

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP) REPORT

for

UTILIZATION OF SPACES BETWEEN THE CENTRE PIVOTS TO
GROW FRUITS IN ORCHARDS AT SIKONDO GREEN-SCHEME,
KAVANGO WEST REGION, NAMIBIA

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1. INTRODUCTION AND BACKGROUND

1.1. Background

The proponent for the proposed orchard development at Sikondo Green-scheme is the **Ministry of Agriculture, Fisheries and Land Reform (MAFWLR)**. The MAFWLR is a key ministry within the Government Republic of Namibia (GRN).

The primary role and mandate of the MAFWLR are to **promote, develop, manage, and sustainably utilize the country's agriculture, fisheries, water, and land resources**.

More specifically, the MAFWLR's role encompasses a broad range of responsibilities aimed at ensuring food security, economic development, and sustainable resource management in Namibia, including:

- **Agricultural Development:** Promoting and supporting crop and livestock production, such as initiatives like the Green Schemes to enhance food security and agricultural productivity. This involves agricultural research, extension services, and infrastructure development (like irrigation systems).

This ESMP report is prepared based on the environmental and social conditions observed during fieldwork at the Sikondo Irrigation-Scheme on 19 May 2025, and suggests measures required to mitigate the potential negative impacts associated with the orchard establishment.

1.2. Introduction

Any new development at the Sikondo Irrigation Scheme will have both positive and negative environmental and social impacts. Positive impacts should be enhanced for the benefit of the community and environment, while negative impacts must be mitigated to prevent harm.

Even if a full Environmental and Social Impact Assessment (ESIA) were conducted, it would have several limitations:

- **Preliminary Nature:** The ESIA provides a preliminary, "snapshot" evaluation of potential impacts. It may not fully account for future changes at the scheme.
- **Lack of Implementation Assurance:** The ESIA focuses on assessing impacts and proposing mitigation measures but does not directly ensure that these measures are implemented and managed throughout the project's life cycle.

- **Procedural Requirement:** The ESIA is often viewed as merely a procedural step to obtain an Environmental Clearance Certificate (ECC), with less emphasis on a long-term commitment to sustainability and strong management.

1.3. Problem statement

The problem associated with designs of the pivot irrigation systems at Sikondo Irrigation Scheme is such that the spaces between the pivot systems are not efficiently used.

1.4. Need and desirability of the proposed orchard development

In order to maximize land use, the MAFWLR proposes establishing fruit orchards within the Sikondo Green-scheme, specifically utilizing the spaces between the center pivot irrigation systems. Optimisation of spaces between the pivots is need and it is supported by many legislations in Namibia as described below.

1.5. Legislation framework

National Agricultural Policy: While focused on agriculture, this policy contains provisions for sustainable natural resource management, recognizing the increasing scarcity of water and arable land.

Green Scheme Policy: The Green Scheme emphasizes *"sustainable growth of economy, maintaining & improving land capability, reduction of poverty and introducing commercial irrigation farming."*

National Land Policy: This policy also includes provisions for *"Environmentally Sustainable Land Use"* and related boards and planning.

Water Resources Management: The Department of Water Affairs (which under MAFWLR) has a clear mandate to *"promote, manage and utilize water resources sustainably and manage Namibia's water resources"*.

National Development Plans and Strategies: MAFWLR's activities are aligned with broader national development frameworks like Vision 2030 and National Development Plans (NDPs), which consistently embed principles of sustainable development and environmental protection across all sectors. Namibia's Long-Term Low-Emission Development Strategy, for example, specifically includes *"Sustainable Land Use, Forestry and Agriculture"* as a pillar.

