ADAPTATION FUND

UN environment programme

CTCN UN Climate Technology Centre & Network UNFCCC Technology Mechanism

Adaptation Fund Climate Innovation Accelerator

Technology concept submission form

Guidelines:

- Technology concept submission form should be completed by an applicant organisation in collaboration with the national focal points to the CTCN (National Designated Entity, NDE) and the Adaptation Fund (Designated Authority) of the country. Please see updated contact list of the NDEs and the Designated Authorities through web-links as below:
  - NDE: http://unfccc.int/ttclear/support/national-designated-entity.html
  - Designated Authority: https://www.adaptation-fund.org/apply-funding/designated-authorities/
- The form must be signed by the NDE before official submission to UNEP-CTCN.
- The form can be submitted as a Word file containing a digital signature or as a signed and scanned PDF file in combination with an un-signed Word file.
- For the technology concept submitted by multiple countries, all the NDEs of the respective countries shall sign identical forms before official submission to UNEP-CTCN.

Country or countries:	Guatemala
Title of the technology concept:	Promoting sustainable irrigation technologies: a water-energy-food (WEF) nexus perspective towards reducing climate risk from small farmers in high climate risk in the municipalities of Rabinal, and San Miguel Chicaj in the Dry Corridor of Baja Verapaz Guatemala.
NDE:	**NDE:** *Ministerio de Ambiente y Recursos Naturales* (MARN). **Focal point:** Ciriaco Antonio Urrutia Lemus, Director of Climate Change. **E-mails:** caurrutia@marn.gob.gt, rgperez@marn.gob.gt, jcdiaz@marn.gob.gt **Address:** 7 Avenue 03-67 zone 13, Ciudad Guatemala, Guatemala.
Applicant:	**NDE:** *Ministerio de Ambiente y Recursos Naturales* (MARN). **Focal point:** Ciriaco Antonio Urrutia Lemus, Director of Climate Change. **E-mails:** caurrutia@marn.gob.gt, rgperez@marn.gob.gt, jcdiaz@marn.gob.gt **Address:** 7 Avenue 03-67 zone 13, Ciudad Guatemala, Guatemala.

Geographical scope:

☒ Community level
☐ Sub-national
☐ National
☐ Multi-country

If the technology concept is at a sub-national or multi-country level, please describe specific geographical areas (provinces, states, countries, regions, etc.).

Problem statement related to climate change (up to one page):

Climate change is a complex and cross-cutting problem that needs an integrated and transformative systems approach to respond to the challenge. Current sectoral approaches to climate change adaptation initiatives often create imbalances and retard sustainable development. The beneficiaries are in the Dry Corridor of Guatemala, which is characterized by the absence of prolonged rains and consequent droughts, as well as the eventual excess of rain. This hydro-climatic scenario has threatened the agricultural and livestock production model in the region, which will also have direct and indirect impacts on nutrition, human well-being, and health. Reduced agricultural production, lack of access to clean water, sanitation, and clean, sustainable energy are the major areas of concern.

The beneficiaries of the Project are located in selected communities of the Dry Corridor of Guatemala, municipalities of San Miguel Chicaj and Rabinal in Baja Verapaz. The Dry Corridor brings together a significant number of producers of basic grains, with limited options for adaptation. The area is characterized by dry tropical forests, and it is a region that faces increasingly common and extensive droughts, as well as eventual excess of rain due to drastic climate change (FAO, 2021, 1[1]). This hydro-climatic scenario has threatened the Agricultural and Livestock production model in the region, which jeopardizes the Food Security of vulnerable smallholders.

The climate risk index for the municipality of Rabinal and San Miguel Chicaj were estimated within the average limits. The highest value corresponds to the RCP 8.5 scenario (0.52 for 2080), while the lowest average value was reported in the scenario corresponding to RCP 2.6 towards the end of the century (0.45). The average value of the base scenario was 0.51. These data are consistent with the literature on vulnerability in the dry corridor and other municipalities affected by drought in Guatemala.

