to decommissioning	50,000
		Apply for annual Effluent Discharge Licenses (EDLs) from NEMA	○ Annual Environmental Audit Report ○ Annual EDLs from NEMA	○ PMC ○ CDE,NEMA , Lamu	Receipt for EDL payment	From start of operations to decommissioning	35,000/- for EDL charges per year

No.	Potential Impacts	Proposed Mitigation Measures	Monitoring Indicators	Responsible	Means Of Verification	Time Frame	Estimated Cost (Ksh)
		Compliance with NEMA's standards for effluent discharges to the natural environment.	Results	○PMC ○CDE,NEMA, Lamu	Effluent tests reports	From start of operations to decommissioning	60,000/- per year for quarterly effluent tests
3	Odour pollution	Fish to be thoroughly inspected to ensure only fresh fish are stored in the cold room.	○Level odour	○ Fisheries officers (FO) ○ PMC ○ Public Health Officer (PHO)	Inspection reports Registered complaints	From start of operations to decommissioning	Nil
		The Plant Manager should adhere to Standard Operating Procedures (SOPs) for fish admission to the cold room.	○ Level of cleanliness ○ Presence of flies at the facility.	○ PMC ○ PHO ○ FO	SOPs document Inspection reports by PHO and FO	From start of operations to decommissioning	Nil
4	Electrical accidents and fire outbreaks ○Electric shocks ○Electric fires ○Ordinary fire	Maintenance of the electrical wiring so that defects are detected early and promptly rectified	○ Number of electric faults recorded	PMC	A maintenance schedule Maintenance work reports	From start of operations to decommissioning	24,000/- per year
		Regular servicing of the fire extinguishers	○ Number of times the extinguisher are serviced	PMC	○ A service schedule Servicing report	From start of operations to decommissioning	20,000/- per year
		Workers to be trained on fire-fighting skills	○ Number trained ○ Certificates of participation	PMC	Training report	From start of operations to decommissioning	50,000/- per year

No.	Potential Impacts	Proposed Mitigation Measures	Monitoring Indicators	Responsible	Means Of Verification	Time Frame	Estimated Cost (Ksh)
5	Sexual abuse of workers	Retention of the suggestion box where workers can report in confidence cases of sexual advances to them from their seniors.	○ Presence of a suggestion box at the facility ○ Number of registered cases/complaints	○PMC	Registered complaints	From start of operations to decommissioning	Nil
		Severe disciplinary action to be taken for workers found to be engaging in sexual abuse of their juniors. Such disciplinary action could include dismissal.	○ Signed contracts ○ Record of disciplinary measures taken	○PMC ○Police	Registered cases of sexual abuse of workers	From start of operations to decommissioning	Nil
6	Sexual abuse of minors	Suspected cases to be promptly reported to the County Children's Officer or to the Police	Reported cases	○PMC ○Police ○The general public	Records of cases in the register	From start of operations to decommissioning	Nil
		Enhancement of morality through sensitization	Number of sensitization meetings conducted	○PMC ○Police	Records of sanitization meeting conducted	From start of operations to decommissioning	Nil
7	Inducement of body fevers and flus	Workers to be provided with warm clothing, gloves and gum boots	○ Observed workers wearing the PPEs	PMC	Records of PPEs bought	From start of operations to decommissioning	50,000/- per year
8	HIV/AIDS	Encourage counselling and testing of workers for HIV/AIDS in all phases of project cycle	Number people tested and counselled	○PMC ○PHO	Number people tested and counselled	From start of operations to decommissioning	Nil
		Promote safe sex and use of condoms	Presence of a condom dispenser	○ PMC ○ PHO	Photos of disperser	From start of operations to decommissioning	Nil

6.3.3 Environmental, Social Management and Monitoring Plan during the decommissioning Phase

No.	Potential Impacts	Proposed Mitigation Measures	Monitoring Indicators	Responsible	Means Of Verification	Time Frame	Estimated Cost (Ksh)
1	Electric shocks to uninstallers	○Uninstallation to be conducted by a certified technician	Academic and certification credentials of the technician	Decommissioning contractor		When decommissioning becomes necessary	Nil
2	Dust emissions	Watering of ground for dampening before demolition	Ground to be observed to be damp during the demolition Presence of dust	Decommissioning contractor	Records showing dust damping was done	When decommissioning becomes necessary	50,000/-
		Workers to be provided with nose masks	Workers wearing nose masks	Decommissioning contractor	Records on issuance of PPEs	When decommissioning becomes necessary	10,000/-
3	Breakages of machines during uninstallation	Uninstallation workers to exercise great care during the uninstallation in order to avoid breakages	Uninstalled machines to be intact	Decommissioning contractor	photos	When decommissioning becomes necessary	Nil
		Uninstallation to be carried out in strict compliance with instructions contained in the machine's manual	○ Number of Machines uninstalled ○ Uninstalled machines to be intact	Decommissioning contractor	Photos	When decommissioning becomes necessary	Nil
4	Pollution by solid waste	Inert construction waste to be sold, disposed properly or given out free to	Absence of inert construction waste	○ Decommissioning contractor ○ Department of Public Health	Records of trucks carrying way inert material	When decommissioning becomes necessary	Nil

		proponents of other construction projects					
		The 3 colour-coded bins depositing various types of waste. These should be left intact for use by the general public even after decommissioning	Presence of the 3 colour-coded bins	RFCS	Photos Receipts of bins bought	When decommissioning becomes necessary	Nil
		Metallic waste water pipes to be sold to scrap metal dealers	Absence of metallic waste pipes	RFCS	Receipts of bins bought	When decommissioning becomes necessary	Nil
		Metallic waste from demolition of the metallic support structure for the overhead plastic water tank to be sold to scrap metal dealers	Absence of metallic waste	RFCS	Receipts of bins bought	When decommissioning becomes necessary	Nil

CHAPTER SEVEN
CONCLUSIONS AND RECOMMENDATIONS

7.1 Introduction

This chapter outlines the findings of the report. It also states the experts' recommendation in regard to the proposed project.

7.2 Conclusions

The primary objective of the proposed project is to provide the beneficiary community with a cold storage and flake ice making facility that will enhance fish preservation means, relieving them the pressure low prices and post-harvest losses hence guaranteeing them maximum profit. The SPR findings outline both positive and negative environmental and social impacts; the negative impacts will be mitigated.

The project is an environmentally low risk project and thus poses no significant threat to the environmental aspects within the proposed project area.
The positive impacts out-weigh the anticipated negative impacts hence the need to implement the project. All propose mitigation measures for the negative environmental and social impacts are to be put in place. The proponent is advised to ensure implementation of the mitigation measures in all the phases of the development. An environmental management plan that fulfils the requirements of EMCA has also been presented. The proponent will have to comply with the recommendations of the management plan for sustained safety within/ around the project site.

Approval of this project will result to huge socio-economic impacts which are in line with the current development policies.

7.3 Recommendations

The recommendation of this assessment is that the proposed project be allowed to proceed on condition that the environmental and social management & monitoring plan is implemented and follow-up is made to ensure compliance as may be further directed by NEMA.
The proponent and contractor should ensure that the construction is as per approved architectural drawings. Any minimal changes and variations to be made to the design; the contractor should consulate and get approved from the relevant County Government departments. The proponent and contractor should ensure they adhering to the ESM & MP implementing the project.
It is in the opinion of the expert that this project be approved and be subject to the outlined mitigation measures. The proponent should cooperate with the relevant department on both environmental and social field to ensure the ESMMP is followed as indicated in the document.