1.6. Environmental and social impacts

The development, cultivation, and harvesting of the proposed orchards are anticipated to generate various environmental and social impacts, both positive and negative. Therefore, a key component of this project will be the identification, assessment, mitigation, and management of negative environmental and social impacts to ensure adherence to Namibian environmental legislations and sustainable development goals. Since the Sikondo Irrigation-Scheme is already an established project, which is approved for crop production, the Environmental and Social Impact Assessment (ESIA) process will not be required. However, the Environmental Clearance Certificate (ECC) shall be required from the Ministry of Environment, Forestry and Tourism (MEFT) and this will only be approved upon preparation and submission of the Environmental and Social Impact Management Plan (ESMP) report to the MEFT.

1.7. Precautionary approach principle

In order to proactively mitigate negative environmental impacts that may arise as a result of the proposed orchard development at Sikondo Irrigation Scheme, the MAFWLR would like to apply the precautionary approach principle and demonstrate to the MEFT how negative environmental impacts will be mitigated.

The **Precautionary Approach Principle** is a fundamental concept in international environmental law and policy, particularly relevant when dealing with potential environmental harm where scientific certainty is lacking. This approach is echoed in Principle 15 of the **Rio Declaration on Environment and Development** to which the MAFWLR adheres to through the GRN's environmental legislations.

The **Precautionary Approach Principle** essentially states that:

"Where there are threats of serious or irreversible damage to the environment, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

1.8. Rationale and objectives of the ESMP report

The precautionary approach principle was applied to mitigate negative environmental and social impacts by developing this ESMP report.

The rationale of this ESMP report is to meet conditions that will be stipulated in the ECC as a legal document:

- Provide an implementation framework by turning mitigation measures into actionable plans with clear responsibilities, timelines, and monitoring and evaluation activities;
- Act as a dynamic document for ongoing management, monitoring, and adaptation throughout the proposed orchard development project;
- Allow for the handling of unforeseen impacts and ensuring effective mitigation.
- Clearly define roles for environmental and social performance, fostering accountability, and
- Facilitate adaptive management through regular reviews and enhance the project's resilience.

Specific objectives of this ESMP report are to:

- List documentations (e.g. permits, method statements, SOPs, etc) required for developing orchard;
- Identify baseline environmental indicators and parameters to be measured;
- Prescribe technology and equipment required;
- Establish the MC (Environmental Management Committee) and identify human capacity requirements;
- Integrated the ESMP and baseline mitigation plan into MAFWLR's relevant policies, and
- Describe in details mitigation actions required to minimize or reduce negative impacts.

1.9 Screening

To initiate the environmental assessment process, a screening determination was carried out by uploading the Background Information Document (BID) on the Ministry of Environment, Forestry and Tourism (MEFT) portal for Environmental Impact Assessments (EIAs). Following this, a screening notice was issued, which required submission of the following supporting documents:

- The Environmental and Social Management (ESMP) report
- Proof of receipt of the screening notice (via email), as per Section 35 (1)(a)(b) of the Environmental Management Act No. 7 of 2007
- A preliminary site map showing project boundaries, coordinates (in decimal degrees), and a legend
- Curriculum Vitae of the appointed Environmental Assessment Practitioner (EAP)
- A signed declaration for the submission of assessment reports

1.9.1 Application for Consent Letter

The MAFWLR was required to prepare and submit a consent letter to the MEFT, notifying them of the proposed project.

1.9.2 Background Information Document

The BID served to inform relevant stakeholders of the MAFWLR's intent to carry out the proposed project.

1.9.3 Project Registration

The project will be officially registered on the MEFT's online EIA portal.

1.9.4 Application for Environmental Clearance Certificate (ECC)

An application for an ECC was submitted in accordance with the applicable provisions of the Environmental Management Act (No. 7 of 2007).

2. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

The proponent is committed to environmental protection during development of orchards through an Environmental and Social Management Plan (ESMP). This ESMP, outlines a clear baseline monitoring strategy. It details the environmental indicators—both physical/chemical and biological—that will be measured using specific equipment and procedures to assess the quality of surface water, groundwater, and soil both before and after development.

