Gender Assessment and Action Plan (GAAP)

Objective of the Gender Assessment and Action Plan (GAAP):

- The GAAP should be developed in alignment with the Technical Assistance Response Plan, ensuring that gender mainstreaming is effectively integrated both throughout the implementation process and as a key outcome of the technical assistance.

Process for filling in the template:

- The GAAP form is filled by the assigned gender focal point, starting with gathering relevant data to inform the process. The form includes project details, an analysis of gender gaps using the assessment table, and actionable steps in the action plan with clear responsibilities and timelines. Once finalized, the GAAP is integrated into the TA implementation plan. Effective monitoring and reporting of gender-related outcomes should be documented in the closure report to ensure accountability and impact.

GAAP Overview and Context:

Project details	Title of technical assistance	Feasibility research of Solar Electric-Based Cold Warehouse equipped with Low-temperature Latent Heat Material for Fruit Storage in Bangladesh Climate Conditions
	TA Response Plan Reference Number	2022000026
	Implementing partner	Korea Institute of Industrial Technology
	Country(ies)	Bangladesh
GAAP purpose	Brief overview of the technical assistance objectives	The TA focuses on examining the design, piloting, and evaluation of solar-powered cold storage systems utilizing low-temperature latent heat materials. It seeks to explore their potential to address post-harvest losses of fruits and vegetables in rural Bangladesh and to assess the suitability of off-grid cold storage solutions under prevailing climatic, agricultural, and infrastructure conditions.
	How gender mainstreaming aligns with the TA goals	Gender mainstreaming directly supports the TA goals by integrating women farmers and workers—key actors in post-harvest activities such as sorting, storage, and local distribution—into the installation, operation, and utilization of farm-level cold storage facilities, thereby enhancing utilization efficiency, reducing post-harvest losses, and improving farm income. In addition, strengthening women's participation in preparatory and enabling activities related to rural access and transportation infrastructure, together with targeted technical training on cold storage systems, ensures more equitable benefit-sharing and reinforces the long-term sustainability and local ownership of the intervention.
Stakeholder engagement	List of stakeholders (e.g., government agencies, local	- Farmers' cooperatives - Renewable energy providers

	organizations, community groups)	- Local government engineering department (LGED) - Bangladesh Women Foundation
	Gender responsive representation demonstrating how women and marginalized groups are involved at each level	Infrastructure and initial phase: Women and marginalized groups participate in preparatory and infrastructure-related activities that support access to cold storage installation, creating opportunities to build skills and practical experience. Cold storage operations and technical phase: Women's participation in technical and operational roles related to cold storage is expanded through targeted training and capacity building. Cold chain development phase: Women are supported to advance into managerial, leadership, and entrepreneurial roles across the cold chain value chain.
Contact details	Point of contact for GAAP (Gender expert) implementation (Name, email, phone number)	Inhan KIM, ian3927@naver.com, +82 51 802 0535

2. Gender Assessment

2.1 Overview of gender context

Brief analysis of gender roles, norms, and dynamics in the target region/sector	In Rajshahi, gender roles continue to be influenced by patriarchal norms, with men generally holding greater decision-making authority and participation in economic activities, while women are more commonly associated with domestic and caregiving responsibilities. Although educational opportunities for women have increased, limitations related to mobility and participation in public spaces persist. In the labor market, women are often concentrated in lower-paid positions, face limited opportunities for advancement, and experience a double burden of paid work and unpaid care responsibilities. Along with socioeconomic and rural–urban disparities, may further reinforce gender inequalities. While shifts in attitudes are observable among younger generations, broader structural changes appear to be progressing gradually.
A comprehensive analysis of gender barriers/necessities in the specific sector, i.e. energy, water, food systems, etc.	In Bangladesh's agricultural and food systems, women play a significant role in production and post-harvest activities, yet they continue to encounter multiple barriers that affect their effective participation in technology-intensive and higher-value segments of the sector. These barriers include limited land ownership and control over productive assets, restricted access to credit, agricultural extension services, and climate-resilient technologies, as well as gendered divisions of labor and mobility constraints linked to unpaid care responsibilities.