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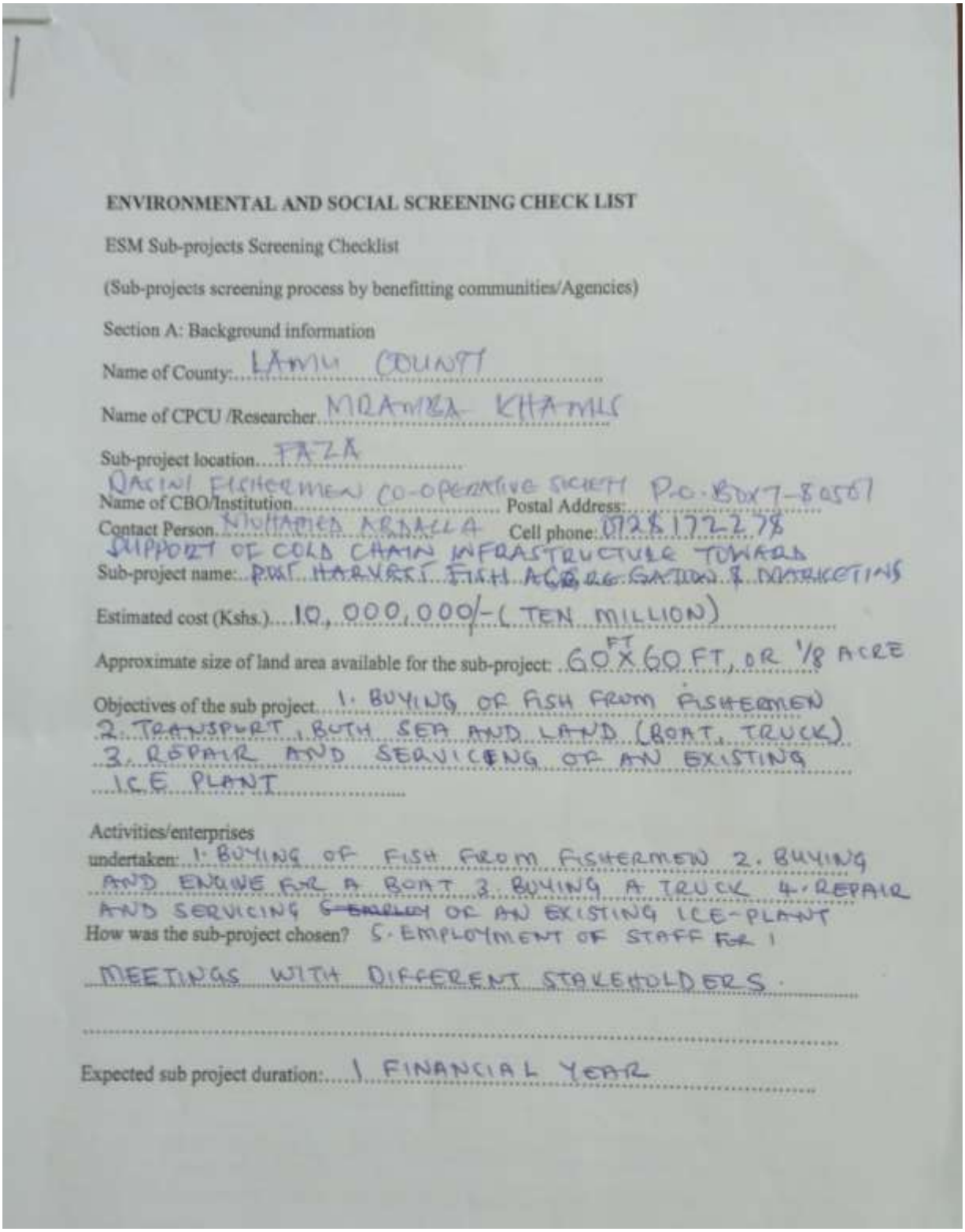
APPENDINCES

Appendix 1: Duly filled ESS Checklist



ENVIRONMENTAL AND SOCIAL SCREENING CHECK LIST

ESM Sub-projects Screening Checklist

(Sub-projects screening process by benefitting communities/Agencies)

Section A: Background information

Name of County: LAMU COUNTY

Name of CPCU /Researcher: MWAMBA KHAMIS

Sub-project location: FAZA

Name of CBO/Institution: DACINI FISHERMEN CO-OPERATIVE SOCIETY Postal Address: P.O. BOX 7-80507

Contact Person: MUHAMED ABDALLA Cell phone: 0728172278

Sub-project name: SUPPORT OF COLD CHAIN INFRASTRUCTURE TOWARDS ~~POST HARVEST FISH AGGREGATION & MARKETING~~

Estimated cost (Kshs.): 10,000,000/- (TEN MILLION)

Approximate size of land area available for the sub-project: 60FT X 60FT, OR 1/8 ACRE

Objectives of the sub project: 1. BUYING OF FISH FROM FISHERMEN 2. TRANSPORT, BOTH SEA AND LAND (BOAT, TRUCK) 3. REPAIR AND SERVICING OF AN EXISTING ICE PLANT

Activities/enterprises undertaken: 1. BUYING OF FISH FROM FISHERMEN 2. BUYING AND ENGINE FOR A BOAT 3. BUYING A TRUCK 4. REPAIR AND SERVICING ~~5. ERECTION~~ OF AN EXISTING ICE-PLANT

How was the sub-project chosen? 5. EMPLOYMENT OF STAFF FOR 1 MEETINGS WITH DIFFERENT STAKEHOLDERS.

Expected sub project duration: 1 FINANCIAL YEAR

Section B: Environmental Issues

Will the sub-project:	Yes	No
Create a risk of increased soil erosion?		✓
Create a risk of increased deforestation?		✓
Create a risk of increasing any other soil degradation soil degradation?		✓
Affect soil salinity and alkalinity?		✓
Divert the water resources from its natural course/location?		✓
Cause pollution of aquatic ecosystems by sedimentation and agro-chemicals, oil spillage, effluents, etc.?		✓
Introduce exotic plants or animals?		✓
Involve drainage of wetlands or other permanently flooded areas?		✓
Cause poor water drainage and increase the risk of water-related diseases such as malaria?		✓
Reduce the quantity of water for the downstream users?		✓
Result in the lowering of groundwater level or depletion of groundwater?		✓
Create waste that could adversely affect local soils, vegetation, rivers and streams or groundwater?	✓	
Reduce various types of livestock production?		✓
Affect any watershed?		✓
Focus on biomass/bio-fuel energy generation?		✓

If the answer is to any of the above is "yes", please include an EMP with sub-project application.