3. ENVIRONMENTAL CERTIFICATIONS AND DOCUMENTATIONS

Environmental certifications will include permits and certificates needed to authorize performance of orchard development as required by other GRN entities. Documentations will be communicable materials that will be required to describe, explain or instruct and communicate information regarding the underwater hull cleaning operational and monitoring procedures.

Before commencement of the proposed orchard development activities, the following environmental certifications and documentations shall be required.

Table 1: Permits and authorization.

Certification and documentation	GRN entity/competent authority	Contact person/details
Environmental Clearance Certificate (ECC)	Ministry of Environment, Forestry and Tourism	Environmental Commissioner
Water abstraction permit	Ministry of Agriculture, Fisheries, Water and Land Reform	Department of Water Affairs
Environmental and Social Management (ESMP) report	Ministry of Agriculture, Fisheries, Water and Land Reform	Agriculture Engineering Services
Inception report	Ministry of Agriculture, Fisheries, Water and Land Reform	Agriculture Engineering Services
Approved orchards development engineering design plans	Ministry of Agriculture, Fisheries, Water and Land Reform	Agriculture Engineering Services

3.1. Composition of the ECC

Contents and conditions of ECC will be provided in the ECC. Amongst others, the following conditions could be included:

- Regular environmental monitoring and evaluations on environmental performance should be conducted at the site and targets for improvements established and monitored throughout the orchard development activities.
- The ECC should be valid for a period of 3 (three) years, from the date of issue.
- On expiry of the ECC, the proponent will be required to submit within a period not exceeding one month, and in the prescribed form and manner an application to the Office of the Environmental Commissioner (OEC) of the renewal of the ECC.
- The proponent shall appoint a suitably qualified Environmental Control Officer, or site agent where appropriate, before commencement of listed activities to ensure compliance with the conditions of approval and mitigation stipulated in the approved ESMP.

- The proponent is required from date of commencing implementation of the project activities, to compile and submit environmental monitoring reports (on the project progress and the management profile) on bi-annual basis to office of the OEC.
- Any changes to, or deviations from the scope of project activities approved in respect to the assessment received and reviewed for the purpose of or granting the ECC will be subject to an amendment application and approval by the OEC prior to adopting/implementing any such changes/deviations.

4. BASELINE ENVIRONMENTAL MONITORING INDICATORS

4.1. Physical/chemical environmental indicators

Some or all of the following parameters will be measured to indicate water quality:

- Free Carbon Dioxide;
- Water temperatures;
- Dissolved oxygen (DO);
- Turbidity;
- Total suspended and dissolved solids;
- Nutrients (nitrates, nitrites, total phosphate, free chlorine, etc);
- pH, conductivity/salinity;
- Pathogens (bacteria, virus, etc), and
- Trace metals.

5. TECHNOLOGY AND EQUIPMENT REQUIREMENTS

Equipment and technologies required for ESMP implementation and baseline environmental monitoring are provided below. These equipment and technology are available from various institutions in Namibia such as NCRST (National Council on Research, Science and Technology), NUST (Namibia University of Science and Technology), UNAM (University of Science and Technology), NAMWATER (Namibia Water Corporation), MAFWLR (Ministry of Agriculture, Fisheries, Water and Land Reform) and commercial laboratories.

With regard to technologies and equipment requirements, the local capacity for baseline environmental monitoring exists in Namibia. Therefore, it will not be necessary for the proponent to purchase these technologies and equipment. Rather, it will be advisable for the proponent to collaborate with local institutions in order to invest in the local capacity for environmental baseline monitoring activities. These activities will involve hiring of environmental consultants; training of students and in-service staff in conducting baseline surveys; sample collection; sample processing and analysis, and reporting.

Table 2: Technology and equipment requirements.

