

Project Concept Note - Technical Assistance Response Plan

Country	Zimbabwe
Request ID#	2024000022
Title	Piloting a reliable solar powered drying facility for mopane worms in the Gwanda rural District of Zimbabwe
NDE	Climate Change Management Department, Ministry of Environment, Climate, Tourism and Hospitality Industry Ms Munashe Mukonoweshuro NDE Focal Point munamuko@gmail.com 11th Floor, Kaguvi Building Cnr S.V Muzenda, Harare
Proponent	Off and Tie Grid Solar Company Kudakwashe Pedzisai Director Research and Development kypedzie@otgsolars.com kypedzie@gmail.com +263718568639 / +263773239997 Ministry of Energy and Power Development Department of Energy Conservation and Renewable Energy 5th Floor, John Boyne Building Corner Speke and Innez Terrace St Harare Dr Sosten Ziuku: Director - Conservation and Renewable Energy sostenziuku@gmail.com +263779774546 Rural Electrification Fund 6th Floor, Megawatt House 44 Samora Machel Avenue Harare Eng Cliff Nhandara-Planning and Technology Director cnhandara@rea.co.zw; +273777664033

Summary of the CTCN technical assistance

Lack of readily available clean energy options can contribute to deforestation in rural communities, especially where firewood is used for drying and processing, leaving thousands of acres deforested. Analysis shows that in 2017, Zimbabwe's net GHG emissions were 35.84 MtCO₂eq, with the Forestry and Other Land Use (AFOLU) sector contributing 54%. This number is expected to rise without effective mitigation and adaptation strategies.

The project will intend to pilot a reliable solar powered drying facility for mopane worms in the Gwanda rural District of Zimbabwe and will include the following activities:

- Map and identify deforestation hot spots.
- Define, design and test a monitoring system to monitor deforestation rate in the region.
- Define the needs in term of drying mopane worms with the community (quantity to be dried / characteristics of the mopane in terms of humidity, density etc)
- Design the architecture of a reliable solar powered drying facility.
- Design the business model for the use of the solar powered drying facility.
- Pilot the system & its business model with the communities

Agreement:

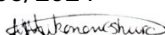
(If possible, please use electronic signatures in Microsoft Word file format)

**National Designated Entity to the UNFCCC
Technology Mechanism**

Name: Munashe Mukonoweshuro

Title: Climate Change Scientist

Date: 06/05/2024

Signature: 

Proponent (signature of the Proponent)

Name: Kudakwashe Pedzisai

Title: Director Research and Development

Date: 26/04/2024

Signature: 

Proponent (signature of the Proponent)

Name: CLIFF NHANDARA

Title: Planning and Technology Director

Date: 29/04/24

Signature: 

Proponent (signature of the Proponent)

Name: Sosten Ziuku

Title: Director - Conservation and Renewable Energy

Date: 29/04/2024

Signature: 

CTCN

Name: Rajiv Garg, Director CTCN (a.i.)

Title:

Date:

Signature:



13/05/2024

1. Background and context:

World population, which is projected to reach 9 billion in 2050, requires new and innovative methods of producing food to be identified and up-scale. The FAO identified edible insects as a sustainable alternative to close this anticipated food deficit, particularly protein, because insects are highly nutritious and have a low carbon footprint. Consumption of edible insects is already a common practice in Zimbabwe and the world at large, where it plays an important role as a diet supplement. Mopane worm (90%) and termites (80%) were the most consumed edible insects in Zimbabwe. Our study showed that at least 66.7% of the surveyed households indicated that they participated in the mopane worm value chain. Some of the households were involved in more than one stage of the value chain. Traditionally, the mopane worms are dried using firewood. The implication of firewood shortages means that this processing technique is unsustainable in Zimbabwe. Firewood constitutes 49% of the total energy used with over 90% of rural and urban households depending on firewood energy because of countrywide power shortages experienced daily. Therefore, it is a concern that, while demand for firewood continues to grow in rural Zimbabwe, rapid land use and deforestation have reduced the supply of firewood.¹

