



Safeguard Risk Identification Form (SRIF)

Section 1: Project Overview

Identification	<i>Insert Project ID# from Programme Framework Table</i> AF- 2021000095 (CTCN 2021000040)
Project Title	<i>Insert title (adding words 'project preparation proposal for' before title)</i> Solar based irrigation for women empowerment - "pay as you irrigate" as a means of water management and food security in Mozambique.
Managing Division	UNEP – Economy Division – CTCN
Type/Location	<i>[Global/Normative; Regional; National]</i> National
Region	<i>(Africa/ Europe/ North America/ Asia Pacific/ Latin America Caribbean/ West Asia)</i> Africa
List Countries	<i>Enter country name(s)</i> Mozambique
Project Description	<p>Provide the project summary and description in 2-3 paragraphs</p> <p>Mozambique is vulnerable to climate changes, being systematically affected by extreme events such as floods, cyclones, and droughts. These events have a direct impact on agriculture. Considering that Mozambique is struggling to feed its 30 million people over the country, which in most cases is related to the scarcity of water for agricultural purposes, photovoltaic irrigation systems seem to be a reliable climate technology.</p> <p>The objective of this TA will be to analyse the technological and financial models to make Solar Photovoltaic Irrigation Systems (SPIS) available to the smallholder farmers, including women, in Mozambique. The Technical Assistance will include a benchmarking of the existing SPIS technologies, a cost-benefit analysis of the selected technologies that could be deployed in the community of Mubobo located in Maputo Province, district of Ressano Garcia – approximately 70km from the capital city (Maputo), in Mozambique. Finally, but most importantly, this Technical Assistance will design a “pay as you irrigate” financial model targeting smallholder farmers to ensure women empowerment, water management and food security in Mozambique. Some dissemination materials will be designed, including workshops and trainings will be held to increase the awareness of users and investors in the technology.</p>
Relevant Subprogrammes	/
Estimated duration of project	<i>Provide the estimate in months from project kickoff to completion. Do not include time spent on concept or design.</i> 18 months



Estimated cost of the project	<i>Provide the estimated cost for entire project in USD.</i> 250,000 USD
Name of the UNEP project manager responsible	Rajiv Garg
Funding Source(s)	AFCIA
Executing/Implementing partner(s)	CTCN
SRIF submission version	<i>If it is not the first time, mark the time of your previous submission</i> <i>Concept Review [] During Project development [] PRC []</i> <i>Other _____</i> Version 1
Safeguard-related reports prepared so far <i>(Please attach the documents or provide the hyperlinks)</i>	<ul style="list-style-type: none"> • <i>Feasibility report []</i> • <i>Gender Action Plan []</i> • <i>Stakeholder Engagement Plan []</i> • <i>Safeguard risk assessment or impact assessment []</i> • <i>ES Management Plan or Framework []</i> • <i>Indigenous Peoples Plan []</i> • <i>Cultural Heritage Plan []</i> • <i>Others _____</i>

Section 2: Safeguards Risk Summary

A. Summary of the Safeguards Risk Triggered

Safeguard Standards Triggered by the Project	Impact of Risk ¹ (1-5)	Probability of Risk (1-5)	Significance of Risk (L, M, H) <i>Please refer to the matrix below</i>
SS 1: Biodiversity, Ecosystems and Sustainable Natural Resource Management	2?	1	L
SS 2: Climate Change and Disaster Risks	2	2	L
SS 3: Pollution Prevention and Resource Efficiency	1	1	L
SS 4: Community Health, Safety and Security	1	1	L
SS 5: Cultural Heritage	1	1	L
SS 6: Displacement and Involuntary Resettlement	1	1	L
SS 7: Indigenous Peoples	2	2	L
SS 8: Labor and working conditions	1	1	L

B. ESS Risk Level² -

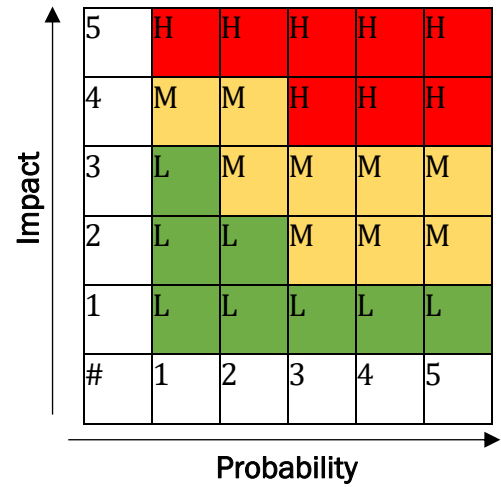
¹ Refer to UNEP Environmental and Social Sustainability Framework (ESSF): Implementation Guidance Note to assign values to the Impact of Risk and the Probability of Risk to determine the overall significance of Risk (Low, Moderate or High).

