# Risk Assessment and Mitigation Plan

*for the Technical Assistance on:*

The Radio-Internet Climate Technology for Agricultural Resilience: Harnessing the combined potential of Radio and Internet to enhance agricultural resilience against climate change disasters in rural Kebbi State, North-western Nigeria (RANETA)

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## LIST OF ACRONYMS

| | |
|---|---|
| CTCN | Climate Technology Centre and Network |
| GHI | Green Habitat Initiative |
| NiMet | Nigerian Meteorological Agency |
| NCCC | National Council on Climate Change |
| NGO | Non-Governmental Organisation |
| M&E | Monitoring and Evaluation |
| RANETA | The TA for Radio-internet System for Agricultural Resilience |
| TA | Technical Assistance |
| ToC | Theory of Change |
| UNFCCC | United Nations Framework Convention on Climate Change |

## 1. Introduction and Context

This document outlines the risk assessment and mitigation recommendations of the technical assistance on using Radio and Internet Technology for Agricultural Resilience (RANETA) from GHI to NiMet. It is a living document and will be revisited and utilised continuously throughout the duration of the TA.

The Radio-Internet climate technology for Agricultural Resilience (RANETA) is a unique exploitation of the Radio and Internet to afford rural communities the opportunity to leverage technology and radio, which has widespread use in rural communities to build the resilience of smallholder agricultural practitioners, promote wider use of agrometeorological services to improve data availability, climate forecasting, early warning, adaptation planning and decision making in the agricultural sector for the Kebbi State in Nigeria. In the medium and long term, this project aims to reduce climate risks in agricultural production, thereby improving food supply and livelihood security.

The overall objective of this technical assistance will be to pilot the RANET (Radio Internet System) in Kebbi State, Nigeria. RANETA is a unique exploitation of the Radio and Internet to afford rural communities the opportunity to leverage technology and radio, which has widespread use in rural communities to build the resilience of smallholder agricultural practitioners, promote wider use of agrometeorological services to improve data availability, climate forecasting, early warning, adaptation planning and decision making in the agricultural sector for the Kebbi State in Nigeria. In the medium and long term, this project aims to reduce climate risks in agricultural production, improving food supply and livelihood security.

The specific objectives of this technical assistance are as follows:

I. Understand existing meteorological climatological equipment used by NiMet and available in Kebbi State, Nigeria.
II. Define the needs of the local farmers of Kebbi State as well as the expectations of the Federal Ministry of Environment and NiMet.
III. Benchmark possible technologies that could be used to support the deployment of the RANETA and identify possible barriers and challenges.
IV. Define, select, design, and implement a "weather and climate information service system" in Kebbi State to support decision-making for the agricultural sector using the Radio-Internet System (RANET) or similar technology.
V. Ensure that information on future weather conditions is relevant and timely to support strategic and tactical crop management decisions.
VI. Ensure capacity building for both system administrators and system users.

## 2. Stakeholders in the Risk Management Plan

Key stakeholders that will be directly engaged in the risk management of the technical assistance include, but are not limited to:

I. Green Habitat Initiative (GHI) - The TA implementer
II. Nigerian Meteorological Agency (NiMet) - The project proponent
III. Kebbi State Ministries of Agriculture, Environment and Budget & Economic Planning.
IV. Rural farmer cooperatives/ Groups.
V. Radio broadcasting organisation.
VI. Intervention community heads.
VII. Religious clerics
VIII. Nigeria Security and Civil Defence Corps (NSCDS)

A detailed stakeholder assessment and mapping is prepared in another document.