In addition, there is not a specific agroforestry arrangement to avoid land degradation and to implement agricultural plans based on a systematic arrangement to improve the production system and that integrates agriculture, livestock, and food security as an integral sector. Road infrastructure is limited and in bad conditions, people do not have easy access to market to acquired food products. Agriculture, livestock, and food security are not focused on conceptualizing a relationship of the rural population with their environment, and there is also a lack of strengthening of the adaptive capacity of the family and the community in the face of climate change, within the context of the hydro-climatic and orographic conditions of the Dry Corridor. The Project's aim I to promote a well-coordinated and integrated Water-Energy-Food nexus approach that will offer opportunities to build resilient systems, harmonise interventions, and mitigate trade-offs and hence improve sustainability. Access to irrigation is essential, introducing irrigation to a hectare of vegetable production can increase its yield by 150 percent and revenues by almost 300 percent. This represents an average of 648 additional daily wages, two additional jobs, six additional direct beneficiaries, and 12 additional indirect beneficiaries in one year. Luckily, these astounding figures are not out of reach. Guatemala has enormous irrigation potential for agriculture; roughly 2.6 million hectares of land are irrigable in the country.

[1] Organización de las Naciones Unidas para la Alimentación y la Agricultura (FAO). 2021. "Fortalecimiento de la resiliencia y de la seguridad alimentaria en el Corredor Seco centroamericano". http://www.fao.org/americas/eventos/ver/es/c/422126/

However, by 2012 only 337,471 hectares, or 12.9 percent of the available irrigable land, had been developed. This is due in large part to the lack of access to energy in multiple remote areas of rural Guatemala. Exploring renewable energy as a source for irrigation, and its nexus with food security and water management, will contribute to improve resilience in the target populations.

Past and on-going efforts to address the problem (up to half a page):

There have been other projects and initiatives addressing the problem of food insecurity and unsustainable production systems (agriculture and livestock) in the Dry Corridor, as well as climate change information issues, among which we can mention the following (Table 1).

Table 1. Past and present projects and/or initiatives addressing the problem.

Project/initiative	Description
RELIVE – REsilient LIVElihoods of vulnerable smallholder farmers in the Mayan landscapes and the Dry Corridor of Guatemala	This project has been approved by the Green Climate Fund (GCF) and its objective is to strengthen the resilience of the most vulnerable farmers and indigenous groups in the Mayan landscapes and the Dry Corridor of Guatemala.
Developing a systemic vulnerability assessment of the Guatemalan Dry Corridor	The Climate Technology Centre & Network (CTCN) is currently supporting a process of updating the Nationally Determined Contributions (NDC) and other related planning frameworks, through collaboration in a Vulnerability Analysis (VA) in Guatemala's expanded Dry Corridor. This initiative consists of identifying the actions for adaptation within the agriculture, livestock farming and food security sector, in order to incorporate the results of the analysis in the update of the NDC, and prepare two project ideas to support management of financing of the climate issue (CTCN n.d., 1[2]).
Strengthening the climate change information system for decision-making in Guatemala	This project, also supported by CTNC, is already completed. Their objectives were: a) To define an indicator framework to empower government and private decision makers in Guatemala (for adaptation and mitigation investments); b) to jointly validate the proposed indicators; c) to develop a model fo the information system, including indicator protocols, required visualization functions, data sources and software/hardware solutions; d) and to make recommendations about the implementation of an environmental and climate change information system using open-sources (CTCN n.d.a., 1[3]).

Source: Prepared by the author, 2021.

Specific technology[4] barriers (up to one page):

The technology barriers that hinder national efforts to address the problem are described in Table 2. The promotion of sustainable irrigation technologies: a water-energy-food (WEF) nexus perspective towards reducing climate risk from vulnerable populations includes the exploration of

[2] Climate Technology Centre & Network (CTCN). n.d. "Developing a systemic vulnerability assessment of the Guatemalan Dry Corridor". https://www.ctc-n.org/technical-assistance/projects/developing-systemic-vulnerability-assessment-guatemalan-dry-corridor

[3] CTCN. n.d.a. "Strengthening the climate change information system for decision-making in Guatemala." https://www.ctc-n.org/technical-assistance/projects/strengthening-climate-change-information-system-decision-making

[4] *"**any equipment, techniques, practical knowledge and skills** needed for reducing greenhouse gas emissions and adapting to climate change" (Special Report on Technology Transfer, IPCC, 2000)*

rainwater harvesting systems, irrigation systems, and water reservoirs; as well as a program that incorporates traditional native plants (food, aromatic, and medicinal) into the food security component, and that includes family gardens design, seedbeds, water management, native seeds, bio-fertilizer production, and substrates. Several barriers have been identified that are limiting the development of innovations that could reduce climate risk and increase resilience. The barriers are presented in table 1.

Table 1. barriers.