Section C: Socio-economic Issues

Will the sub-project:	Yes	No
Displace people from their current settlement?		✓
Interfere with the normal health and safety of the worker/employee?	✓	
Reduce the employment opportunities for the surrounding communities?		✓
Reduce settlement (no further area allocated to settlements)?		✓
Reduce income for the local communities?		✓
Increase insecurity due to introduction of the project?		✓
Increase exposure of the community to HIV/AIDS?	✓	✓
Induce conflict?		✓
Have machinery and/or equipment installed for waste [illegible]?		✓
Introduce new practices and habits?	✓	
Lead to child delinquency (school drop-outs, child labour, child abuse, etc.)?		✓
Lead to gender disparity?		✓
Lead to [illegible] abuse?		✓

Lead to social evils (drug abuse, excessive alcohol consumption, crime, etc.)?	✓	

Section D: Natural Habitats

Will the sub-project:	Yes	No
Be located within or near environmentally sensitive areas (e.g. intact natural forests, mangroves, wetlands) or threatened species	✓	
Adversely affect environmentally sensitive areas or critical habitats – wetlands, woodlots, natural forests, rivers, etc.)?		✓
Affect the indigenous biodiversity (Flora and fauna)?		✓
Cause any loss or degradation of any natural habitats, either directly (through project works) or indirectly		✓
Affect the aesthetic quality of the landscape?		✓
Reduce people's access to the pasture, water, public services or other resources that they depend on?		✓
Increase human-wildlife conflicts?		✓
Agrochemical use	✓	✓
Will the sub-project:		
Involve the use of pesticides or other agricultural chemicals, or increase existing use?		✓
Cause contamination of watercourses by chemicals and pesticides?		✓
Cause contamination of soil by agrochemicals and pesticides?		✓
Experience effluent and/or emissions discharge?		✓
Export products' involve annual inspections of the producers and environmental inspections?	✓	
Require scheduled chemical applications?		✓
Require chemical application even in areas distant away from the farms?		✓
Require chemical application to be done by vulnerable group (pregnant mothers, chemically allergic persons, elderly, etc.)?		✓
Use irrigation system in its implementation?		

If the answers to any of the above is 'yes', please include an EMP with sub-project application.

Section E: Pesticides and Agricultural Chemicals.

This questionnaire will be used with the farmers groups for purpose of implementing the IPMF

1. Pest Control practices

a) Do you use any pesticides to control pests (insects, diseases, weeds) of crops each season?

Tick No if you, Yes or Yes:	Name of pesticide	Name of pest, disease, weed controlled	Number of times applied/ season	When did you apply (growth stage or month) Quantity purchased

If No, WHY?

b)If you use any of the above pesticide types, do you keep records of the:

Application location: Yes..... No.....

Date of application: Yes..... No.....

Pesticide product trade name: Yes.....No.....

Operator name: Yes..... No.....

If No, WHY?

.....

.....

c) How do you decide when to use the pesticides (tick all that apply)?

(i) We use pesticides at regular intervals throughout the season (calendar)

(ii) We use pesticides when we see pests in the field (control)

(iii) We use pesticides after field sampling and finding a certain number of pests and certain level of damage (scouting)

(iv) Told by someone to apply (specify who)

(v) Other(specify)

d) Do you use a knapsack sprayer? Yes..... No.....

If yes?

(i) Do you own it? Yes..... No.....

(ii) Do you rent it? Yes..... No.....

(iii) Do you borrow it? Yes..... No.....

e) From your experience, are there any negative/harmful effects of using pesticides?
Yes.....No.....

f) If yes, list the negative effects:

(i)

(ii)

(iii)

(iv)

(v)

(g) Do you use any kind of protective clothing while applying or handling pesticides? Yes No

Why?

h) If YES, what kind?

2. Knowledge of pesticide handling and storage (tick one in each row)

a) Do you read labels on the pesticide container before using?

Sometimes Always Never

b) How often do you wear protective clothing and other accessories like nasal mask, eye goggles, and boots when applying the pesticides?

Sometimes Always Never

c) Do you mix pesticides with your hands?

Sometimes Always Never

d) Do you observe the pre-harvest waiting periods after applying the pesticides?

Sometimes Always Never

e) After spraying, do you wait 12 hours before entering the field?

Sometimes Always Never

f) Do you store pesticides in a secure, sound and well-ventilated location?

Sometimes Always Never

g) Do you make a cocktail before applying the pesticides? (i.e., mix more than one chemical and apply them at once?)

Sometimes Always Never

h) Where do you store your pesticides?

Why do you store them there?

i) What do you do with your pesticide containers after they are empty?

j)Do you know of any beneficial insects(insects that eat harmful insects)? Yes.....No.....

k) If yes, name them:

i) .....

ii) .....

iii) .....

3. Pesticides and Health

Do you find that pesticide application is affecting the health of?

a) Persons regularly applying pesticides?

Sometimes Always Never

b) Persons working in fields sprayed with pesticides

Sometimes Always Never

c) Persons harvesting the produce

Sometimes Always Never

4. Options to Pesticides

a) From your experience, are you aware of other methods for controlling insects diseases and/or weeds besides pesticides? Yes..... No.....

b)If yes, describe the practices:

i)

ii)

iii)

iv

5. Information

a)What information do you think you need for improving your crop production and marketing?

.....

.....

.....

6. Training

a) Have you ever received any training on any of the following topics related to crop production?

Integrated Pest Management Yes..... No.....

No. of times/past yr. .....

b).Pesticide Usage Yes..... No.....

No. of times/past yr. .....

c).Pesticide Safety Yes..... No.....

No. of times/past yr. .....

d).Insect Identification Yes..... No.....

No. of times/past yr. .....

e).Disease Identification Yes..... No.....

No. of times/past yr. .....

f).Quality aspects of production Yes..... No.....

No. of times/past yr.....

7) Is there anything else that you want us to know about your crop production? .....

.....

.....

.....

.....

If the answer to the above is 'yes', please consult the IPM that has been prepared for the project.

Section F: Vulnerable and Marginalized Groups meeting requirements for OP 4.10

Are there:	Yes	No
People who meet requirements for OP 4.10 living within the boundaries of, or near the project?		✓
Members of these VMGs in the area who could benefit from the project?	✓	

All sub-project applications/proposals MUST include a completed ESMF checklist. The KCSAP CPCU and CDE will review the sub-project applications/proposals and the CDEs will sign off. The proposals will then be submitted to NPCU for clearance for implementation by communities in the proposed subprojects.

Expert Advice

The National Government through the Department of Monuments and Sites of the National Museums of Kenya can assist in identifying and, mapping of monuments and archaeological sites; and Sub-project specific ESIAs, if recommended, must be carried out by experts registered with NEMA and be followed by monitoring and review. During the process of conducting an EIA the proponent shall seek views of persons who may be affected by the sub-project. The WB policy set out in OP 4.01 requires consultation of sub-project affected groups and disclosure of EIA's conclusions. In seeking views of the public after the approval of the sub-project, the proponent shall avail the draft ESIA report at a public place accessible to project-affected groups and local NGOs/CSOs.

Completed by:

Name: Mohamed A Mohamed

Position / Community : Facilitator

Date: 4/2/2022

Field Appraisal Officer (CDE): KAHINDI YERI

Signature: .....