² **Low risk:** Negative impacts minimal or negligible: no further study or impact management required.



Refer to the UNEP ESSF (Chapter IV) and the UNEP’s ESSF Guidelines.

- Low risk
- Moderate risk
- High risk
- Additional information required



C. Development of SRIF and Screening Decision

Prepared by

Name: _____Rajiv Garg_____ Date: ____14 of December 2022_____

Screening review by

Name: Yunae Yi Date: 19 Dec. 2022

Cleared³

D. Safeguard Review Summary (by the safeguard team)

This is a low-risk project. However, some risks exist around the selection of the local people to be benefitted, location of the boreholes, water level and quality maintenance of the aquifers to be explored, and equity of the water access. Implication of “pay as you irrigate” should be carefully assessed for any unintended impact to the vulnerable and marginalized community members. Decision on whether to choose direct pumping, multi-use system, mini grids, or hybrid system should factor potential socioeconomic impact to the local communities, especially the marginalized and vulnerable subpopulation and ethnic groups.

The project recognizes the importance of stakeholder mapping and engagement. Structured engagement plan based on the principle of information transparency and human rights-based approach would be appreciated.

Moderate risk: Potential negative impacts, but limited in scale, not unprecedented or irreversible and generally limited to programme/project area; impacts amenable to management using standard mitigation measures; limited environmental or social analysis may be required to develop a Environmental and Social Management Plan (ESMP). Straightforward application of good practice may be sufficient without additional study.

High risk: Potential for significant negative impacts (e.g. irreversible, unprecedented, cumulative, significant stakeholder concerns); Environmental and Social Impact Assessment (ESIA) (or Strategic Environmental and Social Assessment (SESA)) including a full impact assessment may be required, followed by an effective comprehensive safeguard management plan.

³ This is signed only for the full projects latest by the PRC time.



A. Safeguard Recommendations (by the safeguard team)

- No specific safeguard action required
- Take Good Practice approach⁴
- Carry out further assessments (e.g., site visits, experts' inputs, consult affected communities, etc.)
- Carry out impact assessments (by relevant experts) in the risk areas and develop management framework/plan
- Consult Safeguards Advisor early during the full project development phase
- Other _____

Section 3: Safeguard Risk Checklist

Screening checklist	Y/N/ Maybe	Justification for the response (please provide answers to each question)
Guiding Principles (these questions should be considered during the project development phase)		
GP1 Has the project analyzed and stated those who are interested and may be affected positively or negatively around the project activities, approaches or results?	Y	The project has analyzed and has identified stakeholders who are going to be positively or negatively impacted by the project implementation in consultation with the Ministry of Science and Technology and High Education of Mozambique. Further analysis and identification of the stakeholders will be done under the deliverable 1.1.? The participation of women and youth will be proactively ensured throughout the implementation as per UNEP/CTCN rules. Local communities and governmental entities have been informed of the technical assistance through the Ministry of Science

⁴ Good practice approach: For most low-moderate risk projects, good practice approach may be sufficient. In that case, no separate management plan is necessary. Instead, the project document demonstrates safeguard management approach in the project activities, budget, risks management, stakeholder engagement or/and monitoring segments of the project document to avoid or minimize the identified potential risks without preparing a separate safeguard management plan.