Institutional **Lack of: a)** Institutional resources oriented to training programs related to the agricultural, livestock and food security sector; **b)** current legislation associated with water. Guaranteeing the approval of a Water Resources Law that integrates legal, technical and economic elements in the matter of regulation of the resource is still distant; **c)** a joint strategy at the sector level. There are only individual strategies at the producer level; **d)** strengthening of the rural extension program and the organization of producers and ranchers.	**Economical** **Lack of: a)** Value chains that involve different agricultural species and support productive and economical capacity; **b)** support for marketing fresh and industrialization of fruit growing. The majority of fruit producers have returned to the traditional production system, and the commercialization is specified in "bundles and baskets", which reduces the presentation value and the profit margin; **c)** trade opportunity that generate income, and diversification and productive complementarity for small producers.
Financial **a)** The policy of subsidies and distribution of agricultural inputs is palliative, isolated and of short duration, which does not benefit the strengthening of the farmer's adaptation capacities; **b)** lack of a trust for drip irrigation systems in agricultural production.	**Social and gender** **a)** Beneficiary groups must be active actors, not passive; **b)** lack of integration of women in production models, in all phases of production; **c)** women are in disadvantage regarding access to resources, land, and information.
Information **Lack of: a)** cost and benefit analysis for the adoption of solar based irrigation systems; **b)** an analysis to evaluate the current productive situation of livestock, and the use and capture of rainwater for irrigation purposes; **c)** access of producers and the general population to climate information; **d)** historical and updated information on hydro-climatic behavior; **e)** agroclimatic, phytosanitary, agronomic and livestock management and market information.	**Technical** **Lack of: a)** Capacity in the management of water resources; **b)** a rainwater harvesting system; **c)** irrigation system using renewable energy resources; **d)** a specific agroforestry arrangement that avoids land degradation; **e)** a program for the conservation of native species of broad nutritional, medicinal and agro-industrial value; **f)** a program that incorporates traditional native plants for consumption into the food security component; **g)** actions focused on improving basic grain production and storage systems.

Source: Prepared by the author, 2021.

Sectors:

Please indicate the main sector(s) related to the technology concept:

☒ Agriculture	Coastal zone management	Disaster risk reduction	Food security
☐ Forests	Human health	Marine and fishery	Rural development (resilience)

☐ Urban development (resilience) ☐ Water management

Please add other relevant sectors: **Livestock and Food Security.**

Cross-sectoral enablers and approaches:

Please indicate the main cross-sectoral enablers and approaches:

☐ Communication and awareness ☐ Economics and financial decision-making ☒ Governance and planning ☒ Community based

☒ Disaster risk reduction ☐ Ecosystems and biodiversity ☒ Gender

Technology concept requested (up to one page):

Founded on the problem statement, past/on-going efforts and technology barriers, please describe the technology concept. The technology concept should clearly contribute to adaptation to climate change as described in the problem statement and contribute to overcome the specific technology barriers.

Within a clearly defined scope, the description of the technology concept should be structured into the following:

- *Overall objective*
- *Anticipated groups of activities to be performed by the micro-grants project*
- *Anticipated products to be delivered by the micro-grants project*

The aim of the technical assistance request is that beneficiary families from selected communities participate in a comprehensive pilot/demonstration program that will be carried out in learning centers and replicated in their communities through equipment and materials provided by the technical assistance. The aim is to analyze the technological and financial models to make Solar Photovoltaic Irrigation Systems (SPIS) available to the smallholder farmers, including women, in the dry corridor of Guatemala. The Technical Assistance will include a benchmarking of the existing SPIS technologies, a cost-benefit analysis of the selected technologies that could be deployed in the municipality of Rabinal and San Miguel Chicaj Finally, but most importantly, this Technical Assistance identify business models to develop the local value chain, meaning providing value added to the products produced as a result of the solar powered irrigations systems and the different social structures that need to be to operate.

The technical assistance will contribute to improve livelihood of the the population as well as to food insecurity reduction. It will include:

- **Water harvesting, 1,000-liter reservoirs, and micro irrigation systems.** The systems will be implemented in learning centres for demonstrations and replicated in individual households in the communities. The irrigation systems will be used to water the family gardens and thus strengthen food security.
- **Family gardens.** They will include food, aromatic, and medicinal plants, such as cilantro, onion, chard, lettuce, tomato, parsley, apazote, rue, mint, spearmint, macuy or quilete, oregano, and basil.

The demonstration/training includes design, seedbeds, water management including drip kits, bio-fertilizer production, native seeds, and substrates. The gardens will be implemented in learning centers for demonstrations and replicated in individual households in the communities.