2. Problem statement:

Economies of most developing countries are largely depended on agriculture. The agricultural sector produces food to meet one of the most basic needs of citizens. People grow crops and rear animals for subsistence and commercial reasons hence contributing to the economic status of their countries. Most developing countries are not self-sufficient when it comes to food provisions to their entire populations because of unprecedented increases in the number of people within their respective borders. A lack of knowledge and use of inappropriate preservation techniques and a shortage of storage amenities causes deterioration of the quality and quantity of produce. Most crops are seasonal as are other sources of food e.g., mopani worms and fruits, as such appropriate preservation during and immediate post-harvesting time is vital in maintaining the relevant balance between food supply and population growth. In the case of mopane worms, the preservation process involves use of firewood which is suspected to cause deterioration in final product quality as well as contributing to deforestation. Not only will some of the worms get burnt to beyond consumption state but the method results with a soil grains contaminated product. Drying food in the open using energy from the sun to preserve it is one of the main processing techniques used in sunny areas.²

There are several disadvantages associated with traditional open sun drying. It requires a large open space area, is highly depended on the presence of insolation, is prone to contamination by dust and food being processed is vulnerable to attack by insects, birds, rodents and infections from microorganisms [4]. Furthermore, open sun drying happens to be labour and time intensive. This is because the food under processing needs to be covered, not only at night but also during harsh weather conditions and must be protected from animals [1]. Additionally, non-uniform and insufficient drying leads to deterioration of the food grain quality during storage [1]. For countries to meet the basic requirement of high quality and constant supply of food for their growing populations, efficient and effective solar dryers are a necessary requirement. Solar dryer designs that use cheap and locally available materials are the best alternative to improving the quality and quantity of the food and minimizing of postharvest losses.

¹https://repository.biust.ac.bw/bitstream/handle/123456789/206/115_Koketso%20Mosagalagae_Potential%20for%20Solar%20Dryer..pdf?sequence=1&isAllowed=y

² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9721488/>

3. Logical Framework for the CTCN Technical Assistance:

Objective: Piloting a reliable solar powered drying facility for mopane worms in the Gwanda rural District of Zimbabwe												
Outcomes: The specific objectives of this technical assistance are as follows: - Establish a drying facility : The project will pilot a functional and sustainably powered (through solar PV) drying systems in the target community, which will be used as a demonstration and training centre for selected beneficiaries. - Food processing expertise for farmers: Through training and capacity-building initiatives, community members will acquire the knowledge and skills necessary to construct, operate, and maintain the renewable energy drying systems, contributing to reduced reliance on extension services. - Localised Adaptation Solutions: The project will yield customised adaptation solutions tailored to the community's specific needs and challenges. - Improved Food Security: The adoption of a solar drying system for mopane worms is expected to enhance food security within the project areas.												
Activities	Months											
	1	2	3	4	5	6	7	8	9	10	11	12
Component 1: Mandatory output: All implementers must undertake the following activities at the beginning and at the end of the CTCN technical assistance.												
Activity 1.1: A detailed implementation plan for all activities, deliverables, outputs, deadlines, and responsible persons/organizations, including a gender study and an itemized budget for implementing the Response Plan. The detailed implementation plan and budget must be based directly on this Response Plan. Activity 1.2: Based on the work plan, a monitoring and evaluation plan with specific, measurable, achievable, relevant, and time-bound indicators should be developed to evaluate the timeliness and appropriateness of implementation (a template will be provided). The indicators selected in the monitoring and evaluation plan should be aligned with the technical assistance closure report template. This will enable the implementer to complete the technical assistance closure report at the end of the CTCN technical assistance (please refer to Activity iv and Section 14 of the Response Plan). Activity 1.3: Impact statement of the CTCN technical assistance prepared at the start of the CTCN technical assistance and updated at the end of the CTCN technical assistance (a template will be provided). Activity 1.4: a Result Tracker from the European Commission that will be filled in at the start of the project (baseline), at mid-term, and at closure.												

Activity 1.5: a gender assessment that will include at least the following components:

- i) Gender Disparities Analysis (evaluate the status of gender disparities in the project's context, including socio-economic, cultural, and institutional factors. Identify areas where inequalities exist, etc)
- ii) Data Collection (collect and analyse gender-disaggregated data to understand the specific needs and preferences of different genders).
- iii) Gender-Responsive Design (assess the project's design to ensure that it considers the different roles, responsibilities, and interests of various genders. Consider how the project can empower marginalized genders and promote gender equality.)
- iv) Gender and Innovation ecosystem (assess how the technology could foster women as entrepreneurs)
- iv) Gender Budgeting (budget allocation to target gender mainstreaming activities. Also ensure that gender-specific needs are adequately funded).
- v) Capacity Building
- vi) Monitoring and Evaluation (shall include regular gender-sensitive assessments to track progress and adjust as necessary).

