Safeguard Risk Identification Form (SRIF)

Section 1: Project Overview

Identification	*Insert Project ID# from Programme Framework Table* AF-2021000157
Project Title	*Insert title (adding words 'project preparation proposal for' before title)* Real-time mapping of flood risk in Mali based on rainfall forecasts, remote sensing and deep learning.
Managing Division	UNEP –Industry and Economic Division – CTCN
Type/Location	*[Global/Normative; Regional; National]* National
Region	*(Africa/ Europe/ North America/ Asia Pacific/ Latin America Caribbean/ West Asia)* Africa
List Countries	*Enter country name(s)* Mali
Project Description	As a landlocked country, Mali is one of the most vulnerable to climate stress due to its socio-economic status, geographical location, and climate-sensitive economy. Two-thirds of the country lies in the arid Sahara and the semi-arid Sahel. Mali is exposed to recurrent extreme events, including severe droughts, variable rainfall, and catastrophic floods. Floods are among the world's most devastating natural disasters, causing thousands of deaths, affecting billions of people, and costing the world billions of dollars every year. In Mali, flooding from rivers and rainfall causes loss of life and property almost every year. As throughout the Sahel, there has been a marked increase in the frequency and severity of floods in Mali. Climate projections also suggest that extreme rainfall (and hence flooding) will become more frequent in the future. The overall objective of this technical assistance will be to strengthen the existing early warning system for the risk of flooding in Mali based on rainfall and water level forecasts, with the help of remote sensing and deep learning. The specific objectives of this technical assistance are as follows: - To overcome the lack of accurate data for developing hydrological models using deep learning models in Sébékoro municipality in Mali using satellite and UAV data. - Precise characterisation of the types of infrastructure in at-risk areas - Integrate the PGRCI's hydrological models and flood warning system in the selected rural commune. - Implement a low-cost hazard monitoring technology based on the use of microcontrollers connected to a pressure sensor and a GSM card to transmit water levels in the selected area.
Relevant Subprogrammes	/
Estimated duration of project	*Provide the estimate in months from project kickoff to completion. Do not include time spent on concept or design.* 12 months
Estimated cost of the project	*Provide the estimated cost for entire project in USD.* 160 000 USD
Name of the UNEP project manager responsible	Rajiv Garg

Funding Source(s)	AFCIA
Executing/Implementing partner(s)	CTCN
SRIF submission version	*If it is not the first time, mark the time of your previous submission.* *Concept Review [ ] During Project development [ ] PRC [ ]* *Other _____* Version 1
Safeguard-related reports prepared so far *(Please attach the documents or provide the hyperlinks)*	• *Feasibility report [ ]* • *Gender Action Plan [ ]* • *Stakeholder Engagement Plan [ ]* • *Safeguard risk assessment or impact assessment [ ]* • *ES Management Plan or Framework [ ]* • *Indigenous Peoples Plan [ ]* • *Cultural Heritage Plan [ ]* • *Others _____*

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) *Please refer to the matrix below*
SS 1: Biodiversity, Ecosystems and Sustainable Natural Resource Management	1	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	1	1	L
SS 8: Labor and working conditions	1	1	L

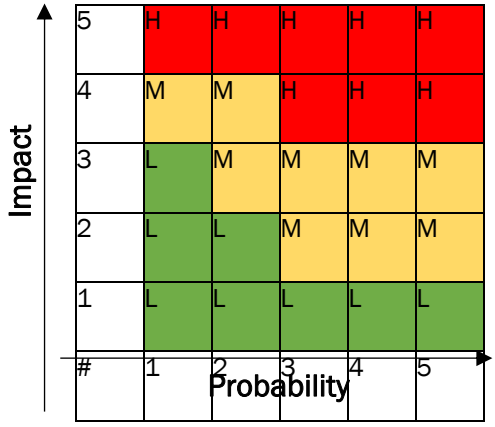
B. ESS Risk Level[2] -

[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.
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 an 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.

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: ____05 of June 2023_____

Screening review by

Name: Polycarp Odiedo: // Date: 17/10/2023

Cleared[3]

D. Safeguard Review Summary (by the safeguard team)

This is a low-risk project. However, UNEP ESSF guiding principles - resilience and sustainability; human rights, gender equality and women empowerment, accountability and leave no one behind – as outlined in section 3 are still applicable for low-risk projects.

A. Safeguard Recommendations (by the safeguard team)

- No specific safeguard action required. ☐
- Take Good Practice approach[4] ■
- 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 ☐

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

[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.