Two communities will be selected from each of the five municipalities, and 10 families per community. Each family has between 3-5 members according the 2018 Census (INE, 2018[5]); 50% of the direct beneficiaries and 51% of the indirect beneficiaries are women (Table 3).

- Direct and indirect beneficiaries, Baja Verapaz and El Progreso, Guatemala.

Department	Municipalities	Communities	Families/households	Direct beneficiaries
Baja Verapaz	2	4	40	160

Source: Prepared by the author, 2021.

- **Anticipated groups of activities to be performed by the technical assistance:**
  - Creation of a multi-stakeholder working group.
  - At least 6 meeting minutes from the multi-stakeholder working group.
  - Implementation of pilot/demonstration programs in learning centers and replication in each community, to support adaptive capacity, building of resilience, enhancing of livelihoods, and strengthening of agricultural and livestock production to ensure food security based on the identified climate change adaptation needs. This actions will be plan and implemented with the CADER, Learning Centers for Rural Development implemented by the National System of Rural Extension SNER of the Ministry of Livestock Agriculture and Food -MAGA.
  - Assessment of pilot/demonstration programs (adapted or co-designed by the communities, particularly women).
  - Integration of lessons learned through the pilot/demonstration program into climate change adaptation plans and existent municipal plans.

- **Anticipated products to be delivered by the technical assistance:**
  - Analyze the current irrigation practices and design an appropriate irrigation technologies
  - Collabrate with the ministry of agriculture to review the design of the Solar Powered irrigation system and the most appropriate crops for the region.
  - Develop three potential designs for the irrigation systems, depending on social capital-organizationsl structures, crops and potential for value chain.
  - Signed agreements with local organizations for the Installation and operation of the solar irrigation systems in selected communities and the different arrangements for manangement. The project will finance part of the inputs required to established the pilot irrigation but a counterpart wil lbe required from the community (i.e., labor, time).
  - Define a business model to strneghtened local value chains, Identification of shor term crops, with potential for local market that could improved livelihood of most vulnerable populations.
  - A report with lessons-learned
  - Monitoring and Evaluation: Baseline report, Mid-year report, final report; 4 financial reports (quarterly), 4 technical progress reports (quarterly).

Expected timeframe:

The duration of the technical assistance is expected to be 12 months.

[5] *Instituto Nacional de Estadística* (INE). 2018. "Resultados del Censo 2018". https://www.censopoblacion.gt/cuantossomos

Anticipated gender and other co-benefits from the technology concept:

As stated by Bryan & ElDidi (2021, 1[6]), unless restrictions to women's capacity to benefit from irrigation systems are considered by the intervention, women's empowerment is not a certain outcome. In this sense, the pilot/demonstration program will be codesigned by the community, particularly women, so they are able to obtain a real benefit from the implementation of water management technologies. Additionally, family gardens will be focused (but not limited) to female household heads in order to provide them with an extra income, which in turn could decrease their economic dependency.

Moreover, women's benefits from irrigation technologies and family gardens can lead to improved livelihoods, health, and nutrition because men and women tend to spend their income differently, with women being more likely to invest more on food, health, and education, which in turn can lead to reduced food insecurity. Given that it is usually the responsibility of women to collect domestic water, their involvement in the design of irrigation systems might reduce their time spent in collecting it (Bryan & ElDidi 2021, 1).

Anticipated other co-benefits from the technical assistance

An important co-benefit from the pilot/demonstration program will be the use and conservation of native seeds, which will be distributed and used in the family gardens. The seeds will be obtained from established seed banks such as SENACRI[7].

Besides, access to irrigation systems can reduce the risk of crop losses for the beneficiaries, and also can allow smallholders to grow multiple harvests per year, even during the dry periods that are characteristic of the area of intervention. Additionally, small-scale irrigation technologies can be beneficial when water is used for multiple purposes, including livestock watering, drinking and washing purposes (Bryan & ElDidi 2021, 1).

Key stakeholders:

Please list the stakeholders who will be involved in the implementation of the micro-grants project and describe their role during the implementation (for example, government agencies and ministries, academic institutions and universities, private sector, community organisations, civil society, etc.).