Activity 1.6: A technical assistance closure report will be completed at the end of the CTCN technical assistance (a template will be provided).

Component 1 Deliverables:

- i) Implementation plan
- ii) Monitoring and evaluation plan
- iii) Impact statement (initial version)
- iv) EC Result Tracker (initial version)

Component 2: Baseline assessment and Gender Analysis

Activity 2.1. Conduct baseline assessment

This activity will first conduct a desk review using available records/information from relevant institutions and then assess the baseline condition of the target community to examine traditional farming practices, traditional methods used to dry mopane worms, quantity of fire wood used versus kilos of mopane worms produced, time spent in the process, estimated CO2 emissions produced, who is involved in this activity by gender/youth/vulnerable population, market opportunities for the product, socio-economic and demographic characteristics of the community, etc. A survey instrument (questionnaire) will be developed

[illegible]

[illegible]

[illegible]

Activity 4.2: Define characteristics of the system to dry mopane worms and its respective requirements in terms of technology													
The Implementing Partner, in collaboration with relevant stakeholders, will analyse the characteristics of the mopane worms and what should be the technical specificities of the drying facility (power capacity) to ensure a timely drying of the mopane worms. Analyse if this dryer could be used for other fruits / vegetables/ meat consumed in the community. Considering that the drying of the mopane worms is needed only for a short period of time throughout the year, it will be analysed if the technology could be used for other type of food (vegetables, meat, fish, fruits or else).													
Activity 4.3: Architectural design of the drying facility of mopane worms.													
A detailed scheme of the solar drying mopane worms and a small-scale drying system (planned to be built to cover the needs of the community) will be designed on paper. The architecture will describe all the equipment needed; the set up planned. It will also list the equipment required and provide clarification on what equipment would be locally available and what equipment would need to be exported (if any).													
Activity 4.4: Demonstration and adoption of A&E design													
Upon completion of the A&E design for the drying facility system, a one-day stakeholder workshop will be facilitated to present the design to the stakeholders and beneficiary community members. This is for the contextual review of all stakeholders and the adoption of the design for implementation.													
Activity 4.5: Estimate the cost of setting up the solar drying system and a business model that could be used for the community.													
Once the architecture of the system is defined, the estimated cost of piloting the system will be outlined, and the cost estimate of setting up the same system with locally available materials will be estimated. A business model will be designed as well to ensure that revenues are generated to ensure the maintenance, cleaning, reparation of the drying system. The business should be designed in a way that it remains accessible to women, youth and vulnerable communities but also enables the technology to be sustainable in the long term.													
Deliverables													
4.1 Benchmarking of existing drying systems for mopane worms or similar food in Southern Africa				X									
4.2 Definition of the characteristics of the mopane worms and requirements in terms of technology			X										
4.3 Architectural design of the drying facility of mopane worms				X									
4.4 Report on demonstration workshop, participants attendance records.				X									
4.5 Cost analysis of the selected drying facility of mopane worms and design of a business model				X									

Component 5: Drying system set-up and demonstration											
Activity 5.1: Identification and grouping of community/household participants and community trainers. The community trainers will be a smaller group of beneficiaries (numbering about 10), who possess some form of technical and crafts skills and with a trade or authority. They will be used as the pilot demonstration sessions and should be relied upon as part of the sustainability structures of the TA. The TA will focus on these trainers, with support from the drying facility experts to train community members in the operation and maintenance of the technology. This activity will identify eligible community members to be trained according to set criteria that include but are not limited to gender, age, occupation, educational level, etc. The identified participants will then be grouped into different training cohorts. The gender analysis will inform this selection as well. Discussions with selected participants will be held for them to understand the full expectations of their participation and for the TA to understand and respond to any comments and concerns the participants may have. Each participant will then be assigned a unique ID to aid in monitoring and evaluation processes. The project will target 50% participation of women and 40% of youths.											
Activity 5.2: Development of training resources This activity will entail the development of a graphic training manual that will outline the process of the drying facility assembly, operation, and maintenance, as well as the technique to dry the mopane worms as well as other fruits, meat, fish, vegetables if possible and relevant.											
Activity 5.3: MAA signing between IP and project proponent. Before the commencement of the construction of the drying system, a mutual accountability agreement (MAA) will be signed by the IP and project proponent, the NDEs and by a representative of the community. The agreement will outline the roles and responsibilities of respective parties regarding the sustainability, maintenance, and security components of the solar drying system during and beyond the project implementation.											
Activity 5.4: Assembly and piloting of the small-scale solar drying system This activity will conduct a step-by-step assembly of the drying system as a demonstration workshop during the ToT in Activity 5.5 The stepwise process of constructing and assembling the system will consider: 1. Assembly of the metal structure of the system. 2. Installation of the lighting and solar system. 3. Installation of the drainage system. 4. Installation of temperature and humidity sensors. 5. Installation of additional equipment needed to ensure an efficient use of the drying facility.											