Date: 8-2-2022

N.E.M.A
COUNTY DIRECTOR OF
ENVIRONMENT
LAMU COUNTY

Appendix 2: Land Title

REPUBLIC OF KENYA

THE LAND REGISTRATION ACT

(No. 3 of 2012, section 108)

THE REGISTERED LAND ACT

(Chapter 300) (REPEALED)

Title Deed

Title Number LAMU EAST/PATA SCHEME/726

Approximate Area 0.036 Ha

Registry Map Sheet No. 3

This is to certify that BASIRI FISHERMEN CO-OPERATIVE SOCIETY.. REG NO. CS/10926

is (are) now registered as the absolute proprietor(s) of the land comprised in the above-mentioned title, subject to the entries in the register relating to the land and to such of the overriding interests set out in section 28 of the Land Registration Act (No. 3 of 2012) as may for the time being subsist and affect the land.

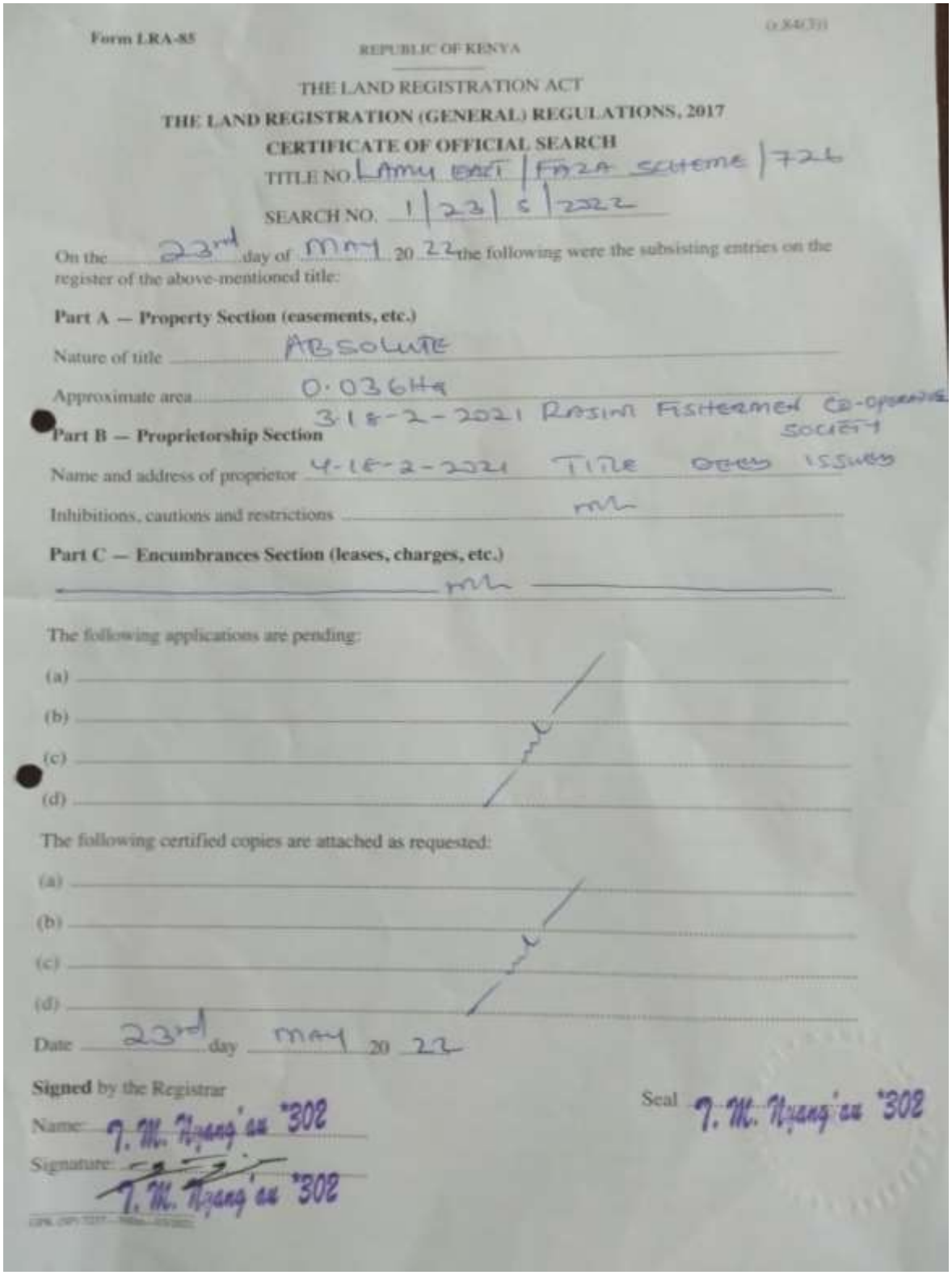
GIVEN under my hand and the seal of the .....Lamu.....District Land Registry this.....18th.....day of .....February....., 20 21

.....

Land Registrar

T. M. Ryang'au "302

Appendix 3: Land Search Report



Form LRA-85

REPUBLIC OF KENYA

THE LAND REGISTRATION ACT

THE LAND REGISTRATION (GENERAL) REGULATIONS, 2017

CERTIFICATE OF OFFICIAL SEARCH

TITLE NO. LAMU EAST / FAZA SCHEME / 726

SEARCH NO. 1 / 23 / 5 / 2022

On the 23rd day of MAY 20 22 the following were the subsisting entries on the register of the above-mentioned title:

Part A — Property Section (easements, etc.)

Nature of title ABSOLUTE

Approximate area 0.036Ha

Part B — Proprietorship Section

Name and address of proprietor 31-2-2021 RASIM FISHERMEN CO-OPERATIVE SOCIETY 4-12-2-2021 TITLE DEED ISSUED

Inhibitions, cautions and restrictions NIL

Part C — Encumbrances Section (leases, charges, etc.)

NIL

The following applications are pending:

(a)

(b)

(c)

(d)

The following certified copies are attached as requested:

(a)

(b)

(c)

(d)

Date 23rd day MAY 20 22

Signed by the Registrar

Name: T. M. Nyang'au "302"

Signature: T. M. Nyang'au "302"

Seal T. M. Nyang'au "302"

Appendix 4: Minutes of the Public participation meeting

MINUTES OF PUBLIC PARTICPATION

Meeting Title	Stakeholders Consultations Meeting for Environmental Social Impact Assessment for Faza Flake Ice-Making and Cold Storage Machines Installation
Meeting Date	16th May 2022
Meeting Time	2.23 am - 5.00PM
Venue	Faza Social Hall

1. **LIST OF PARTICIPANTS**
   See Attached Attendance List

2. **MEETING AGENDA**
   Public Consultations on the proposed construction of Lamu County Fisheries Headquarters Building were conducted as per programme outlined here-below:

   - Prayers and Introductions
   - Introduction of **the** sub-project for Rasini Fishermen Cooperative Society.
   - Introduction of the specific component of the infrastructure, display of the proposed infrastructure - architectural drawing.
   - Introduction of specific design, construction activities, structural, electrical, plumbing, climate change adaptation
   - Presentation of the specific items of the project during:
     - Pre-installation phase (design)
     - Installation phase (during civil works)
     - Operational phase (use phase)
     - De-commissioning phase (after 50 or so years)

   Positive aspects of the infrastructure during the:
   - Pre-installation phase
   - Installation phase
   - Operational phase
   - De-commissioning phase

   Discussions on environmental aspects of the project.

   Project social impacts during various phases (pre-installation, installation, operational, and de-commissioning) as relates

   - GBV (Gender Based Violence)
   - Labour Issues,
   - Sexual Exploitation Abuse,

- HIV/AIDS,
- Grievance management,

The programme was displayed and members taken through to bring them up to speed allow informed discussions after levelling of expectations and setting the theme of the meeting.