## 3. Risk Identification and Mitigation Strategies

| S/N | Identified Risks | Mitigation Strategy |
|---|---|---|
| **Technological Risks:** | | |
| 1 | Internet Connectivity Issues: Limited internet access or unstable connections could hinder project activities. | Backup Internet Options: Conduct a robust mobile network analysis and establish alternative internet connections through satellite or mobile networks. |
| 2 | Radio Transmission Interference: Environmental factors or technical issues might disrupt radio broadcasts. | Radio Broadcast Redundancy: Implement backup transmission systems and regularly monitor radio equipment. |
| **Operational and Financial Risks:** | | |
| 3 | Supply Chain Disruptions: Delays or shortages in equipment or materials could impede project progress. | Diversified Suppliers: Identify multiple vendors for critical supplies to mitigate supply chain disruptions. |
| 4 | Human Resource Constraints: Staff turnover, illness, or lack of training might affect project implementation. | Cross-Training: Ensure that team members are proficient in multiple roles to address human resource constraints. |
| 5 | Financial Risks: Funding shortages, budget overruns, or financial constraints due to price instability can impact project implementation. | Monitoring budget expenditures closely, and developing contingency plans for funding gaps. |
| **Environmental Risks:** | | |
| 6 | Climate Variability: Extreme weather events such as droughts or floods could impact agricultural activities. | Climate-Resilient Farming Practices: Promote drought-resistant crops and water conservation techniques. |
| 7 | Pest or disease Outbreaks: Insect infestations or crop diseases could damage crops. | Early Warning Systems: Implement monitoring systems for pest outbreaks and weather forecasts to enable timely interventions. |
| **Security Risks:** | | |
| 8 | Political Instability: Civil unrest or conflicts might disrupt project operations. | Community Engagement: Build strong relationships with local communities to enhance project security and sustainability through community ownership. |
| 9 | Theft or Vandalism: Equipment or infrastructure could be targeted by criminals. | Contingency Plans: Develop protocols for evacuations or lockdowns in response to security threats. |
| 10 | Social Risk: Community resistance or cultural misunderstandings around key | Engage with the cultural influencers (i.e. religious clerics and traditional authorities) to build trust and understanding and |

| | | |
|---|---|---|
| | project concepts (i.e. weather forecasting etc) could affect project acceptance and effectiveness. | address concerns through transparent communication and involvement. |

# 4. Risk Matrix

| | | Consequence | | | | |
|---|---|---|---|---|---|---|
| | | Negligible 1 | Minor 2 | Moderate 3 | Major 4 | Catastrophic 5 |
| Likelihood | 5 Almost certain | Moderate 5 | High 10 | Extreme 15 | Extreme 20 | Extreme 25 |
| | 4 Likely | Moderate 4 | High 8 | High 12 | Extreme 16 | Extreme 20 |
| | 3 Possible | Low 3 | Moderate 6 | High 9 | High 12 | Extreme 15 |
| | 2 Unlikely | Low 2 | Moderate 4 | Moderate 6 | High 8 | High 10 |
| | 1 Rare | Low 1 | Low 2 | Low 3 | Moderate 4 | Moderate 5 |

## 5. Risk score

| S/N | Identified Risks | Risk Score |
|---|---|---|
| **Technological Risks:** | | |
| 1 | Internet Connectivity Issues: Limited internet access or unstable connections could hinder project activities. | 12 |
| 2 | Radio Transmission Interference: Environmental factors or technical issues might disrupt radio broadcasts. | 5 |
| **Operational Risks:** | | |
| 3 | Supply Chain Disruptions: Delays or shortages in equipment or materials could impede project progress. | 10 |
| 4 | Human Resource Constraints: Staff turnover, illness, or lack of training might affect project implementation. | 4 |
| **Environmental Risks:** | | |
| 5 | Climate Variability: Extreme weather events such as droughts or floods could impact agricultural activities. | 5 |
| 6 | Pest or disease Outbreaks: Insect infestations or crop diseases could damage crops. | 2 |
| **Security Risks:** | | |
| 7 | Political Instability: Civil unrest or conflicts might disrupt project operations. | 3 |
| 8 | Theft or Vandalism: Equipment or infrastructure could be targeted by criminals. | 6 |
| 9 | Financial Risks: Funding shortages, budget overruns, or financial constraints due to price instability can impact project implementation. | 5 |
| 10 | Social Risk: Community resistance or cultural misunderstandings around key project concepts (i.e. weather forecasting etc) could affect project acceptance and effectiveness. | 10 |

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