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[illegible]

7.2: Endline assessment report													X
7.3: Impact statement (Final version)													X
7.4: EC fund tracker (closure)													X
7.5: Technical assistance closure report													X

4. Resources required and itemized budget:

The maximum budget for this Technical Assistance is maximum 200,000 USD.

Activities and Products	Human Resources	Travels	Meetings and Events	Equipment and materials	Estimated costs	
					Minimum	Maximum
Mandatory Output: All implementers must undertake the following activities at the beginning and at the end of the CTCN technical assistance.	6		1		4,500	4,500
Output 2: Baseline assessment and Gender Analysis	Activity 2.1: 5 days of experts // Activity 2.2 : 10 days // Activity 2.3: 5 days // Activity 2.4: 5 days. Total : 25 days	Local travel and DSA	Interviews with the community and the women of the community		10,250	12,500
Output 3: Stakeholder mapping, Stakeholder engagement and the establishment of stakeholder working group (SWG)	Activity 3.1: 5 days / Activity 3.2 : 5 days / activity 3.3 : 8 days / activity 3.4: 5 days. Total =23 days	Local travel and DSA	1 inception meeting		12,000	14000

Output 4: Architectural design of the drying system	Activity 4.1 : 3 days // Activity 4.2 : 22 days // Activity 4.3: 10 days // activity 4.4 : 8 days // Activity 4.5: 10 days. Total = 53 days	Local travel and DSA	1 day stakeholder meeting	Design equipment	45,000	55,000
Outcome 5: solar drying system set-up and training	Activity 5.1 : 10 days // Activity 5.2: 10 days // Activity 5.3: 10 days// Activity 5.4 : 22 days // Activity 5.5: 1 day work per week during 8 weeks = 8 days + 1 day every 2 weeks during 8 weeks = 4 + 1 day a month during 8 weeks = 2 = 14 days + preparation of the training materials : 10 days. TOTAL : 76 days	Local travel and transation of training documents into 3 languages	4 to 6 months training	Solar drying system components + security components = maximum 15,000 USD.	70,000	75,000
Outcome 6: Community training on drying system	Activity 6.1: 10days // Activity 6.2 : 10 days // activity 6.3 : 5 days. TOTAL =25 days	Local travel and translation of harvesting plan into 3 languages	Training on Business Model and sensibilization workshop		14,500	15,000

Outcome 7: Project sustainability strategy and close-up	Activity 7.1: 5 days // Activity 7.2: 10 days // activity 7.3: 2 days //Activity 7.4 : 1 day // activity 7.5: 2 days. TOTAL= 20 days	Local travel and DSA	Workshop with financial institutions	NA	8,500	9,000
Medium range of the Technical Assistance in USD					165,000	185,000