3. OPENING COMMENTS FROM CHAIR

The Chief Faza location started the meeting at 2.23 pm with a prayer. Members were asked to contribute freely and ask any questions for the benefit of the project.

4. ADOPTION OF AGENDA

The Environmental & Social Safeguards Officer appreciated the attendance by community members and highlighted the agenda of the meeting. He took the community through the importance of safeguard instrument in project execution and explained their role on environmental stewardship during the implementation of community projects. He explained the World Bank policies which are triggered during project implementation and specifically Operational Policy 4.01 (OP 4.01) which requires an ESIA to be undertaken for such projects.

The CESSO explained that the works will only be confined to those that will allow the ice plant to work without interfering with the other machines which were earlier supplied through funding from KCDP project as there may arise audit issues and according to World Bank procedures, records must be preserved for 5 years after implementation. The same would apply to lack of interference with the project as it already has audit queries. The proposed works include:

1. Installation of two flake ice-making machines
2. Installation of a cold store for fish preservation.
3. There will be other minor works such as repair of the water tower which is at risk of collapse due to rusting; plumbing works, sewerage works along the other essential works necessary for ice plant to operate.

The CESSO explained that there will be anticipated positive and negative impacts during the execution of the project.

After a lengthy discussion, the **anticipated positive impacts** highlighted were:

- The fishers and fish merchants will now access ice for fish preservation cheaply right here at Faza unlike the case previously where they had to source lake ice from Malindi or Lamu.
- This cheap flake ice will be result in better prices of fish due to reduced operation costs.
- The fishers and the cooperative will realize higher income as they will reduce post-harvest losses since now excess fish can be store to be sold later.
- The community will be able to get fish from the cold store on the days when no fishing is done especially on Friday and on religious holidays.
- The flake ice-making machines to be installed have low power ratings than the one which were in use previously and this is expected to result in low

manageable power consumption and corresponding bills hence ensure profitability by the cooperative.

- During installation of machines, there will be some employment opportunities to local youth and women will be able to do small businesses especially sale of food and drinks to the workers.

However good development projects may appear, there will always be some anticipated negative impacts and it is for this reason that an ESIA is being conducted to identify these negative impacts and suggest mitigation measures at the earliest opportunity.

The **anticipated negative impacts** identified were:

- There will be some noise generated during installation of the machines and may disturb the neighboring residents.
- There may be some dust or gaseous emissions which may affect the neighbors in one or another.
- There may be some vibrations during installation works which may disturb neighboring residents.
- During installation works, there may be temporary blockage of the pathway along the seawall and may inconvenience some residents.
- There may be some influx of foreigners who shall offer specialized services during installation works. There may be risk of spread of some diseases such as HIV/AIDS among others if they engage in unprotected sexual activity with locals.

The community members were satisfied with the discussions on the proposed project. They had other questions tough on funding for micro-projects but they were informed that the EIA team had a specific mandate on the ESIA though their concerns would be forwarded to the CPC – KCSAP.
The members were asked whether they approved the project to proceed and they approved by a show of hands.

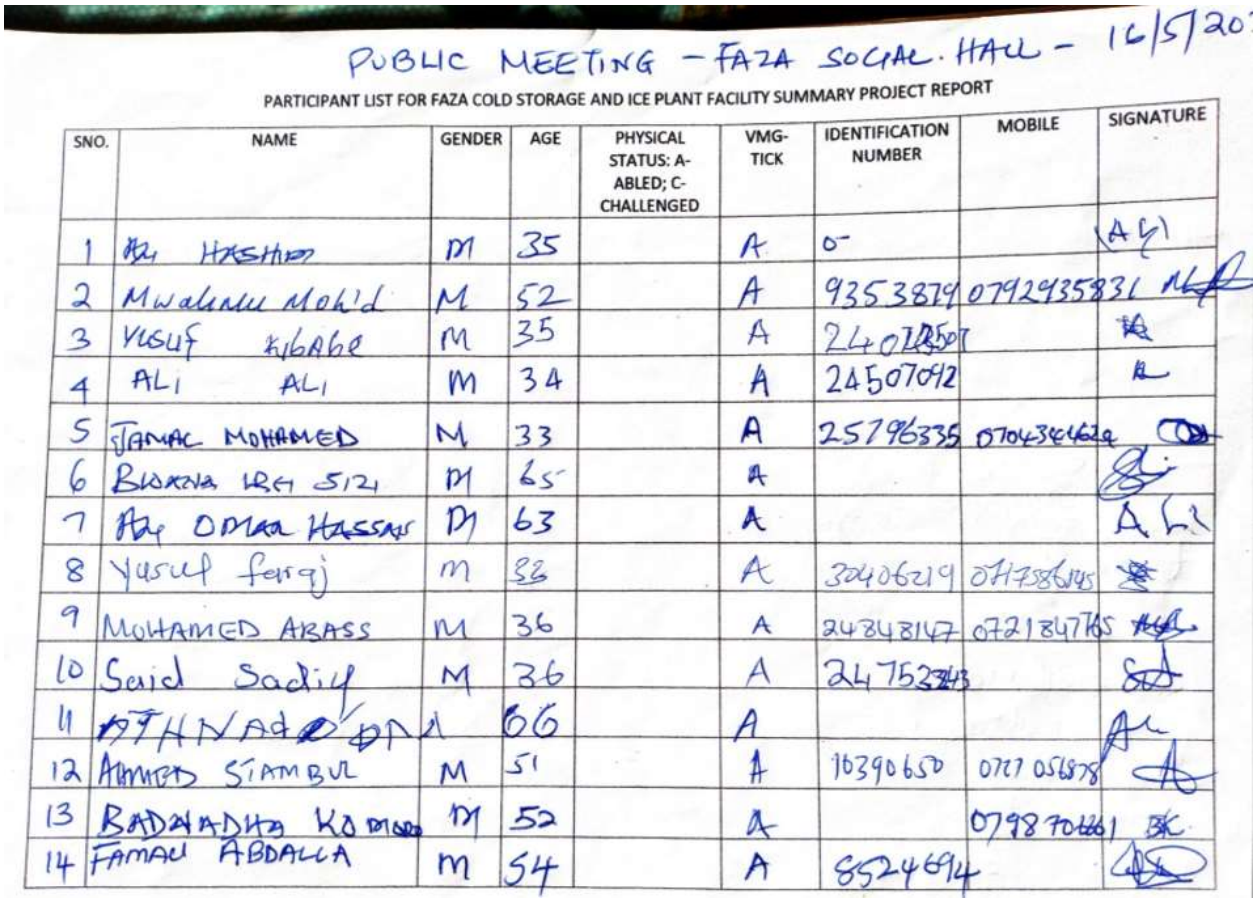
There being no other business the meeting ended at 5.00pm with a prayer.