Parameter	Equipment/method
Free Carbon Dioxide (CO ₂)	-Measure CO₂ directly using beverage carbonation metre. The recommended OxyGuard portable CO₂ meter is a reliable and easy-to-use instrument that measures dissolved CO₂ in water. The meter consists of a probe and a battery-powered transmitter. The meter displays CO₂ concentration and an analog signal as output. -The titration method can also be used, though not recommended.
Water temperature	-Measure using a thermometer. -The Hach HQ30D also measures temperature. -Currently there are online weather databases that provide daily water temperature data.
Dissolved oxygen	-The recommended Hach HQ30D portable multi-parameter gives maximum measurement flexibility and ease of operation with interchangeable probes and automatic parameter recognition. -The Winkler's titration method will be used for comparison.
Turbidity	-The recommended HACH 2100Q turbidometer is accurate and reliable in measuring turbidity. It is portable and battery powered, so measurements could be taken and recorded while in the field. -The HACH HQ30D also measures TDS (total dissolved solids) and could be ideal in case the HACH 2100Q turbidimeter is not available. TDS could be used to indicate turbidity.
Total suspended and volatile solids	TSS and TVS could be measured either using the HACH DR 2700, DR 2800 or DR 900. The recommended HACH DR 900 is a portable, LED-sourced colourimeter and it measures at wavelengths of 420, 520, 560, and 610 nm. Measurements could be taken and recorded while in the field, eliminating the need for sample transportation.
Nutrients (nitrates, nitrites, total phosphate, free chlorine, etc)	

pH, conductivity/salinity metre	The Hach HQ30D multi-parameter is recommended.
Pathogens	Pathological samples shall be taken for analysis of total coliforms and <i>Streptococcus sp.</i> Other indicators may be selected according to the ECO's discretion and factors inherent at site.
Trace metals	It is recommended that analysis for trace metals are performed by a commercial laboratory. The proponent or the ECO should collect samples, preserve and send them to a commercial laboratory (e.g. Analytical laboratory or NAMWATER).
Soil size analysis	Part of the sediment will be used to study grain size using the Sieving Assemblage-Wilson instrument.

6. ENVIRONMENTAL MANAGEMENT COMMITTEE

There shall be established an environmental management committee. There will be no need for the proponent to recruit new employees as the committee will only meet on quarterly basis. For specialized environmental services, the proponent may hire an Environmental Control Officer (ECO) on contract basis.

Below are proposed committee members as well as required competency and responsibilities.

Table 3: Composition of the environmental management committee.

Personnel	Competence	Responsibilities
Environmental management representative (EMR)	Should be in employment of the proponent. Should be a senior staff member with a management position in the company.	- Represent management on environmental safety and occupational issues related to underwater hull cleaning operations. - Provide support and avail resources needed to endorse and implement the company's environmental policy. - Upon advice from the ESOR and ECO, the EMR may call off an underwater cleaning operation.

Environmental safety and occupational representative (ESOR)	Should be in employment of the proponent. A minimum of grade 12, sufficient knowledge of environment, safety and ethics at work place. Preferably, a professional diver.	• Represent employees' environmental safety and occupational concerns related to orchard development activities. • Ensure other employees comply to conditions as required in the environmental compliance certificates or permits. • Where untoward situation arises that may constitute a hazard human life or environment and the equipment or other assets.
Environmental Control Officer (ECO)	Master's degree or MSc. in the field of environmental or natural resources management, Aquatic biology or water science. Knowledge of environmental impact assessment, ESMP implementation and baseline environmental monitoring is compulsory. More than 10 years of field survey co-ordination and laboratory analytical skills will an added advantage.	• The overall responsibility of the ECO is to assist the proponent in implementation of the ESMP and baseline environmental plan; ensure environmental compliance and certification with GRN policies and legislations. • ECO will advise the committee in domestication of the ESMP, scientific interpretation of results from baseline environmental surveys as well as reporting.

7. MITIGATION ACTIONS

Mitigation actions that are required to reduce or minimize negative impacts are described in **table 4.**

7.1. Impacts preparedness and response plan.

Risk is an event that may or may not happen; whereas an impact is what will happen if a risk occurs. Risks poses a significant impact on people, the environment or property. Although

they may or not happen, there is a need to be prepared to response to risks at all times.