		and Technology and High Education of Mozambique.
GP2	Has the project identified and engaged vulnerable, marginalized people, including disabled people, through the informed, inclusive, transparent and equal manner on potential positive or negative implication of the proposed approach and their roles in the project implementation?	The project has identified the vulnerable groups, including small holders' farmers, and will ensure gender and youth participation during the implementation phase through trainings and stakeholder 's consultation process. The mapping of the stakeholders will be revised at the very beginning of the project and an inception meeting will be planned to inform the stakeholders of the start of the initiative one month after the signature of the contract between UNEP and the implementer.
GP3	Have local communities or individuals raised human rights or gender equality concerns regarding the project (e.g. during the stakeholder engagement process, grievance processes, public statements)?	No. During the formulation of the proposal no concerns were raised by local communities on human rights. On the contrary, the stakeholders are pushing to identify the best Solar Powered Irrigation Systems and financial models to be used in Mozambique for smallholder farmers as it should have an impact on their annual revenues, and food security.
GP4	Does the proposed project consider gender-balanced representation in the design and implementation?	Yes. Gender representative participation has been considered in the design and implementation. As per the CTC-N guidelines approved by the Advisory Board under Climate Convention, a fixed percentage of the project costs are towards gender and youth.
GP5	Did the proposed project analyze relevant gender issues and develop a gender responsive project approach?	Yes, gender has been considered in the design of all the activities of the project proposal. The project team consists of one gender expert out of a team of 6 experts. The stakeholders will be mapped at the very beginning of the project with gender representative participation. An inception meeting will be organized one month after the signature of the contract between UNEP and the implementer. This inception meeting will be the opportunity to able to identify the needs, concerns, ideas, opportunities, roles in the implementation of each stakeholder.
GP6	Does the project include a project-specific grievance redress mechanism? If yes, state the specific location of such information.	Specific grievance redress mechanism
GP7	Will or did the project disclose project information, including the safeguard documents? If yes, please list all the webpages where the information is (or will be) disclosed.	CTC-N webpage and https://open.unep.org Safeguards documents will be uploaded
GP8	Were the stakeholders (including affected communities) informed of the projects and grievance	Yes, the stakeholders were informed about the project and the grievance redress mechanism through the Ministry of Science



<p>redress mechanism? If yes, describe how they were informed.</p>		<p>and Technology and High Education of Mozambique. The Response Plan of the project provides the name of the focal point along with its contact details. The Response plan is public and can easily be accessed from the CTCN webpage. (Please refer to the link provided in GP7). Stakeholders will be engaged during the implementation of the project through stakeholder consultations and capacity building that have been planned at all stages of the implementation.</p>
<p>GP9 Does the project consider potential negative impacts from short-term net gain to the local communities or countries at the risk of generating long-term social or economic burden?⁵</p>		<p>No, the project is a technology assessment and will assess solar technology options, the design of an appropriate and sustainable business model for the lowest income, and capacity building / knowledge transfer component. There are no negative impacts foreseen, on the contrary the local community is keen to that create an enabling environment for the uptake and dissemination of the technology (technology, training, and financing).</p>
<p>GP10 Does the project consider potential partial economic benefits while excluding marginalized or vulnerable groups, including women in poverty?</p>		<p>The project is expected to have direct impact on food security, as well as the economic activities of the local farmers, including women and youth. Please, refer to section 6, 10, Contribution to the SDGs of the Response Plan.</p>
<p>Safeguard Standard 1: Biodiversity, Ecosystems and Sustainable Natural Resource Management</p>		
<p><i>Would the project potentially involve or lead to:</i></p>		
<p>1.1 conversion or degradation of habitats (including modified habitat, natural habitat and critical natural habitat), or losses and threats to biodiversity and/or ecosystems and ecosystem services?</p>		<p>No. There are no conversion or degradation of habitats, neither are losses or threats to biodiversity and/or ecosystems and ecosystems services.</p>
<p>1.2 adverse impacts specifically to habitats that are legally protected, officially proposed for protection, or recognized as protected by traditional local communities and/or authoritative sources (e.g. National Park, Nature Conservancy, Indigenous Community Conserved Area, (ICCA); etc.)?</p>		<p>Mozambique’s population inhabits the seven provinces north of the River Save. The country’s largest ethno-linguistic clusters are here: Macua and related Lómuè (the foremost group in the northern provinces of Nampula, Zambezia, Cabo Delgado and Niassa), Sena (foremost in Sofala province), Chuabo and Marendje (important in Zambezia), Nyanja (foremost in Tete), and the Shona-speaking Ndaou people (dominant in Manica and important in Sofala).</p>

⁵For example, a project may consider investing in a commercial shrimp farm by clearing the nearby mangrove forest to improve the livelihood of the coastal community. However, long term economic benefit from the shrimp farm may be significantly lower than the mangroves if we consider full costs factoring safety from storms, soil protection, water quality, biodiversity and so on.