Name of Expert: _____

Expert Signature: _____

Date: _____

Appendix 5: attendance list for the meeting



PUBLIC MEETING – FAZA SOCIAL HALL – 16/5/20

PARTICIPANT LIST FOR FAZA COLD STORAGE AND ICE PLANT FACILITY SUMMARY PROJECT REPORT

SNO.	NAME	GENDER	AGE	PHYSICAL STATUS: A-ABLED; C-CHALLENGED	VMG-TICK	IDENTIFICATION NUMBER	MOBILE	SIGNATURE
1	[illegible] HASHIM	M	35		A	0-		
2	Mwalimu Mohi'd	M	52		A	9353879	0792435831	
3	YUSUF KIGABE	M	35		A	24078507		
4	ALI ALI	M	34		A	24507042		
5	JAMAL MOHAMED	M	33		A	25796335	0704364629	
6	BUKANA [illegible] 5121	M	65		A			
7	[illegible] OMAR HASSAN	M	63		A			
8	Yusuf farqj	m	88		A	30406219	0H758645	
9	MOHAMED ABASS	M	36		A	24848147	0721847165	
10	Said Sadiq	M	36		A	24752343		
11	[illegible]		66		A			
12	AHMED SIAMBUL	M	51		A	10390650	0727 056878	
13	BADAADHA KO[illegible]	M	52		A		0798704861	
14	FAMAU ABDALLA	m	54		A	8524694		

PARTICIPANT LIST FOR FAZA COLD STORAGE AND ICE PLANT FACILITY SUMMARY PROJECT REPORT

SNO.	NAME	GENDER	AGE	PHYSICAL STATUS: A-ABLED; C-CHALLENGED	VMG-TICK	IDENTIFICATION NUMBER	MOBILE	SIGNATURE
15	BAKARI SOPHIA	M	64	A				
16	ATHUMAN BAKE	M	69	A				
17	ABASI ABD[illegible]	M	60	A		065/727	0706410699	
18	HALIMA OMAR BAS	F	35	A		25477266	0795097[illegible]	
19	AMINA SWABRI	F	34	A		24544362	0741044251	
20	JEMIMAH REHEMA	F	28	A		34029658	0[illegible]	
21	YAYE ABDALLA	F	20	A		39769602	0769[illegible]	
22	Zainab Shee	F	22	A		37516523	0703[illegible]	
23	Fardiya Yusuf	F	24	A		33096534	0792056[illegible]	
24	RIZIKI HUSSEIN	F	38			53830[illegible]	0713[illegible]	
25	Mwanahali Hussein	F						
26	RAHMA MWINYI	F	24	A		35406[illegible]	0[illegible]	
27	BAI MAHADHI	F	35	A		34566749	0110015883	
28	Mumina Abdi	F	26	A				

PARTICIPANT LIST FOR FAZA COLD STORAGE AND ICE PLANT FACILITY SUMMARY PROJECT REPORT

SNO.	NAME	GENDER	AGE	PHYSICAL STATUS: A-ABLED; C-CHALLENGED	VMG-TICK	IDENTIFICATION NUMBER	MOBILE	SIGNATURE
29	KHADIJA HUSSEIN	F	32		A	24606213	0701644057	
30	ZAINAB ALI OMAR	F	B		A	21487703	0705405173	
31	ZUHURA BAKARI	F	A		A	24122272	0724611139	
32	SUDI RAMADHANI	F	B		A		070	
33	JAMAL KHALIFA	M	25		A	36748095	0111245549	
34	MOHAMED ALI K	M	38		A	22594129	0725814785	
35	HUSSEIN SOMOBWAN	F	B		A	9352344	0718194981	
36	MOHAMED BIDA	M	B		A			moh
37	SEIF KOMBO	M	A		A	0651529	0712527473	
38	ADMIR MZEE KIRAO	M	A		A	0655089	0790807388	
39	ATHMAN MBWANA	M	A		A	53557.33	0742913167	
40	AHMED MASHUM	M	A		A	1140303	0724611135	
41	BWANA KOMBO SIZA	M	A		A			
42	HAFIDH AHMED	M	33		A	27520257	0711400498	

PARTICIPANT LIST FOR FAZA COLD STORAGE AND ICE PLANT FACILITY SUMMARY PROJECT REPORT

SNO.	NAME	GENDER	AGE	PHYSICAL STATUS: A-ABLED; C-CHALLENGED	VMG-TICK	IDENTIFICATION NUMBER	MOBILE	SIGNATURE
43	FAKRU KASSIM	M	49			9352369	0744985143	
44	HINDU YUSUF	F	35			25026244	0713439559	
45	WARDA ABDALLA	F	22			39256480	0799625	
46	UMI MMAKA	F	31			29670467	0716080524	
47	MWANACHE ABASS	F	40				0712170248	
48	TIMA BAKARI	F	26			34440444	0758885685	
49	MWANAMA SHAHAS	F	38				0713112624	
50	AMINA SHAHASI	F	38			23577752	0715083162	
60	NYASHEE MASUD	F	29			24544581	0768870677	
61	MWANASITI AHMAD	F	40			13018500	0742153541	
62	JUMBA SAID KOMBO	M	28			3021862	0729626834	
63	AMINA SAID KOMBO	F	30			27127195	0706135946	
64	Fahmi Said Ahmed	M	40	A		13536488	0792458143	

Republic of Kenya

Kenya Climate Smart Agriculture Project (KCSAP)

County Project Coordinating Unit, Lamu County

Kenya Climate Smart Agriculture Project

ATTENDANCE LIST **ACTIVITY:** FOCUSED GROUP DISCUSSION - NEIGHBOURS TO FAZA ICE PLANT **DATE:** 17/5/2022

Name	P/No/ID No.	Sex	Age a)18-35 b) >35	Position	Organization / Department	Location	Email	Phone	Signature
MULHAT HAIDAR	25887577		9	neighbour	Community	Faza		0740896531	
TIMA ALI Mohamed								0703740946	T.A
MWANAMSHA ABLU	29176878			neighbour	Community	faza		0748072634	
TIMA ABDALLA	23577044			neighbour	Community	Faza		0704897884	T.A
MWANAISHA OMAR	8524994			neighbour	Community	faza		0799309479	M.O
FATUMA MOHAMED	5354794			neighbour	Community	faza		0719786612	F.M
SAIDA ALI	A1085636			neighbour	Community	faza		0795539165	
MWANAMSHA TULA	26959741			neighbour	Community	faza		0703514054	M.T
SHAMSA ABDALLA	23932506			neighbour	Community	Faza		0765595824	S.A
UMU HAMISI	665978			neighbour	Community	faza		0706277485	U.H

Appendix 6: Key Informants

AT FAZA, LAMU COUNTY.

17/5/2022

INTRODUCTION

The proponent: Rasini Fishermen Cooperative society intends to seek NEMA approval for the proposed renovation and installation of ice flakes machine at Faza Town, Faza ward, Lamu East sub-County, Lamu County as per the provisions of Environmental Management & Coordination Act, Cap 387 and Environmental (Impact Assessment & Audit) (Amendment) Regulations 2019. We have been assigned the responsibility of undertaking an Environmental Impact Assessment for the proposed facility. We would be highly appreciative if you could offer your honest opinion on issues raised in this questionnaire and any information you give will remain confidential.

Name: HALIMA IDHIRARI KURAE

Profession: WARD ADMINISTRATION

Department: ADMINISTRATION

Tel: 0790768419

For how long have you been resident in this area? ..... Six ..... yrs.

Are you aware of the proposed development project? Y..... ✓ ..... N..... (Tick as appropriate)

In your opinion in what ways will the proposed development benefit the locals/residents?