Stakeholders	**Role to support the implementation of the micro-grants project**
Stakeholders	**Role to support the implementation of the technical assistance**
National Designated Entity (MARN)	• Government institution that will provide support for the coordination of the technical assistance and the communication with stakeholders. It will also provide overall feedback to CTCN and the entity in charge of the implementation.
Request Applicant (MARN – *Dirección de Cambio Climático*)	Directorate that designs and implements plans, programs, projects and strategies in response to the Framework Law to Regulate the Reduction of Vulnerability, the Compulsory

[6] Bryan, E. and H. ElDidi. 2021. "Considering gender in irrigation: Technology adoption for women farmers". https://wle.cgiar.org/thrive/2019/07/01/considering-gender-irrigation-technology-adoption-women-farmers
[7] https://www.facebook.com/senacri/

	Adaptation to the effects of Climate Change; Mitigation and Reduction of Greenhouse Gas Emissions at a local and regional level.
Municipalities	Local government that will provide assistance in coordination and communication with the beneficiaries.
MAGA	Ministry of Agriculture and Livestock – MAGA - Family Farming program, and the Rural Extension System- SNER.

Alignment with national priorities (up to 2000 characters including spaces): *Please describe how the technology concept is consistent with national climate priorities such as: Nationally Determined Contribution, national development plans, poverty reduction plans, Technology Needs Assessments, Technology Action Plans, National Adaptation Plans, sectorial strategies and plans, etc.*	
Reference document (please include date of document)	**Extract** (please include chapter, page number, etc.).
Intended Nationally Determined Contributions (INDC)	The Guatemalan State promotes the reduction of vulnerability and the improvement of adaptation processes in several sectors. With respect to agricultural and food security issues, the crop monitoring system gives priority to actions that directly influence food production, particularly for self-consumption and subsistence in vulnerable areas. Most of the population is linked to the agricultural sector, so it is crucial to provide the necessary tools and technology to producers, to promote good practices of adaptation to climate change (Gobierno de Guatemala 2015, 8-9)[8].
Technology Needs Assessment	***To be determined by the NDE***
The Irrigation Promotion Policy	The Irrigation Promotion Policy of the Ministry of Agriculture, Livestock and Food 2013-2023, aligned with the Zero Hunger Pact and the goal of reducing malnutrition and therefore poverty in the Guatemalan countryside, sets the course and establishes strategies to develop irrigation in Guatemala and impact in such a way that agriculture can generate new opportunities that improve food production, fibers and other inputs for industry. A policy of this magnitude will also contribute significantly to the generation of employment and integral development of families, mainly those who practice peasant family farming, since much of the potential to develop is in areas where this type of producer predominates.
National Adaptation Plans	The National Climate Change Action Plan (PANCC) was updated in 2018, and goals were established in the adaptation section in: a) human health; b) marine-coastal zones; c) agriculture, livestock and food security; d) forest resources, ecosystems and protected areas; e)

[8] Gobierno de Guatemala. 2015. "Contribución Prevista y Determinada a Nivel Nacional (INDC)." https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Guatemala%20First/Gobierno%20de%20Guatemala%20INDC-UNFCCC%20Sept%202015.pdf.

	infrastructure, and f) integrated water resources management (CNCC 2018, 13[9]).
National Development Plan: K'atun, Nuestra Guatemala 2032	Guatemala has a National Development Plan that was approved in 2014, before the 2030 Agenda and its Sustainable Development Goals (SDGs) were implemented. This plan constitutes the country's long-term national development policy (CONADUR 2016[10]).

Development of the technology concept (up to 2000 characters including spaces):

Please describe how the technology concept was developed at the national level and the process used by the NDE and the Designated Authority to approve the technology concept before submitting it (who initiated the process, who were the stakeholders involved and what were their roles?) and describe any consultations or other meetings that took place to develop and select the technology concept, etc.

This technology concept was identified as part of the climate risk assessment developed in 2021. After defining the level of risk, it was necessary to identify and prioritize the most urgent and viable actions, measures, or options to counteract the negative effects of climate change that were identified. The first step to address the analysis of the selection of options or measures was their identification and collection, to later characterize them and thus select and implement the most appropriate effectively and avoid "bad-adaptation". In this sense, the process of identification and prioritization was carried out through community and institutional workshops, so that it was as participatory as possible and attached to local reality and knowledge, we follow-the bottom up approach, identifying what has been done, what is missing and ideas from the vulnerable population to overcome the barriers. The level of participation and commitment of local actors was of paramount importance to facilitate the proposal of future project profiles focused on livelihoods associated with agriculture, livestock, and food security. In this sense, the workshops identified – in a joint and participatory way – the adaptation needs, forms/options of adaptation and, as far as possible, the process of integrating adaptation options into local planning.