		<p>The rating of the safeguards has been scored as a risk - level 2 as the project will be implemented at national level, and its impact on traditional local communities is unknown. ?</p> <p>Nonetheless, the technical assistance aims at promoting smallholder farmers' adaptation to climate change by providing a sustainable and efficient means of irrigation through the assessment of solar technology options, the design of an appropriate and sustainable business model for the lowest income, and the organization of capacity buildings and transfer of knowledge and should not negatively impact local habitats and their traditional local communities, at the contrary, it should enable a better use of surface and groundwater, and more sustainable agriculture practices.</p>
1.3	conversion or degradation of habitats that are identified by authoritative sources for their high conservation and biodiversity value?	No, the project is not implemented in an area identified by authoritative sources for their high conservation and biodiversity value.
1.4	activities that are not legally permitted or are inconsistent with any officially recognized management plans for the area?	No, the project will not be in an area where activities are not legally permitted.
1.5	risks to endangered species (e.g. reduction, encroachment on habitat)?	No, the project is expected to create an enabling environment for the uptake and dissemination of the Solar irrigation Pumping Systems (policy, training, and financing) in Mozambique through a customized Pay as your Irrigate system that will fit smallholder farmers needs.
1.6	activities that may result in soil erosion, deterioration and/or land degradation?	No, the project is expected to create an enabling environment for the uptake and dissemination of the Solar irrigation Pumping Systems (technology, training, and financing) in Mozambique.
1.7	reduced quality or quantity of ground water or water in rivers, ponds, lakes, other wetlands?	Yes? No, solar irrigation technologies can be implemented along with efficient irrigation practices that enable an improved use of water.
1.8	reforestation, plantation development and/or forest harvesting?	No, the project is not planning any reforestation, plantation development and/or forest harvesting.
1.9	support for agricultural production, animal/fish production and harvesting	Yes Yes, the project is expected to support agricultural production by improving the access to water to smallholder farmers.
1.10	introduction or utilization of any invasive alien species of flora and fauna, whether accidental or intentional?	No.
1.11	handling or utilization of genetically modified organisms?	No.
1.12	collection and utilization of genetic resources?	No.



Safeguard Standard 2: Climate Change and Disaster Risks		
<i>Would the project potentially involve or lead to:</i>		
2.1	improving resilience against potential climate change impact beyond the project intervention period?	Yes, the project, if found feasible, will lead to increase resilience against potential climate change impact beyond the project intervention period. Implementation of SPIS for smallholder farmers could be initiated and made accessible to smallholder farmers.
2.2	areas that are now or are projected to be subject to natural hazards such as extreme temperatures, earthquakes, extreme precipitation and flooding, landslides, droughts, severe winds, sea level rise, storm surges, tsunami or volcanic eruptions in the next 30 years?	Mozambique is vulnerable to climate changes, being systematically affected by extreme events such as floods, cyclones, and droughts. These events have a direct impact on agriculture. Considering that Mozambique is struggling to feed its 30 million people over the country, which in most cases is related to the scarcity of water for agricultural purposes, photovoltaic irrigation systems seem to be a reliable climate technology.
2.3	outputs and outcomes sensitive or vulnerable to potential impacts of climate change (e.g. changes in precipitation, temperature, salinity, extreme events)?	No.
2.4	local communities vulnerable to the impacts of climate change and disaster risks (e.g. considering level of exposure and adaptive capacity)?	Yes, agriculture is a major sector of Mozambique. The “pay as you irrigate” approach will address the issue of bankability of smallholder farmers, since most farmers do not have assets to serve as collateral in formal banks when applying for loans. Women are the most disadvantaged, with only 0.4% receiving some kind of credit in Mozambique according to the Integrated Agricultural Survey 2015. Therefore, equipping female farmers with SPIS will contribute to their integration into the energy-water-food nexus as more women farmers will benefit from modern irrigation powered by low carbon solar energy as they produce crops for their livelihoods and income generation.
2.5	increases of greenhouse gas emissions, black carbon emissions or other drivers of climate change?	No.
2.6	Carbon sequestration and reduction of greenhouse emissions, resource-efficient and low carbon development, other measures for mitigating climate change	This is an adaptation project but is likely to have a positive impact on climate mitigation. As the GHG emission due to use of Solar pump would be reduced than using the diesel operated pumps.
Safeguard Standard 3: Pollution Prevention and Resource Efficiency		
<i>Would the project potentially involve or lead to:</i>		