	Such structural and socio-cultural factors may limit women's access to markets, technical training, and decision-making related to energy- and infrastructure-dependent systems such as cold storage. This context underscores the relevance of gender-responsive policies, services, and infrastructure to support women's participation, productivity, and access to benefits within the agricultural and food systems sector.

2.2 Gender Assessment Table

Aspect	Issues to be addressed	Findings	Sources of data
Access and use	Do women and men have equitable access to climate technologies, resources, and services provided through the TA?	Despite women's active involvement in post-harvest activities, their access to climate-resilient technologies remains constrained by structural barriers, including limited ownership of assets and credit, restricted access to technical training, and limited decision-making authority over technology adoption. In this context, the Technical Assistance (TA) is designed to help address these gaps by providing women with targeted training on solar-powered refrigeration technologies and related resources, with the aim of improving their access to and capacity to utilize climate technologies more effectively.	- Technical Assistance Response Plan and Project documentation - UN Women – "How gender inequality and climate change are interconnected" - UNFCCC – "Gender and Climate Change Adaptation" - UN Women / UNDP Fact Sheet – Women, Gender Equality and Climate Change
	How does the TA address the barriers described in the general analysis in 2.2	By institutionalizing women's participation from the on-site installation and operational stages of solar-powered cold storage facilities, the TA is intended to help address structural barriers related to limited access, exclusion from decision-making processes, and unequal distribution of benefits. In addition, the TA plans to establish a structured women's participation plan and provide tailored training on relevant technologies, as well as on the operation and management of cold storage facilities, which may contribute to reducing technical and capacity-related constraints and supporting women's ability to derive tangible and sustainable benefits from the intervention.	- Technical Assistance Response Plan and Project documentation - UNEP – Gender and climate action - UN Women – Gender integration in renewable energy policy - UNFCCC – Gender and Climate Change Guidelines & Tools
Participation	Are gender experts involved in all stages of the TA? Or Are consultations with women´s and	The Gender Focal Point for the Technical Assistance (TA) will participate in local seminars related to cold storage facilities, take part in	- Technical Assistance Response Plan and

	gender rights organisations considered?	preparatory activities related to rural road and farm-road improvement, and engage in consultations with local women's and gender-focused organizations during the on-site installation and operational phases of the cold storage facilities.	Project documentation
	What best practices can enhance women's participation in the TA?	Women's participation in the TA may be enhanced through the provision of customized technical and basic business management training related to the TA technology, taking into account women's roles and constraints. In addition, collaboration with local women's rights and community-based organizations may support the dissemination and practical use of the TA technology by women, while helping to address participation barriers at the local level.	- Technical Assistance Response Plan and Project documentation - World Bank – Training, Skills & Information | Gender Toolkit
Leadership	Do women have leadership positions in climate technology and the specific sector?	Women constitute a significant portion of Bangladesh's agricultural workforce, contributing more time and labor than men, particularly to post-harvest activities such as processing rice, vegetables, and fish products. However, the ultimate decision-making power for these activities remains concentrated among men.	- Technical Assistance Response Plan and Project documentation - IWMI – The invisibility of women's labor in Bangladesh's agriculture
Scaling-up and transfer	Are the training materials and delivery methods designed to address gender-specific needs or challenges?	The training materials and delivery methods are planned to be developed and implemented based on an analysis of approaches that are appropriate to the local context in Bangladesh where the technical assistance will be carried out.	- Technical Assistance Response Plan and Project documentation
	Are financial mechanisms or models in place to ensure accessibility for women and marginalized groups;	*At present, there are no specific financial mechanisms or models in place to ensure accessibility for women and marginalized groups. However, through this technical assistance project, consultations will be held with relevant institutions and stakeholders to explore opportunities for women and marginalized groups to operate solar-powered cold storage facilities, and to consider measures to improve accessibility in the future.*	- Technical Assistance Response Plan and Project documentation

	Is the technology easily maintained and operated by local communities.	The solar-powered cold storage warehouses considered under the TA are designed for use by small-scale farmers in off-grid areas and are expected to be operable at the local farm level. However, the technologies that make up the cold storage units—such as the solar power system and the refrigeration system—require specialized support for maintenance.	- Technical Assistance Response Plan and Project documentation

Gender Action Plan

Note: The information in the table below will be used by the CTCN to communicate the gender-related outcomes and expected results of the Technical Assistance (TA) through public platforms such as the CTCN website (www.ctc-n.org) and other communication channels.