All response actions should be geared toward the following priorities in the order below:

- **Safety** of people (always First);
- **Protection** of the Environment, and
- **Protection** of Assets.
- Emergence preparedness and response management involves 5 basic steps as follows:

Preventive actions are taken to avoid an incident.

- **Mitigation measures** are actions taken to prevent an emergency, reduce the chance of an emergency happening, or reduce the damaging effects of unavoidable emergencies.
- **Preparedness** increases the proponent's ability to respond when a risk occurs. Typical preparedness measures include developing method statement and emergence exit procedures, awareness and training for both response personnel and affected parties and conducting drills to reinforce training and test capabilities.
- **Response** is an action carried out immediately before, during, and immediately after a hazard impact, which is aimed at saving lives, reducing economic losses, and alleviating suffering. Response actions may include activating the emergency operations center, evacuating threatened employees or equipment, opening shelters and providing mass care, emergency rescue and medical care, firefighting, and sea search and rescue.
- **Recovery**: These are actions taken to return to normal or near-normal conditions, including the restoration of basic services and the repair of environmental, social and economic damages. Typical recovery actions include debris cleanup, financial assistance to individuals, rebuilding of infrastructures and key facilities, and sustained mass care for displaced Aquatic animal populations.

8. GRIEVANCE MECHANISM

The procedure the management will apply to deal with the employees' grievances will be enforced as follows:

8.1. Timely Action

The first and foremost requisite in grievance handling shall be immediate settlement as they arise. The sooner a grievance is settled, the lesser it will affect employees' performance. This requires the first line supervisors to be trained in recognizing and handling a grievance properly and promptly.

8.2. Accepting the Grievance

The supervisor shall recognize and accept the employees' grievances as and when it shall be expressed. Acceptance shall not necessarily mean agreeing with the grievance; it rather shows the supervisor's willingness to look into the complaint objectively and dispassionately.

8.3. Identifying the Problem

The grievance expressed by the employee shall be at times simply emotional, over-toned, imaginary or vague. The supervisor, therefore, shall be required to identify or diagnose the problem stated by the employee.

8.4. Collecting the Facts

Once the problem is identified as a real problem; the supervisor should, then, collect all the relevant facts and proofs relating to the grievance. The facts so collected shall be separated from the opinions and feelings to avoid distortions of the facts.

8.5. Analyzing the cause of the Grievance

Having collected all the facts and figures relating to the grievance, the next step involved in the grievance procedure shall be to establish and analyse the cause that led to grievance. The analysis of the cause shall involve studying various aspects of the grievance such as the employee's past history, frequency of the occurrence, management practices, union practices, etc. Identification of the cause of the grievance helps the management to take corrective measures to settle the grievance and also to prevent its recurrence.

8.6. Decision making

In order to take the best decision to handle the grievance, alternative courses of actions shall be worked out. These are, then, evaluated in view of their consequences on the aggrieved employee, the union and the management. Finally, a decision taken should best suite a given situation. Such decision should serve as a precedent both within the department and the company.

8.7. Implementing the Decision

The decision shall be immediately communicated to the employee and also implemented by the MAFWLR.

In case, it is not resolved, the supervisor once again needs to go back to the whole procedure step by step to find out an appropriate decision or solution to resolve the grievance.

9. EXTERNAL COMMUNICATIONS

External communications shall be handled in line with company procedures.

10. RECOMMENDATIONS

It is recommended that:

- The proponent strictly adheres to ESMP and undertake baseline environmental monitoring;
- Data from baseline environmental monitoring should be kept and availed to GRN authorities when requested, and
- The technology and equipment may be hired.

11. REPORTING

Baseline monitoring and environmental monitoring should be reported to MEFT and other authorities when requested. This should be done either by submitting quarterly, biannual or annual reports.

Table 4: Impacts preparedness and response plan.