Particularly with irrigation using renewable sources, there has not been activities in the community where the climate risk assessments were developed. Particularly for Rabinal and San Miguel Chicaj this was one of the main activities that were prioritized. Access to water is the main problem, learning on how to store it and channel it more efficiently with solar based irrigation systems is of high interest for the communities. The climate risk assessment performed the stakeholders mapping and therefore, key actors have been identified to undertake the project.
The MARN has been leading the development of the concept note and will provide full support for the development of a technical proposal and further implementation. This involves coordination with other institutions from the government as the Ministry of Agriculture and the metrological institute, among others.

[9] Consejo Nacional de Cambio Climático (CNCC). 2018. "Plan de Acción Nacional de Cambio Climático (PANCC). Segunda Edición."
[10] Consejo Nacional de Desarrollo Urbano y Rural (CONADUR). 2016. "Estrategia de articulación de la Agenda de Objetivos de Desarrollo Sostenible con el Plan y la Política Nacional de Desarrollo K'atun, Nuestra Guatemala 2032". Guatemala.

Consultation workshops from the targeted communities (we consulted with women groups, indigenous communities and youth).

Once different technologies were identified a prioritization took place, communities prioritized access to water, access to energy and food secutiry. This concept respond to the needs and interest of the most vulnerable.

Background documents and other information relevant for the technology concept:

1. Gobierno de Guatemala. 2015. “Contribución Prevista y Determinada a Nivel Nacional (INDC)”. https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Guatemala%20First/Gobierno%20de%20Guatemala%20INDC-UNFCCC%20Sept%202015.pdf.
2. Congreso de la República de Guatemala. 2013. “Ley Marco Para Regular La Reducción de La Vulnerabilidad, La Adaptación Obligatoria Ante Los Efectos Del Cambio Climático y La Mitigación de Gases de Efecto Invernadero”. https://www.marn.gob.gt/Multimedios/2682.pdf.
3. Consejo Nacional de Cambio Climático (CNCC). 2018. “Plan de Acción Nacional de Cambio Climático (PANCC). Segunda Edición.”
4. Ministerio de Ambiente y Recursos Naturales (MARN). 2009. “Política Nacional de Cambio Climático”. https://www.segeplan.gob.gt/downloads/clearinghouse/politicas_publicas/Recursos%20Naturales/Politica%20Nacional%20de%20Cambio%20Clim%C3%A1tico%20Guatemala.pdf

5. Organización de las Naciones Unidas para la Alimentación y la Agricultura (FAO). 2021. "Fortalecimiento de la resiliencia y de la seguridad alimentaria en el Corredor Seco centroamericano". http://www.fao.org/americas/eventos/ver/es/c/422126/
6. Secretaría de Planificación y Programación de la Presidencia (SEGEPLAN). 2019. "Prioridades Nacionales de Desarrollo (medio visual)". https://www.youtube.com/watch?v=qCbh2PjSB8g
7. Zaldaña Mérida, Rubén Aroldo, y Fernando García Barrios. 2019. "Integración de La Agricultura En Los Planes Nacionales de Adaptación (NAP-Agr)." Organización de las Naciones Unidas para la Alimentación y la Agricultura (FAO) y Programa de Naciones Unidas para el Desarrollo (PNUD).

Consultation with the Designated Authority of the country:

Please indicate whether the technology concept has been developed in consultation with the Designated Authority of the country.

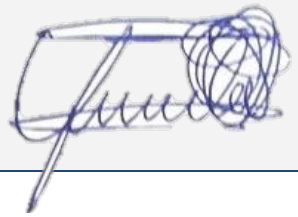
☒ The Designated Authority of the country has been engaged in the design of the technology concept and will be involved in the further process leading to the implementation of the micro-grants project.

Monitoring and evaluation:

By signing this form, I affirm that processes are in place in the country to monitor and evaluate the micro-grants project funded by the Adaptation Fund through UNEP-CTCN. I understand that these processes will be explicitly identified in the Project Concept Note (response plan of the micro-grants project) and that they will be used in the country to monitor the implementation of the micro-grants project.

I understand that, after the completion of the micro-grants project, I shall support UNEP-CTCN efforts to measure the success and effects of the support provided, including its short, medium and long-term impacts in the country.

Signature:

NDE name:	Ciriaco Antonio Urrutia Lemus, Director of Climate Change.
Date:	September 30th 2022
Signature:	

THE COMPLETED FORM SHALL BE SUBMITTED THROUGH A WEB-LINK AS BELOW:

https://www.ctc-n.org/adaptation-fund-climate-innovation-accelerator-afcia-unep-ctcn

UNEP-CTCN is available to answer all questions and provide guidance on the application process.