5. Profile and experience of experts:

Experts required	Brief description of required profile
Project Director/Team Lead with expertise in solar drying systems for food processing	- The program director will direct the overall implementation of the project according to the agreement signed by the IP and the donor. - Advanced degree in a relevant field, such as agriculture, renewable energy or food processing - Minimum of 5 years of experience working in the agriculture, renewable energy or food processing sector including as a team lead. - Proven track record of successfully directing complex projects with communities from conception to completion. - Strong analytical and problem-solving skills. - Excellent communication and interpersonal skills, with the ability to build relationships with diverse stakeholders. - Demonstrated ability to work independently and as part of a team. - Proficiency in project management methodologies and tools. - Expertise in solar drying systems for food processing - Proficiency in monitoring and evaluation - Experience of working in Southern Africa is a plus.
Project Manager (X1) with expertise in Finance and pay as you use systems	- The program manager will oversee the overall implementation of the project plans, including scope, timelines, budgets, and resource allocation. - Bachelor's degree in a relevant field, such as development studies, public administration, or non-profit management, finance - Minimum of 3 years of experience working as a Program Manager - Minimum of 5 references of designing pay as you use kind of business models for Developing countries. - Proven track record of successfully managing complex projects from conception to completion. - Strong analytical and problem-solving skills. - Excellent communication and interpersonal skills, with the ability to build relationships with diverse stakeholders. - Demonstrated ability to work independently and as part of a team. - Proficiency in project management methodologies and tools.
Technical expert: Solar drying system for food (and mopane worms' specialists (x1)	- The specialist will provide technical assistance in designing, implementing, and managing drying systems, including training of target beneficiaries. - Masters/bachelor's degree in agriculture or a related discipline.

	• Should possess a minimum of 5 years of experience in solar drying systems for food processing. • Strong research, decision-making, critical thinking, and problem-solving skills. • Awareness of industry trends, technology, and developments.
Technical expert: Agricultural Engineer (x1)	• The Agric Engineer will provide technical support in understanding the process of drying mopane worms versus other food items. • A bachelor's degree or HND in Agricultural engineering with a minimum of 5 years of practical experience in the agricultural engineering field. • Experiences in the installation, use, and repair of agricultural equipment, especially greenhouse installation/fabrication • Possess excellent coordination and organizational abilities
Technical Expert in Sustainable Forest / Environmentla Planning and management	• The Techncial exert in Sustainable Forest management will support the development of a sustainable harvesting plan • A bachelor's degree or forest management with a minimum of 5 years of practical experience in the sustainable forestry agency is required. • Experiences in definition of sustainable forest management plan is required. • Possess excellent coordination and organizational abilities
Gender specialist (x1)	• Bachelor's degree in gender studies, women's studies, sociology, international development, or a related field required. • Minimum five years of experience encompassing international development, evaluation and research, and program management required. • Experience working as a Gender Specialist or in a similar role, with a strong understanding of gender equality and women's rights issues, including in-depth knowledge of gender analysis methodologies, gender mainstreaming, and gender-responsive programming. • Experience working with international development organizations. • Experience heading task teams to deliver client deliverables, including research, assessments, and training. • Experience working on assignments related to diversity, equity, and inclusion is preferred. • Familiarity with international frameworks and conventions related to gender equality, such as the Sustainable Development Goals (SDGs) and the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW). • Strong interpersonal and communication skills to effectively engage with diverse stakeholders and facilitate discussions on sensitive gender topics. • Proficiency in project management, including the ability to plan, coordinate, and monitor gender-focused initiatives.

6. Intended contribution to impact over time:

The implementation of small-scale solar drying systems is expected to have an impact on food security through the following:

- I. Climate Stressor Mitigation: Solar Drying systems offer a climate-resilient approach to agriculture by reducing reliance on firewood which have direct impact on deforestation.
- II. Enhanced Coping Capacity: solar drying systems empower communities with the ability to manage and overcome adverse conditions. Through training and capacity-building, communities can develop the knowledge and skills required to construct, operate, and maintain these systems effectively. This increased coping capacity enables communities to adapt to changing climate conditions and secure their food supply, reducing their vulnerability to food insecurity.
- III. Diversification of Livelihoods: The adoption of drying solar facilities can provide an additional source of income and livelihood diversification for communities. This diversification can reduce dependence on single livelihoods that are vulnerable to climate stressors and, in turn, enhance economic security.
- IV. Resource Efficiency: solar drying systems are resource-efficient, using less wood and time compared to traditional drying. This can help conserve natural resources, reduce ecosystem degradation, and promote environmental security.

7. Relevance to NDCs and other national priorities:

Direct alignment and contribution to NDC implementation is required for all CTCN technical assistances. Please include a direct reference to the INDC/NDC document (chapter, page number, etc.).

Zimbabwe's Nationally Determined Contribution Under Adaptation measure 1 chapter 3.4 of page 15 section 4 aims to promote the use and roll-out of gender-sensitive climate-smart agriculture technologies and practices such as sustainable mechanization, agro-ecology, renewable energy, agro-forestry.