The GAAP should emphasize how the TA integrates gender considerations, including i) Capacity building that addresses the specific needs of women, men, and marginalized groups in accessing and benefiting from climate technologies. ii) Gender-responsive data collection to inform equitable decision-making and policy development. iii) Actions promoting gender equity in leadership roles and access to resources within the context of climate technology.

i) Outline

Beneficiaries	Expected direct beneficiaries Smallholder fruit and vegetable farmers (women and men), local cooperatives, and local technicians participating in the piloting, operation and management of solar-powered cold warehouses. Expected indirect beneficiaries Rural communities benefiting from reduced post-harvest losses and increased income resilience.
Challenge	Despite women's significant involvement in agriculture and post-harvest handling, persistent barriers—such as limited access to land, credit, technical training, and decision-making authority, as well as mobility and time constraints—may affect their ability to access and effectively use of cold storage.
Summary of gender-responsive TA implementation	The TA seeks to incorporate gender-responsive elements by facilitating women's participation across key stages of the intervention, including preparatory and infrastructure-related activities, as well as the installation, operation, and management of cold storage facilities. Women's engagement is expected to be supported through targeted technical training, participation at farm-level cold storage sites, and collaboration with local institutions, with the aim of improving women's access to, use of, and potential benefits from cold storage technology in practical and context-appropriate ways.
Output statements	- Delivery of gender-responsive training programs related to cold storage operation and maintenance, with participation by women and marginalized groups. - Participation of women in on-site installation and operational processes associated with cold storage facilities.
Outcome statement	As a result of the TA, women and marginalized groups may experience improved access to cold storage technology and enhanced capacity to operate and utilize such facilities. Increased use of cold storage technology may also contribute to reduced post-harvest losses, improved product quality, and expanded income opportunities, including for women.

ii) **Gender Responsive Activities** (These expected results will be revised and compared to the closure report at the end of the technical assistance)

Activities	Indicator	Expected results	Data collection[1]	Comments
Activity 1: Conduct a gender-responsive desk review focusing on women's mobility, safety, labor participation, unpaid care work, and social norms, drawing on the Bangladesh situation report	Completion of gender context analysis report	One gender context report produced	Document review	Since analysis relies solely on documents, data gaps or unreported gender dynamics may remain
Activity 2: Strengthen collaboration with women-focused NGOs to promote women's participation in cold-chain initiatives and rural road construction–related activities	Number of NGO consultations	NGO consultations conducted and participants identified	Meeting documentation	NGO capacity and continuity may vary due to funding constraints or political conditions
Activity 3: Provide training on the operation and management of solar-powered low-temperature cold storage containers, including temperature monitoring, LHM module handling, recordkeeping	Number of women trained	≥30% women participants	Attendance sheets	Training schedule must accommodate women's unpaid care responsibilities.
Activity 4: Support women farmers and sellers in utilizing cold storage to reduce spoilage, enhance product quality, and improve market access	Rate of reduction in post-harvest losses, number of women using storage regularly	Approx. 30% loss reduction, ≥30% women participants	Attendance sheets	Harvest losses depend on crop types and market distance; regular data tracking required.

[1] Ensure data is gender-disaggregated.

iii) Post-Implementation Impact Assessment

Question	Response options	Details/comments
How did gender relations impact the project implementation	Not at all, rarely, a lot, etc	[Implementer to provide brief explanation if needed.]
Did the project identify interventions to address gender gaps in access, use, and transfer of climate technology?	Explain	
Had your project impacted women?	Not at all, rarely, a lot, etc	[Implementer to provide brief explanation if needed.]
How did your project impact women?	○ By adapting climate tech to women's needs ○ By training women ○ Other (please specify)	[Implementer to provide brief explanation if needed.]
Success stories on gender and climate technologies	[Provide examples of success stories related to gender inclusion and climate tech.]	[Implementer to share relevant case studies or experiences.]