- 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 National Meteorological Agency of Mali. 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 National Designated Entity, Focal point of the CTCN.
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?	Y	The project has identified the vulnerable groups (women and youth) 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)?	*N*	No. On the contrary, the communities have expressed their anticipation for the implementation of the project that will strengthen the existing early warning system for the risk of flooding in Mali based on rainfall and water level forecasts, with the help of remote sensing and deep learning. Local communities, including local farmers and rural residents will get reliable information which they will use to plan in advance for upcoming floods and thus minimizing flood related losses.
GP4	Does the proposed project consider gender-balanced representation in the design and implementation?	*Y*	Yes. Gender representative participation has been considered in the design and implementation. The CTCN has developed a gender policy and an action plan that was approved by the AB. The gender policy

			applies a two-pronged approach to promote gender equality including (i) gender-specific initiatives meaning "addressing gender inequitable issues" and (ii) gender mainstreaming in the sense "mainstreaming gender as a way of implementing interventions in a human rights-based approach", so both men and women can enjoy the benefits equally. In other words, the first part would address the fact that women are underserved when it comes to technologies and capacity development, so historical imbalances need to be corrected, and the second part would provide equal/equitable opportunity to men and women. The AB of the CTCN includes a gender constituency and all CTCN Technical Assistances are implemented in the presence of at least one gender expert as a mandatory requirement.
GP5	Did the proposed project analyze relevant gender issues and develop a gender responsive project approach?	Y	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 9 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.	Y	Yes. Specific grievance redress mechanism will be applied as this is project implemented through AFCIA. [5]
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.	Y	CTC-N webpage and www.open.unep.org Safeguards documents will be uploaded after approval.
GP8	Were the stakeholders (including affected communities) informed of the projects and grievance redress mechanism? If yes, describe how they were informed.	Y	Yes, the stakeholders were informed about the project and the grievance redress mechanism through the National Meteorological Agency of Mali. 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. Stakeholders will be engaged during the implementation of the project through stakeholder consultations and capacity

[5] https://wedocs.unep.org/bitstream/handle/20.500.11822/32023/ESSFRM.pdf?sequence=13#:~:text=UNEP's%20Stakeholder%20Response%20Mechanism%20(SRM,submit%20complaints%20directly%20to%20UNEP.

		building that have been planned at all stages of the implementation.
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?[6]	N	There are no negative impacts foreseen by the implementation of this project.
GP10 Does the project consider potential partial economic benefits while excluding marginalized or vulnerable groups, including women in poverty?	N	No. The project presents potential economic benefits with the development of a strengthened early warning system for the risk of flooding based on rainfall and water level forecasts, with the help of remote sensing and deep learning. Local communities, including local farmers and rural residents will get reliable information which they will use to plan for upcoming floods and thus minimizing flood related losses. The response plan will include marginalized and vulnerable groups, throughout the implementation of the technical assistance, by embedded gender mainstreaming in the activities
Safeguard Standard 1: Biodiversity, Ecosystems and Sustainable Natural Resource Management		
Would the project potentially involve or lead to:		
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?	N	No. There are no conversion or degradation of habitats, neither are their losses or threats to biodiversity and/or ecosystems and ecosystems services. The project will lead to protection of biodiversity through prevention of flood related losses that will result from having an effective and data driven early warning system.
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.)?	N	Under the Malian legislation in force, protected areas are national parks, nature reserves, wildlife reserves, special reserves or sanctuaries and biosphere reserves. The three RAMSAR sites located in the Inner Niger River Delta are considered protected areas. The project will be implemented in Sébékoro, which is not near this area. The rating of the safeguards has been scored as a risk - level 1 which is the lowest as the project will have no negative impact to habitats that are legally protected or any habitats in general. On the contrary, the project will lead to enhanced protection of the highlighted areas through the preparedness that will arise from having effective early warning system.

[6]For 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.

1.3	conversion or degradation of habitats that are identified by authoritative sources for their high conservation and biodiversity value?	N	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?	N	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)?	N	No, the project does not pose risk to endangered species.
1.6	activities that may result in soil erosion, deterioration and/or land degradation?	N	No. The flood early warning system will contribute to the prevention of soil erosion and degradation and erosion
1.7	reduced quality or quantity of ground water or water in rivers, ponds, lakes, other wetlands?	N	No, the project will have no impact on both the quality and quantity of ground water
1.8	reforestation, plantation development and/or forest harvesting?	N	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	Y	Yes, the project is expected to support climate resilient agricultural production by Capacity building for adaptation and resilience to climate change in the agricultural sector in Mali through, improvement in the quality of climate information or reduction in vulnerability to flooding.
1.10	introduction or utilization of any invasive alien species of flora and fauna, whether accidental or intentional?	N	No.
1.11	handling or utilization of genetically modified organisms?	N	No.
1.12	collection and utilization of genetic resources?	N	No.
Safeguard Standard 2: Climate Change and Disaster Risks			
Would the project potentially involve or lead to:			
2.1	improving resilience against potential climate change impact beyond the project intervention period?	Y	Yes, the project, will lead to increased resilience against potential climate change impacts beyond the project intervention period through strengthening of the existing early warning system from the risk of flooding in Mali based on rainfall and water level forecasts, using remote sensing and deep learning.
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?	N	The project is implemented at a community level to prevent the excessive losses which are associated with flooding due to insufficient climate information and data in the existing flood warning system.
2.3	outputs and outcomes sensitive or vulnerable to potential impacts of climate change (e.g., changes in precipitation, temperature, salinity, extreme events)?	N	No.
2.4	local communities vulnerable to the impacts of climate change and disaster risks (e.g., considering level of exposure and adaptive capacity)?	Y	Yes, the technical assistance will involve the vulnerable farmers in Mali who face flood induced losses. The project is a pathway to the improvement of the climate information including warning received by farmers and

