GENDER ASSESSMENT & ACTION PLAN

1. GAAP Overview and Context:

Project Details	Title of technical assistance	Introducing Phase Change Materials (PCM) into the Gambia's cold chain to address post-harvest loss and other waste across the primary sector
	TA Response Plan Reference Number	2025000014
	Implementing partner	Veolia | Engineering & Consulting| India
	Country(ies)	The Gambia
GAAP purpose	Brief overview of the technical assistance objectives	The overall objective of this technical assistance is to strengthen the resilience of The Gambia's food systems by introducing sustainable cooling technologies based on Phase Change Materials (PCM) to reduce post-harvest losses in the agriculture, fisheries, and poultry sectors. The specific objectives include: ● Developing a feasibility study that includes technical assessments, cost-benefit analysis, and site selection for PCM deployment. ● Validating and piloting PCM-based cooling technologies in selected rural locations in close consultation with local stakeholders. ● Building local capacity through targeted training programs and awareness campaigns, with a specific focus on empowering women and smallholder producers. ● Supporting policy development, standardization efforts, and identifying financing mechanisms to facilitate the broader adoption of PCM technologies. ● Organizing a closure workshop to disseminate lessons learned and propose strategies for scaling up the technology at the national level
	How gender mainstreaming aligns with the TA goals	Women play a major role in horticulture, poultry farming, and fisheries but face significant technological and financial barriers. Gender mainstreaming aligns with the TA by prioritizing women-led groups in pilot deployments, providing targeted training on PCM cooling technologies, and developing business models that enhance gender-equitable climate resilience and economic empowerment.
Stakeholder engagement	List of stakeholders (e.g., government agencies, local organizations, community groups)	Ministry of Environment Climate Change and Natural Resources (MECCNAR), The Mbolo Association, farmers, fishers, women's cooperatives, and local communities where PCM will be piloted
	Gender responsive representation demonstrating how women	The project mandates a minimum 50% participation rate for women in consultations, capacity-building, and decision-making (Steering Committee). It utilizes separate

	and marginalized groups are involved at each level	Participatory Rural Appraisals (PRAs) and focus groups for women to understand gender-specific constraints.
Contact details	Point of contact for GAAP (Gender expert) implementation (Name, email, phone number)	Emily Sarr National Gender Expert emilysarr@yahoo.com

2. Gender Assessment

- Overview of the Gender Context

Brief analysis of gender roles, norms, and dynamics in the target region/sector	In Gambia, patriarchal socio-cultural norms heavily influence gender dynamics, creating significant disparities in the economy and daily life. Women are vital to the country's primary sectors, constituting 67% of the agricultural labor force compared to just 33% for men. There is a distinct gender division of labor: men predominantly cultivate cash crops such as groundnuts, maize, and millet, while women focus heavily on lowland rice, small-scale horticulture (vegetables), and the rearing of small ruminants and poultry. Furthermore, women play a crucial role in fisheries, particularly as coastal women processors handling post-harvest activities. Despite their extensive economic participation, women's empowerment and voice in policymaking remain weak, and they are chronically underrepresented in key rural institutions and cooperatives. Educational constraints also heavily impact women, with 62% of Gambian women having no schooling compared to 49% of men.
A comprehensive analysis of gender barriers/necessities in the specific sector, i.e. energy, water, food systems, etc.	Within the agricultural, fisheries, and energy sectors, women face severe systemic barriers. Access to land is primarily governed by customary law, meaning women typically only obtain seasonal "user rights" through their husbands or communities, preventing them from planting perennial crops or making long-term agribusiness investments. In fact, only 4.4% of women are sole owners of land. Access to finance is extremely limited; because women lack land collateral and face high interest rates, only 9% of rural women possess a bank account. Consequently, women mostly rely on grants from development programs. Furthermore, agricultural extension and advisory services are predominantly geared toward men as the heads of households, leaving women without the necessary training, modern technologies, and equipment. In the context of post-harvest management and climate technologies (such as Phase Change Materials or cold chain infrastructure), women are highly vulnerable to post-harvest losses because they lack storage facilities and face time poverty. Introducing climate and cooling technologies requires addressing these constraints by ensuring technologies are affordable, accessible without traditional land collateral, and accompanied by targeted capacity-building that accommodates women's educational levels and time burdens.