RECEIVING ENVIRONMENTAL RECEPTORS	IMPACTS	MITIGATION ACTIONS	RESPONSIBLE PERSONS OR ENTITY
PHYSICAL AND BIOLOGICAL ENVIRONMENTAL RECEPTORS			
Air quality	- Dust Generation: De-bushing for orchard establishment and research areas may increase dust, impacting air quality and worker health, especially during dry seasons (August–September). - Pesticide Drift: Application of pesticides for fruit flies could release volatile organic compounds, affecting air quality if not controlled.	- Implement dust suppression measures (e.g., water spraying) during de-bushing. - Use low-drift pesticide application techniques and eco-friendly pest control (e.g., pheromone traps for fruit flies). - Monitor air quality during high-risk activities and provide protective gear for workers.	Proponent ECO
Noise generation	- Machinery Noise: De-bushing equipment and water pump upgrades may generate temporary noise, disturbing nearby communities and wildlife (e.g., birds nesting in retained trees). - Worker Activity: Increased human presence during land preparation and harvesting may elevate ambient noise levels.	- Schedule noisy activities during daytime hours to minimize disturbance. - Use low-noise machinery where feasible and maintain equipment to reduce noise output. - Retain shade trees to act as natural sound barriers.	Proponent ECO

Land and soil resources	- Habitat Loss: De-bushing research areas and spaces between pivots risks loss of habitat for insects, reptiles, and birds, increasing soil erosion in areas with poor soil structure. - Soil Degradation: Intensive orchard cultivation and chemical fertilizers may reduce soil fertility if not managed sustainably.	- Retain unique and shade tree species during de-bushing to preserve biodiversity. - Conduct soil tests to guide fertilizer use and adopt organic amendments to maintain soil health. - Implement erosion control measures (e.g., cover crops, contour planting).	Proponent ECO
Water quality	- Pesticide Contamination: Runoff from pesticides used for fruit flies may contaminate surface and groundwater, affecting aquatic ecosystems. - Sediment Runoff: De-bushing and land preparation may increase turbidity in nearby water bodies, impacting aquatic life.	- Use biodegradable pesticides and integrated pest management to minimize runoff. - Install silt curtains or vegetative buffers near water bodies during land preparation. - Regularly monitor water quality (pH, nutrients, contaminants) as part of ESMP.	Proponent ECO
Water demand	- Increased Water Use: Orchard establishment requires additional irrigation, straining existing water supply, exacerbated by Angola's upstream activities causing river level drops in August–September. - Irrigation Inefficiency: Current pump limitations reduce water availability, risking crop failure.	- Upgrade water pumping systems (e.g., replace old motors, improve maintenance). - Adopt water-efficient irrigation (e.g., micro-irrigation) tailored to orchard needs. - Engage with Okavango River Basin Commission to address	Proponent ECO Relevant Authorities

		transboundary water issues.	
Flora diversity	- Vegetation Loss: De-bushing may remove native flora, reducing biodiversity and affecting pollinators (e.g., bees, absent in winter). - Invasive Species Risk: Introduction of orchard species could lead to unintended spread if not monitored.	- Retain unique tree species and conduct flora surveys before de-bushing. - Plant pollinator-friendly species to support bees and enhance yields. - Monitor for invasive species and remove promptly if detected.	Proponent ECO
Fauna diversity	- Wildlife Displacement: De-bushing may displace small mammals, reptiles, and birds, disrupting local ecosystems. - Pollinator Impact: Lack of bees in winter reduces pollination, lowering orchard yields and affecting local fauna reliant on flowering plants.	- Create wildlife corridors during de-bushing to allow safe migration to nearby habitats. - Establish bee hives or pollinator habitats to support winter pollination. - Conduct pre-de-bushing fauna surveys to minimize impact on sensitive species.	Proponent ECO
SOCIO-ECONOMIC SETTING AND GOVERNANCE			
Resources efficiency, pollution prevention, and management	- Waste Generation: De-bushing and orchard operations may produce organic and chemical waste (e.g., pesticide containers), risking soil and water pollution. - Energy Use: High electricity costs for pumps increase operational footprint.	- Implement waste management plans, including proper disposal of pesticide containers. - Explore solar energy adoption to reduce electricity costs and emissions. - Recycle organic waste (e.g., compost pruned branches) to	Proponent ECO