			other local communities and will improve their adaptive capacity.
2.5	increases of greenhouse gas emissions, black carbon emissions or other drivers of climate change?	N	No.
2.6	Carbon sequestration and reduction of greenhouse emissions, resource-efficient and low carbon development, other measures for mitigating climate change	N	This is an adaptation project and will have no impact on emissions.
Safeguard Standard 3: Pollution Prevention and Resource Efficiency			
Would the project potentially involve or lead to:			
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?	N	No.
3.2	the generation of waste (both hazardous and non-hazardous)?	N	No.
3.3	the manufacture, trade, release, and/or use of hazardous materials and/or chemicals?	N	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)	N	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?	N	No.
3.6	significant consumption of energy, water, or other material inputs?	N	No.
Safeguard Standard 4: Community Health, Safety and Security			
Would the project potentially involve or lead to:			
4.1	the design, construction, operation and/or decommissioning of structural elements such as new buildings or structures (including those accessed by the public)?	N	No.
4.2	air pollution, noise, vibration, traffic, physical hazards, water runoff?	N	No.
4.3	exposure to water-borne or other vector-borne diseases (e.g., temporary breeding habitats), communicable or noncommunicable diseases?	N	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)?	N	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)?	N	No.
4.6	engagement of security personnel to support project activities (e.g., protection of property or personnel, patrolling of protected areas)?	N	No.
4.7	an influx of workers to the project area or security personnel (e.g., police, military, other)?	N	No.
Safeguard Standard 5: Cultural Heritage			

Would the project potentially involve or lead to:			
5.1	activities adjacent to or within a Cultural Heritage site?	N	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)?	N	No.
5.3	utilization of Cultural Heritage for commercial or other purposes (e.g., use of objects, practices, traditional knowledge, tourism)?	N	No.
5.4	alterations to landscapes and natural features with cultural significance?	N	No.
5.5	significant land clearing, demolitions, excavations, flooding?	N	No.
5.6	identification and protection of cultural heritage sites or intangible forms of cultural heritage?	N	No.
Safeguard Standard 6: Displacement and Involuntary Resettlement			
Would the project potentially involve or lead to:			
6.1	full or partial physical displacement or relocation of people (whether temporary or permanent)?	N	No.
6.2	economic displacement (e.g., loss of assets or access to assets affecting for example crops, businesses, income generation sources)?	N	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?	N	No.
6.3	risk of forced evictions?	N	No.
6.4	changes in land tenure arrangements, including communal and/or customary/traditional land tenure patterns (including temporary/permanent loss of land)?	N	No.
Safeguard Standard 7: Indigenous Peoples			
Would the project potentially involve or lead to:			
7.1	areas where indigenous peoples are present, or uncontacted or isolated indigenous peoples inhabit or where it is believed these peoples may inhabit?	N	No. Close to half of Mali's population consists of Manding (or Mandé) peoples, including the Bambara (Bamana) and the Malinké. The largest and dominant ethnic group, the Bambara, live in central and southern Mali along the middle Niger Valley. The Peuhl (Fula, Fulani) are spread across western Africa. In Mali, they live predominantly in the great inland delta of the Niger. The Senoufo, who call themselves Siena, are an important ethnic group in south-east Mali. The Soninké, or Saracolé, live in north-west Mali, in the Sahelian zone along the Senegal River. The Songhai are mostly settled subsistence farmers in south-eastern Mali, in the Niger valley from Djenné to Ansongo. The Tuareg and Maure (Moors) live in northern Mali. The Dogon live in the Mopti plateau region around Bandiagara. Bobo (Bwa) live in the San and Tominian regions of Mali.

		The homeland of the Xaasongaxango (Khassonke), known as the Khasso, is in western Mali. The project will take place in Sékéboro which is not an area where indigenous peoples are present.
7.2 activities located on lands and territories claimed by indigenous peoples?	N	The Safeguard has been rated as risk level 1 as it will not involve activities on lands or territories claimed by indigenous peoples.
7.3 impacts to the human rights of indigenous peoples or to the lands, territories and resources claimed by them?	N	No
7.4 the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	N	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?	N	No.
7.6 risks to the traditional livelihoods, physical and cultural survival of indigenous peoples?	N	No.
7.7 impacts on the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?	N	No.
Safeguard Standard 8: Labor and working conditions		
8.1 Will the proposed project involve hiring or contracting project staff?	Y	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.
If the answer to 8.1 is yes, would the project potentially involve or lead to:		
8.2 working conditions that do not meet national labor laws or international commitments (e.g. ILO conventions)?	N	No.
8.3 the use of forced labor and child labor?	N	No.
8.4 occupational health and safety risks (including violence and harassment)?	N	No.
8.5 the increase of local or regional unemployment?	N	No.
8.6 suppliers of goods and services who may have high risk of significant safety issues related to their own workers?	N	No.
8.7 unequal working opportunities and conditions for women and men	N	No.