3.1	the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts?		No.
3.2	the generation of waste (both hazardous and non-hazardous)?		No.
3.3	the manufacture, trade, release, and/or use of hazardous materials and/or chemicals?		No.
3.4	the use of chemicals or materials subject to international bans or phase-outs? (e.g. DDT, PCBs and other chemicals listed in international conventions such as the Montreal Protocol , Minamata Convention , Basel Convention , Rotterdam Convention , Stockholm Convention)		No.
3.5	the application of pesticides or fertilizers that may have a negative effect on the environment (including non-target species) or human health?		No.
3.6	significant consumption of energy, water, or other material inputs?		No, solar pumping irrigation technologies associated with best irrigation practices enable an efficient use of water.
Safeguard Standard 4: Community Health, Safety and Security			
<i>Would the project potentially involve or lead to:</i>			
4.1	the design, construction, operation and/or decommissioning of structural elements such as new buildings or structures (including those accessed by the public)?		No.
4.2	air pollution, noise, vibration, traffic, physical hazards, water runoff?		No.
4.3	exposure to water-borne or other vector-borne diseases (e.g. temporary breeding habitats), communicable or noncommunicable diseases?		No.
4.4	adverse impacts on natural resources and/or ecosystem services relevant to the communities' health and safety (e.g. food, surface water purification, natural buffers from flooding)?		No negative impacts on the contrary, positive impacts are foreseen.
4.5	transport, storage use and/or disposal of hazardous or dangerous materials (e.g. fuel, explosives, other chemicals that may cause an emergency event)?		No.
4.6	engagement of security personnel to support project activities (e.g. protection of property or personnel, patrolling of protected areas)?		No.
4.7	an influx of workers to the project area or security personnel (e.g. police, military, other)?		No.
Safeguard Standard 5: Cultural Heritage			
<i>Would the project potentially involve or lead to:</i>			
5.1	activities adjacent to or within a Cultural Heritage site?		No.
5.2	adverse impacts to sites, structures or objects with historical, cultural, artistic, traditional or religious values or to intangible forms of cultural heritage (e.g. knowledge, innovations, practices)?		No.



5.3	utilization of Cultural Heritage for commercial or other purposes (e.g. use of objects, practices, traditional knowledge, tourism)?	No.
5.4	alterations to landscapes and natural features with cultural significance?	No.
5.5	significant land clearing, demolitions, excavations, flooding?	No.
5.6	identification and protection of cultural heritage sites or intangible forms of cultural heritage?	No.
Safeguard Standard 6: Displacement and Involuntary Resettlement		
<i>Would the project potentially involve or lead to:</i>		
6.1	full or partial physical displacement or relocation of people (whether temporary or permanent)?	No.
6.2	economic displacement (e.g. loss of assets or access to assets affecting for example crops, businesses, income generation sources)?	No.
6.2	involuntary restrictions on land/water use that deny a community the use of resources to which they have traditional or recognizable use rights?	No.
6.3	risk of forced evictions?	No.
6.4	changes in land tenure arrangements, including communal and/or customary/traditional land tenure patterns (including temporary/permanent loss of land)?	No.
Safeguard Standard 7: Indigenous Peoples		
<i>Would the project potentially involve or lead to:</i>		
7.1	areas where indigenous peoples are present or uncontacted or isolated indigenous peoples inhabit or where it is believed these peoples may inhabit?	Minority groups include Macua 5.5 million (26.1%), Lómuè 1.6 million (7.6%), Sena 1.4 million (6.8%), Chuabo 785,000 (3.8%), Marendje, 75,000 (0.4%), Nyanja 500,000 (2.4%) and Ndaú 1.9 million (9%). Minority issues are not sharply drawn in the usual sense in Mozambique. The rating of the safeguards has been scored as level 2 as the project will be implemented at national level.
7.2	activities located on lands and territories claimed by indigenous peoples?	The Technical assistance will be implemented at national level. The Safeguard has been rated as risk level 2.
7.3	impacts to the human rights of indigenous peoples or to the lands, territories and resources claimed by them?	No, the project is a pre-feasibility study which will not have impacts on human rights of indigenous peoples or to the lands.
7.4	the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No, the project will focus on existing cultivations.
7.5	adverse effects on the development priorities, decision making mechanisms, and forms of self-government of indigenous peoples as defined by them?	No.
7.6	risks to the traditional livelihoods, physical and cultural survival of indigenous peoples?	No.



7.7	impacts on the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?		No.
Safeguard Standard 8: Labor and working conditions			
8.1	Will the proposed project involve hiring or contracting project staff?		Yes. The implementer will be a network member selected through the bidding process under UNGM and will be mandated to respect the UN code of conduct rules and will meet all the requisites.
	<i>If the answer to 8.1 is yes, would the project potentially involve or lead to:</i>		
8.2	working conditions that do not meet national labour laws or international commitments (e.g. ILO conventions)?		No.
8.3	the use of forced labor and child labor?		No.
8.4	occupational health and safety risks (including violence and harassment)?		No.
8.5	the increase of local or regional unemployment?		No.
8.6	suppliers of goods and services who may have high risk of significant safety issues related to their own workers?		No.
8.7	unequal working opportunities and conditions for women and men		No.