The resident are going to gate alot of profite from that project because of ice,

List the negative anticipated risks you foresee:

Impact	During Construction works	During Operation when the ice plant is under use
Likelihood of noise disturbance	Y ..... N..... ✓	Y ..... ✓ N..... ✓

Impact	During Construction works	During Operation when the ice plant is under use
Likelihood of dust nuisance	Y ..... N...✓...	Y ...✓..... N.....
Likelihood of generating lots of solid waste	Y ..... N...✓...	Y ..... N...✓...
Likelihood of obstruction of pathways	Y ..... N...✓...	Y ..... N...✓...
Likelihood of sewage contaminating waterways (sources)	Y ..... N...✓...	Y ..... N...✓...
Risk of spread of HIV/AIDS	Y ..... N...✓...	Y ..... N...✓...
Likelihood of discrimination against women:	Y ..... N...✓...	Y ..... N...✓...
Likelihood of discrimination against differently-abled persons	Y ..... N...✓...	Y ..... N...✓...
Likelihood of utilizing child labour	Y ..... N...✓...	Y ..... N...✓...
Likelihood of sexual abuse of workers	Y ..... N...✓...	Y ..... N...✓...
Likelihood of sexual exploitation of minors	Y ..... N...✓...	Y ..... N...✓...

Any other concern(s):

Alot of money may lead other behever that not good at all.

What do you think can be done to mitigate against the negative impacts listed in (4) above?

Skills given how to used money in correct ways people need to have good and caring they need to be ecucated by others

Do you approve of the proposed installation of ice making and cold storage machinery project?
Y...✓... N..... (Tick as appropriate).

If No in (6) above, give reasons

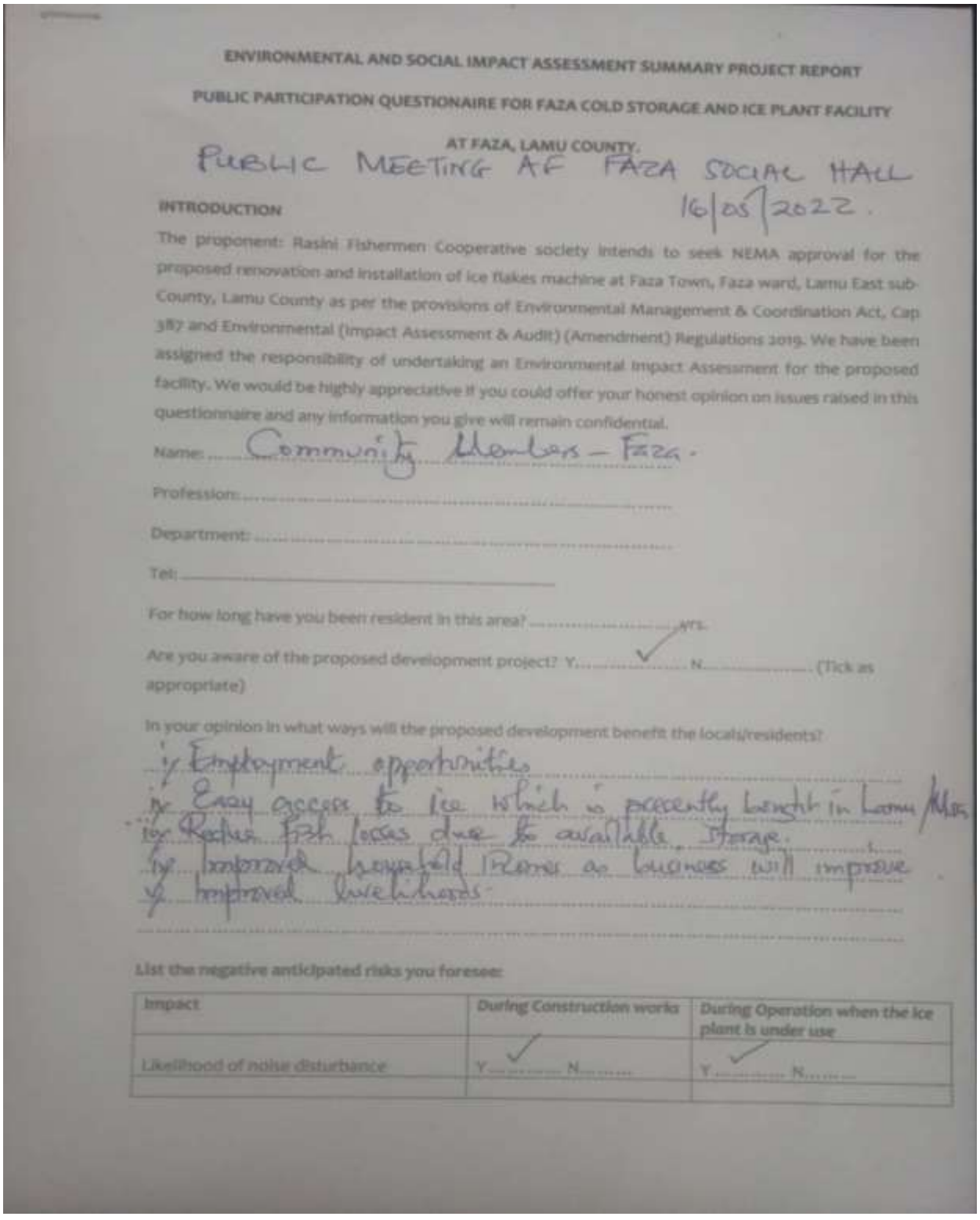
Sign: ...

Name: HALIMA IDHIRARI

Thanks for your time.

DEPUTY SUB - COUNTY ADMINISTRATOR
LAMU EAST
P O. Box 15 - 80501
FAZA

Appendix 7: Sample of a filled questionnaire



ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT SUMMARY PROJECT REPORT

PUBLIC PARTICIPATION QUESTIONAIRE FOR FAZA COLD STORAGE AND ICE PLANT FACILITY

AT FAZA, LAMU COUNTY.

PUBLIC MEETING AT FAZA SOCIAL HALL 16/05/2022.

INTRODUCTION

The proponent: Rasini Fishermen Cooperative society intends to seek NEMA approval for the proposed renovation and installation of ice flakes machine at Faza Town, Faza ward, Lamu East sub-County, Lamu County as per the provisions of Environmental Management & Coordination Act, Cap 387 and Environmental (Impact Assessment & Audit) (Amendment) Regulations 2019. We have been assigned the responsibility of undertaking an Environmental Impact Assessment for the proposed facility. We would be highly appreciative if you could offer your honest opinion on issues raised in this questionnaire and any information you give will remain confidential.

Name: Community Members – Faza.

Profession: .....

Department: .....

Tel: .....

For how long have you been resident in this area? ..... yrs.

Are you aware of the proposed development project? Y..✓.. N..... (Tick as appropriate)

In your opinion in what ways will the proposed development benefit the locals/residents?

- ✓ Employment opportunities
- ✓ Easy access to ice which is presently Lenthi in Lamu/Mom
- ✓ Reduce fish losses due to available storage.
- ✓ Improved household income as business will improve
- ✓ Improved livelihoods.

List the negative anticipated risks you foresee:

Impact	During Construction works	During Operation when the ice plant is under use
Likelihood of noise disturbance	Y..✓.. N.....	Y..✓.. N.....