		enhance soil fertility.	
Tourism and recreation	- Aesthetic Impact: De-bushing and orchard infrastructure may alter the natural landscape, potentially affecting eco-tourism (e.g., birdwatching) in Kavango East. - Wildlife Disturbance: Noise and activity may deter wildlife, reducing tourism appeal.	- Design orchards to blend with natural surroundings (e.g., retain shade trees). - Limit noisy activities during peak tourism seasons. - Promote agri-tourism by showcasing sustainable orchard practices.	Proponent ECO
Fishing and aquaculture	- Water Quality Impact: Pesticide and sediment runoff could affect fish populations in nearby rivers, impacting local fishing. - Water Competition: Increased irrigation may reduce water availability for potential aquaculture initiatives.	- Monitor water quality to protect aquatic ecosystems. - Coordinate water use with aquaculture plans to ensure equitable allocation. - Engage fishers in ESMP development to address concerns.	Proponent ECO
Community relations and employment	- Land Disputes: Unresolved Phase 1 land compensation issues risk reigniting community tensions, delaying Phase 2. - Employment Opportunities: Orchard establishment offers jobs for agriculture graduates, but lack of training may limit local benefits. - Worker Conditions: Insufficient shade post-de-bushing affects worker comfort and productivity.	- Resolve land disputes through transparent negotiations with traditional leaders. - Establish training programs for agriculture graduates in orchard management and pest control. - Retain shade trees and provide rest areas to improve worker conditions.	Proponent ECO Relevant Authorities
Theft and vandalism	- Crop Losses: Persistent theft attempts, though reduced, threaten orchard yields and economic viability.	- Enhance security through community engagement and	Proponent ECO

	- Community Tensions: Vandalism reflects underlying grievances, risking project sabotage.	improved relations with traditional leaders. - Install fencing and explore security technologies (e.g., cameras, drones). - Involve locals in job creation to reduce theft incentives.	
Other users	- Land Use Conflicts: Orchard expansion may limit access for community livestock grazing or other traditional uses. - Resource Competition: Increased water use could strain community access to river water, escalating tensions.	- Designate zones for orchard and community activities to minimize conflicts. - Engage stakeholders to ensure equitable water access. - Provide alternative grazing areas or support community agriculture initiatives.	Proponent ECO Relevant Authorities

OBJECTIVES

Sikondo Green Scheme seeks to establish orchards in unused areas between centre pivot systems, addressing water scarcity exacerbated by Angola's upstream activities, creating jobs for youth, and ensuring compliance with environmental regulations. The project aims to resolve land compensation disputes for phase 2 expansion, adopt sustainable practices like solar energy, and explore value addition through juice production.

VISION STATEMENT

To establish Sikondo as a model for sustainable fruit production, leveraging innovative irrigation and community partnerships to drive economic diversification, food security, and environmental stewardship in Kavango East.

MISION STATEMENT

Sikondo is dedicated to cultivating high-demand fruits, reducing youth unemployment, and fostering community harmony through transparent engagement, sustainable water management, and specialized agricultural training, ensuring long-term prosperity and ecological balance.

TARGET

The scheme targets planting high-demand crops on de-bushed research areas, resolving Phase 2 land disputes, creating jobs for agriculture graduates, and reducing operational costs through solar energy adoption, while maintaining biodiversity by retaining unique tree species.

IMPACT

Sikondo's orchards will enhance food security, open new markets through value addition, and address the youth unemployment rate. Environmental risks like habitat loss from de-bushing and pesticide contamination require mitigation through water quality monitoring and community-inclusive the ESMP to ensure sustainable outcomes.