- Gender assessment

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?	Women do not have equitable access due to deep-rooted economic and customary barriers. Only 4.4% of women have sole ownership of land, limiting their ability to provide collateral for credit to purchase technologies. Only 9% of rural women have bank accounts. Furthermore, public extension services and male-targeted extension services also restrict access.	Word Bank project appraisal document for GRIVA project
	Are there gender-specific barriers to access these technologies or resources (e.g., cultural, social, economic, legal and policy framework)?	Yes, there are major gender-specific barriers. Legally and culturally, land is governed by customary law, meaning women typically only receive temporary "user rights" and cannot plant perennial crops or make long-term investments; only 4.4% of women are sole land owners. Economically, this lack of land collateral, combined with high interest rates, means only 9% of rural women have bank accounts, severely limiting their access to finance for technologies. Socially, agricultural extension and advisory services are heavily geared toward male household heads, leaving women without the necessary technical information or training. Furthermore, 62% of Gambian women have no schooling, creating a significant educational barrier to adopting new technologies	CTCN Response Plan
	How does the TA address the barriers described in the general analysis in 2.2	The Technical Assistance (TA) addresses these barriers by prioritizing women-led groups such as the Mbolo Association for pilot deployments, training, and financial support mechanisms. It implements a Gender Equality and Social Inclusion (GESI) Strategy that actively designs gender-responsive business models to generate income and reduce women's time poverty without requiring traditional collateral. Additionally, the project utilizes Phase Change Material (PCM) cooling technology, which bypasses the barrier of unreliable rural electricity, and specifically tracks gendered impacts such as time saved and income gains.	CTCN Response Plan
Participation	Are gender experts involved in all stages of the TA? Or Are	Yes, a dedicated National Gender Expert is integrated into the project team. Her responsibilities span the entire project	CTCN Response Plan

Aspect	Issues to be addressed	Findings	Sources of data
	consultations with women's and gender rights organisations considered?	lifecycle, including conducting gender assessments, designing inclusive training programs, and ensuring gender mainstreaming is applied consistently across all activities. The project works closely with women's cooperatives, notably the Mbolo Association, which is the primary project proponent. The methodology also mandates separate focus group discussions specifically for women (e.g., female farmers and coastal women fish processors) during Participatory Rural Appraisals to ensure their unique post-harvest roles and constraints are fully understood and integrated into the project design	
	What best practices can enhance women's participation in the TA?	Key best practices applied to enhance women's participation include aiming for a minimum 50% participation rate for women in all consultations, data collection, and decision-making bodies, such as the project Steering Committee. Additionally, conducting separate women-only focus groups ensures safe spaces for women to share their specific challenges. Providing training materials and user guides translated into predominant local languages also directly addresses the high female illiteracy rate, ensuring women can fully participate and benefit	CTCN Response Plan
Leadership	Do women have leadership positions in climate technology and the specific sector?	Currently, women's voice in policy-making is weak, and their representation in leadership positions within key rural institutions and cooperatives is scant due to longstanding socio-cultural norms and educational constraints. The TA actively works to change this dynamic by engaging women-led organizations, ensuring equitable representation on the Steering Committee, and focusing on empowering women through targeted training and capacity-building to take on operational and business leadership roles in the new cold chain infrastructure	Word Bank project appraisal document for GRIVA project CTCN Gender Mainstreaming Guidelines for Energy Sector Projects
Scaling-up and transfer	Are the training materials and delivery methods designed to address gender-specific needs or challenges?	Yes, the TA develops user-friendly manuals and inclusive training programs tailored specifically for the end-users. Recognizing the significant educational gaps (where the majority of rural women have no formal schooling), a core project strategy is to translate user guides and training materials into the predominant local languages used	Word Bank project appraisal document for GRIVA project

Aspect	Issues to be addressed	Findings	Sources of data
		across the pilot sites to maximize accessibility and usability for women	
	Are financial mechanisms or models in place to ensure accessibility for women and marginalized groups;	Yes, the project conducts detailed feasibility studies to identify and test diverse, tiered financial models. It explores cooperative ownership models, pay-per-use systems, and lease agreements to ensure that women and smallholder groups can access the cooling services without being burdened by prohibitive upfront capital costs or the need for traditional land collateral	CTCN Response Plan
	Is the technology easily maintained and operated by local communities?	Yes, PCM-based cooling technology is specifically chosen because it is electricity-independent, modular, portable, and climate-resilient, making it highly appropriate for rural Gambian communities. To guarantee long-term local operation, the project includes comprehensive pre-deployment testing, the development of sector-specific user manuals, and hands-on capacity building involving local engineers and end-users.	CTCN Response Plan