Zimbabwe's Nationally Determined Contribution Under Adaptation measure 3 chapter 3.4 of page 20 section 4, aims to implement Priority Adaptation measure 3 which is to "Ensure climate-resilient infrastructure and design".

The National Adaptation Plan (NAP) seeks to enhance Zimbabwe's resilience to the impacts of climate change, recognizing the vulnerability of the country while mainstreaming climate change in all socioeconomic sectors underpinning the economy page 5.

Agriculture, Forestry and Other Land Use (AFOLU) mitigation measure number 15 Table 7 aims to reduce area burned by 500,000 hectares between 2020 and 2025 inclusive of agricultural production landscapes, with % GHG reduction baseline projected at 27.75% by 2030.

8. Linkages to relevant parallel ongoing activities:

The Government of Zimbabwe through the Ministry of Environment, Climate and Wildlife and the Ministry of Energy and Power Development have made efforts to develop policy instruments, strategies and regulations as an approach to climate change mitigation and adaptation. These include Zimbabwe's Long-term Low Greenhouse Gas Emission Development Strategy (2020-2050) aims to reduce net deforestation to 0.5% by 2035 under Forestry and Other Land Use (AFOLU) sector with mitigation measures that include: the use of dedicated clean energy plantations for drying of agricultural products in particular tobacco, Improved enforcement of national forest legislation and sustainable conservation practices among others

9. Anticipated follow-up activities after this technical assistance are completed:

Monitoring and Evaluation:

- Evaluate the performance of the drying facility and make necessary adjustments to optimize resource usage.

Troubleshooting and Support:

- Establish a mechanism for ongoing technical support to address any challenges or issues that may arise after the initial implementation.
- Create a helpline or support system for project participants to seek assistance with troubleshooting.

Community Engagement:

- Foster community engagement by organizing workshops, seminars, or field visits to share success stories and lessons learned.
- Encourage the exchange of knowledge and experiences among project participants and neighbouring communities.

Market Linkages:

- Explore opportunities to connect farmers with markets for their produce.
- Provide guidance on marketing strategies and help establish relationships with buyers.

Scaling and Replication:

- Explore opportunities to scale the project to other locations or communities.
- Develop guidelines and manuals that facilitate the replication of the project in different contexts.

Feedback and Continuous Improvement:

- Collect feedback from project participants and stakeholders to identify areas for improvement.
- Use feedback to make continuous adjustments to the project implementation and support mechanisms.

10. Gender and co-benefits:

Embedded into the design of the activities:	I. Climate Resilience: the project should support the community to fight against deforestation. II. Resource Efficiency: solar drying systems use significantly less energy (solar instead of wood) and time compared to traditional drying. III. Community Engagement: The project can foster community engagement and cooperation through shared responsibility for managing drying systems. This can strengthen social bonds and collective efforts in addressing food security challenges. IV. Economic Growth: the use of drying facility could stimulate economic growth at the community level, generating income and employment opportunities. V. Environmental Sustainability: By reducing the need for firewood contribute to more environmentally sustainable agricultural practices.
Gender and co-benefits of the activities:	I. Empowerment of Women: solar drying systems can provide women, who often play a significant role in agriculture in many communities in Zimbabwe, with opportunities for active participation and leadership in farming. The technology's-controlled environment and reduced physical labour can help overcome traditional gender barriers, allowing women to engage more effectively in agricultural activities.

	II. Income Generation: Increased agricultural productivity resulting from the drying of mopane worms can lead to greater economic opportunities for women, especially when they are actively involved in managing these systems. The surplus produce can be sold in local markets, contributing to household income and financial autonomy for women. III. Food Security: the use of drying system can lead to improved food security within households. This is particularly crucial for women, who often bear the responsibility of ensuring family nutrition. IV. Reduced Drudgery: solar drying system typically require less physical labour and are less strenuous than traditional drying methods. This can reduce the physical burden on women, allowing them more time for other productive activities or personal well-being. V. Skills Development: The training and capacity-building component of the project can provide women with valuable skills and knowledge in drying technology, increasing their expertise and confidence in agriculture-related activities.
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11. Main in-country stakeholders in the implementation of the technical assistance activities:

Key stakeholders: Please list the stakeholders who will be involved in the implementation of the requested CTCN technical assistance and describe their role during the implementation (for example, government agencies and ministries, academic institutions and universities, private sector, community organizations, civil society, etc.).	
Stakeholders	Role to support the implementation of the technical assistance
National Designated Entity (Ministry of Environment, Climate and Wildlife)	Technical assistance coordination, stakeholder engagement, data provision
Request Applicant (Off & Tie Grid Solar Company (Pvt) LTD)	Technical assistance coordination, stakeholder engagement, Research and Development, Technical Performance Measures development
Ministry of Energy and Power Development	Technical assistance coordination, formulating and implementing effective Policies and Regulatory Frameworks, Data and research input
Rural Electrification Fund	Rural Electrification Master Plan implementation, data and research input, training of stakeholders
Zimbabwe Energy Regulation Authority	Regulatory compliance, data and research input
Environmental Management Agency	Training of stakeholders, data and research input
Forestry Commission	responsible for the regulation, management and conservation of forestry resources and managing gazetted indigenous forests
Gwanda Rural District council	Regulating compliance and land use planning by-laws.
OTG	Support the implementation of the TA
European Commission	Donor

Ministry of Lands, Agriculture, Fisheries, Water and Rural Development – AGRITEX	support capacity building, data and research input, stakeholder engagement
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12. SDG Contributions:

Goal:	Sustainable Development Goal	Direct contribution from CTCN TA
1	End poverty in all its forms everywhere	
2	End hunger, achieve food security and improved nutrition, and promote sustainable agriculture	The CTCN TA will have a direct benefit in promoting sustainable agricultural practices by introducing the solar drying technique that will reduce deforestation.
3	Ensure healthy lives and promote well-being for all at all ages	
4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	
5	Achieve gender equality and empower all women and girls	
6	Ensure availability and sustainable management of water and sanitation for all	
7	Ensure access to affordable, reliable, sustainable, and modern energy for all (consider adding targets for 7)	
	7.1 - By 2030, ensure universal access to affordable, reliable, and modern energy services	
	7.2 - By 2030, increase substantially the share of renewable energy in the global energy mix	
	7.3 - By 2030, double the global rate of improvement in energy efficiency	
	7.a - By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology	
	7.b - By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support	
8	Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all	
9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	
10	Reduce inequality within and among countries	

11	Make cities and human settlements inclusive, safe, resilient, and sustainable	
12	Ensure sustainable consumption and production patterns	The CTCN TA will promote solar drying technique to communities towards ensuring sustainable production of food and animal feeds.
13	Take urgent action to combat climate change and its impacts	
	13.1 - Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	The CTCN TA will introduce solar drying technique to climate-impact prone communities to promote sustainable agricultural practices thereby mitigating the effect of climate change and ensuring food security.
	13.2 - Integrate climate change measures into national policies, strategies, and planning	
	13.3 - Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	The CTCN TA will train farmers and community members alike on climate change impact and mitigation strategies.
	13.a - Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible	
	13.b - Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth, and local and marginalized communities	
14	Conserve and sustainably use the oceans, seas, and marine resources for sustainable development	
15	Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	
16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable, and inclusive institutions at all levels	
17	Strengthen the means of implementation and revitalize the global partnership for sustainable development	

13. Classification of technical assistance:

<i>Please tick the relevant boxes below</i>	Primary	Secondary
1. Decision-making tools and/or information provision		
2. Sectoral Road maps and strategies		
3. Recommendations for legal reforms, policies, and regulations		
4. Financing facilitation		
5. Private sector engagement and market creation		✓
6. Research and development of new technologies		
7. Feasibility of technology options		✓
8. Piloting and deployment of technologies in local conditions	✓	
9. Technology identification and prioritization		✓

Please note that all CTCN technical assistance contributes to strengthening the capacity of in-country actors.

14. Monitoring and evaluation process:

Upon contracting the implementing partners to implement this Response Plan, the lead implementer will produce a monitoring and evaluation plan for the technical assistance. This monitoring and evaluation plan must include specific, measurable, achievable, relevant, and time-bound indicators that will be used to monitor and evaluate the timeliness and appropriateness of the implementation. The CTCN Technology Manager responsible for the technical assistance will monitor the timeliness and appropriateness of the Response Plan implementation. Upon completion of all activities and outputs, evaluation forms will be completed by the (i) THE COUNTRY on overall satisfaction level with the technical assistance service provided; (ii) the Lead Implementer on the experience and knowledge gained through the technical assistance; and (iii) the CTCN Director on the timeliness and appropriateness of the activities and outputs.