Impact	During Construction works	During Operation when the ice plant is under use
Likelihood of dust nuisance	Y ✓ N	Y ✓ N
Likelihood of generating lots of solid waste	Y ✓ N	Y N ✓
Likelihood of obstruction of pathways	Y N ✓	Y N ✓
Likelihood of sewage contaminating waterways (sources)	Y ✓ N	Y N ✓
Risk of spread of HIV/AIDS	Y ✓ N	Y ✓ N
Likelihood of discrimination against women:	Y N ✓	Y N ✓
Likelihood of discrimination against differently-abled persons	Y N ✓	Y N ✓
Likelihood of utilizing child labour	Y N ✓	Y ✓ N
Likelihood of sexual abuse of workers	Y N ✓	Y N ✓
Likelihood of sexual exploitation of minors	Y N ✓	Y N ✓

Any other concern(s):

.....

.....

.....

What do you think can be done to mitigate against the negative impacts listed in (4) above?

Child labour = enforcement against child labour especially boys in fishing activities.

Noise/Dust = design to Take Care of noise and dust

HIV/AIDS = Encourage responsible sexual behaviour and screening/treatment for those infected.

Do you approve of the proposed installation of ice making and cold storage machinery project?
Y ✓ N..... (Tick as appropriate).

If No in (6) above, give reasons

.....

.....

Sign: .....

Name: FAKAU KAZUNGU KUPI

Thanks for your time. CHIEF – FAZA LOCATION

Appendix 8: Registration certificate

REPUBLIC OF KENYA

THE CO-OPERATIVE SOCIETIES ACT
(*Cap. 490, Section 6 (3)*)

Certificate of Registration

REGISTRATION No. CS/10936

I hereby certify that the society under the name of

KASINI FISHERMEN CO-OPERATIVE SOCIETY LTD

and its by-laws have this day been duly registered by me in the Register of Co-operative Societies, in pursuance of the provisions of the Act and the Rules made thereunder.

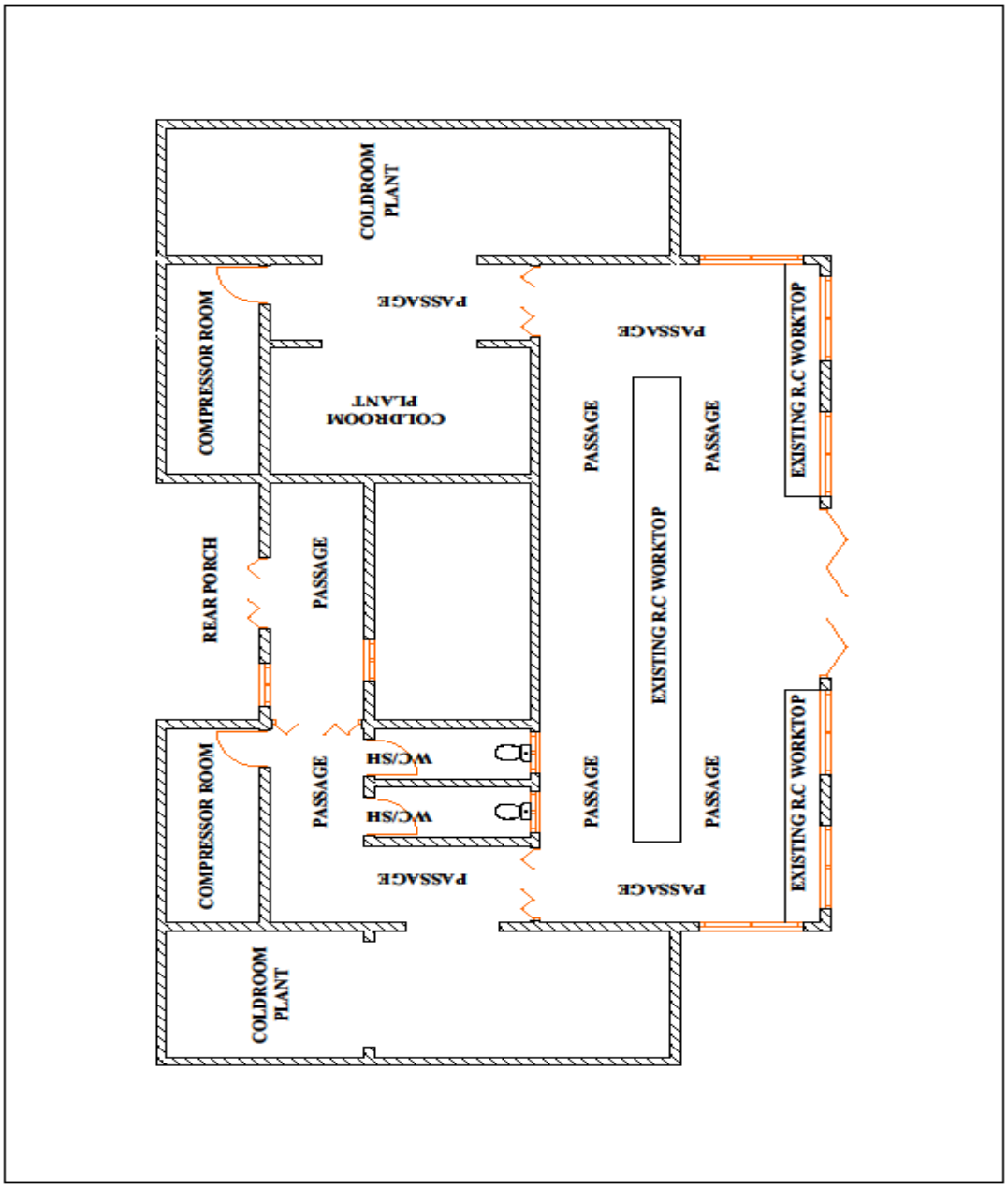
Given under my hand at Nairobi

this 14TH *day of* NOVEMBER, *20* 95

F.F. ODICHARO

Commissioner for Co-operative Development

Appendix 9: Site Layout



Appendix 10: Design drawing of equipment

Appendix 11: Copy of Experts Practicing License

FORM 7 (r.15(2))

nema

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY(NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT

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

License No : NEMA/EIA/EAPL/16663

Application Reference No: NEMA/EIA/EL/22344

M/S **Anthony P. Mbuthia**
(individual or firm) of address

P.O. Box 40-80500 LAMU

is licensed to practice in the

capacity of a (Lead Expert/Associate Expert/Firm of Experts) **Lead Expert**
registration number **7395**

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

Issued Date: **3/3/2022** Expiry Date: **12/31/2022**

Signature.....

(Seal)
Director General
The National Environment Management Authority

P.T.O.

Appendix 12: List of Stakeholders and their Roles in the Project.

SNO.	NAME OF STAKEHOLDERS	ROLES OF STAKEHOLDERS
1	Cooperative members	Resource mobilization and management of the project
2	Fishermen	Providing fish to the cold store
3	Community members	Provision of various services to the cooperative and project
4	Department of fisheries	Fish quality control
5	Department of health	Fish inspection
6	Ministry of interior	Security
7	County administration (ward)	Community mobilization and coordination
8	County Cleansing section	Waste transportation
9	Business community	Buying of products from the cooperative.