3. Gender Action Plan

- Outline

Beneficiaries	**Direct beneficiaries**: Women farmers, coastal fisherwomen, poultry producers, and women-led cooperatives (such as the Mbolo Association) participating in the Phase Change Material (PCM) cooling pilot. The target is for at least 50% of direct beneficiaries to be women. **Indirect beneficiaries**: Rural communities, households, local extension workers, and regional markets benefiting from enhanced food security and reduced post-harvest losses.
Challenge	Women in The Gambia face systemic barriers to adopting climate tech, including lack of land collateral, limited financial access, and male-targeted extension services. These inequalities restrict access to reliable cooling technologies, leaving women highly vulnerable to severe post-harvest losses, climate-induced temperature rises, and unreliable energy, thereby threatening their livelihoods, income, and food security
Summary of gender-responsive TA implementation	The TA integrates a Gender Equality and Social Inclusion (GESI) strategy by prioritizing women-led groups (like the Mbolo Association) for PCM pilot deployments. It overcomes traditional collateral barriers by designing gender-responsive cooperative and Public-Private Partnership (PPP) business models. Furthermore, it provides targeted, accessible training in local languages to accommodate women's educational levels, directly addressing their post-harvest constraints and reducing time poverty
Output statements	• Number of women trained to use, monitor, and maintain PCM climate technologies. • Number of women with improved access to livelihood assets (specifically, PCM cooling infrastructure). • Percentage increase in income for women due to reduced post-harvest losses

	and improved product quality. ● Expected direct and indirect beneficiaries disaggregated by gender (Target: At least 50% female participation in all TA phases, pilot deployments, and decision-making bodies)
Outcome statement	**Short-term**: Enhanced technical capacity and knowledge among women producers regarding sustainable PCM cooling systems and post-harvest management. **Medium-term**: Successful deployment and operation of solar-powered PCM cooling systems by women-led groups, leading to significantly reduced food waste and improved market access. **Long-term**: Enhanced rural livelihoods, economic empowerment for women, and improved overall food system resilience to climate change in Gambia, driven by equitable access to clean, decentralized cooling technologies.

- Gender Responsive Activities[1]

Activities	Indicator	Expected Result	Data collection[2]	Comments
Activity 1: Add title from the Response Plan				
Activity 1: Developing a mapping of stakeholders and a Steering Committee	Number of women and gender experts participating in the Steering Committee and stakeholder consultations	Minimum 50% participation rate for women in decision-making bodies and consultations	Head count and participant lists at meetings/workshops, collected per event. Ensure all data is gender-disaggregated	Assumption: Women representatives from cooperatives (like Mbolo Association) are available to participate. Challenge: Societal gender norms may discourage women from speaking up in mixed groups, requiring targeted invitations and active facilitation.
Activity 2: Feasibility & Needs Assessment and Technology Validation	Number of gender-specific constraints identified; Number of separate women-only focus groups held	At least One comprehensive feasibility study and site selection report that fully integrates women's specific cultural/financial constraints and identifies optimal locations for women-led groups	Participatory Rural Appraisals (PRAs), gender-disaggregated household surveys, and key informant interviews conducted during the assessment phase	Assumption: Organizing separate focus groups will provide a safe space for women to voice their unique post-harvest challenges. Challenge: Gathering accurate data on women's informal roles in the cold chain might be difficult.
Activity 3: Piloting and testing PCM cooling	Number of women-led	3 pilots implemented	Pilot performance reports, financial	Assumption: Cooperative and PPP

[1] These expected results will be revised and compared to the closure report at the end of the technical assistance)

[2] Ensure data is gender-disaggregated.

Activities	Indicator	Expected Result	Data collection[2]	Comments
solutions	groups receiving/testing PCM technology; Number of gender-responsive business models developed	(agriculture, fisheries, poultry) prioritizing women-led groups; 3 sector-specific business models defined to accommodate women's lack of traditional collateral.	tracking, and M&E datasets collected at 6 months, 1 year, and up to 5 years post-implementation	models will effectively bypass these collateral requirements. Challenge: Women's lack of secure land ownership (only 4.4% are sole owners) and bank accounts restricts traditional financing.
Activity 4: Scaling up Roadmap and Closure Workshop	Number of women trained to use, maintain, and monitor PCM technologies; Increase in income/time saved for women	At least 50% of trainees are women; 1 practical User's Guide produced in local languages; 1 scaling-up roadmap incorporating gender	Post-training evaluation surveys, training attendance sheets, and endline economic impact surveys. Ensure data is gender-disaggregated.	Assumption: Providing visual, practical training and translating user guides into predominant local languages will successfully overcome educational barriers. Challenge: High female illiteracy rates (62% of women have no schooling).

- 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 a brief explanation if needed.]*
Did the project identify interventions to address gender gaps in access, use, and transfer of climate technology?	Explain	*Implementer to provide a brief explanation if needed.]*
Had your project impacted women?	Not at all, rarely, a lot, etc	*Implementer to provide a 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 a 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.]*