Adaptation Fund Climate Innovation Accelerator

Country	**Liberia**
Request ID#	**2004000045**
Title	***Increase urban resilience through the use of blue-green infrastructure in the city of Monrovia and the city of Paynesville by installing rain gardens to capture and harvest runoff/storm water***
NDE	Environmental Protection Agency of Liberia Mr. Christopher B. Kabah kabahchristopher@gmail.com
Proponent	**Ministry of Public Works**

Summary of the CTCN technical assistance

The objective of this technical assistance is to help define an approach to strengthen the resilience of the cities of Monrovia and Paynesville through the implementation of climate change adaptation actions promoting urban green infrastructure. The specific objectives will be i) to develop a baseline study including a risk and vulnerability assessment, a barriers and challenges assessment and hydrological mapping, ii) identify the sites in consultation with all stakeholders with specific recommendations of which type of raingarden to pilot with technical specifications, iii) pilot and test the raingardens during two types of seasons to check its viability, iv) provide an educational component, oriented towards the youngest and vulnerable populations in order to raise awareness among the general public on the importance of green infrastructure, v) facilitate access to climate financing for scale-up through the development of a concept note.

Agreement:

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

National Designated Entity to the UNFCCC Technology Mechanism
Name:
Title:

Date:

Signature:

Adaptation Fund Focal Point

Name:
Title:

Date:

Signature:

UNFCCC Climate Technology Centre and Network (CTCN)
Name:
Title:

Date:

Signature:

1. Background and context

Liberia has a 570 km long coastline and is vulnerable to climate variability and change including more extreme weather events such as heavy rains and rising sea levels. Liberia is one of the wettest countries in the world, with the heaviest rainfall occurring from May to October. Rainfall is highest along the coast, where a number of Liberia's urban cities and settlements are located, including the capital Monrovia. It is impacted by the West African Monsoon with relative humidity reaching 90 to 100 % during the rainy season and 60-90 % during the dry season according to the World Bank.

Due to its high number of rivers, catchments and aquifers as well as its low-lying coastal zone, changes to precipitation rates will likely result in high-risk flooding scenarios, including both urban and coastal flooding according to analysis done by the World Bank. Heavy rains, storm surges, sea level rise and increased erosion will put both urban and rural infrastructure at risk.

Approximately 51.6 % of the population currently live in urban areas and, according to a World Bank report in 2021, this is projected to increase to 57.3% and 68.2% in 2030 and 2050, respectively. In the Greater Monrovia area alone, a predicted 16 cm sea level rise by 2030 would put 675,000 people and 9,500 hectares of land at risk. A great number of informal settlements in the urban areas of the city will be particularly impacted and increasing rainfall and flooding will bring with it several diseases such as Malaria, Cholera and diarrheal diseases. As Liberia is highly dependent on agriculture, the impacts of heavy rain due to soil runoff will be particularly damaging.

The country is ranked 167 out of 181 countries on the ND-GAIN Country Index rank with a high vulnerability score and low readiness score. According to ND-GAIN, it has both a great need for investment and innovations to improve readiness and a great urgency for action. Liberia is the 30th most vulnerable country and the 166th most ready country.

The NAPA process in 2004 revealed that Liberia was already experiencing adverse effects of climate change and extreme events. Liberia's revised NDC from 2021 recognizes the crucial role of adaptation in ensuring the resilience of communities and natural systems and includes a cross-cutting target for urban green corridors within the nine key sectors of its NDC (agriculture, forests, coastal zones, fisheries, health, transport, industry, energy and waste). The NDC asks for increased urban resilience through use of blue-green infrastructure in the five cities of Monrovia, Paynesville, Buchanan, Gompa and Gbarnga by increasing the volume of runoff/storm water captured by at least 10 % annually to 2030 and by increasing the number of rain garden and cistern/rainwater harvesting installations in urban areas by 15 % annually by 2030.

2. Problem statement

Liberia has limited resilience and adaptive capacity to combat the effects of climate change. The low adaptive capacity is exacerbated by climate change impacts and Liberia still suffers from resource gaps and policy barriers to effectively tackle climate change. Its rapid urbanization has resulted in cities such as Monrovia and Paynesville which have large informal settlements located on the coast with inadequate resilience of the population to respond to adverse weather events, insufficient grey infrastructure which can lead to groundwater pollution during flooding events, and no green spaces to improve the health, mental wellbeing, and community gathering spaces of urban developments.

1. **Inadequate resilience of urban communities to flooding:**
   Barrier: vulnerable communities lack access to protection against storm water
   Solution: rain gardens preserve storm water and reduce runoff
2. **Inadequate urban planning and grey infrastructure to cope with flooding**
   Barrier: increased urbanization has translated into informal settlements and a lack of sewage infrastructure leading to disease during flooding
   Solution: Rain gardens, as a nature-based solution, filter wastewater and prevent groundwater pollution caused by sewage contamination
3. **Inadequate sources of freshwater in urban settlements**
   Barrier: increased urbanization has led to lack of freshwater for urban dwellers
   Solution: Rain gardens collect rainwater and through bioretention filter pollutants from stormwater. This contributes towards maintaining sources of freshwater for urban communities.
4. **Insufficient urban infrastructure to adapt to climate change**
   Barrier: increased urbanization and an increase in average temperatures over time has led to an urban heat dome
   Solution: rain gardens mitigate the urban heat island effect through the temperature difference between green and urbanized spaces.

3. Logical Framework for the CTCN Technical Assistance:

(Guidance: Please note that multiple activities lead to one Output, and multiple Outputs lead to one Outcome. There can be several Outputs, but only one Outcome description capturing the CTCN technical assistance. Deliverables are the products or services to be delivered to the NDE/Proponent/CTCN based on the Activities and the Outputs.)

	Month																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Objective: *The technical assistance aims to raise the adaptive capacity of the citizens of Monrovia and Paynesville by incorporating green infrastructure such as raingardens to increase resilience and support adaptation.*																		
Outcome: *The implementation of rain gardens in the two cities of Monrovia and Paynesville will improve stormwater management, improve the quality of drinking water having a positive impact on the health and wellbeing of the citizens as well as increase biodiversity and green spaces.*																		
Mandatory Output: All implementers must undertake the following activities at the beginning and at the end of the CTCN technical assistance.																		
Activity i: 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 ii**: 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 iii**: 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 iv:** a Result Tracker from the Adaptation Fund that will be filled in at the start of the project (baseline), at mid-term and at closure. **Activity v:** 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 vi**: A technical assistance closure report completed at the end of the CTCN technical assistance (a template will be provided).																			
Mandatory Deliverables: **i) Implementation plan** **ii) Monitoring and evaluation plan** **iii) Impact statement (initial and final version)** **iv) Adaptation Fund Result Tracker at start, midterm and closure** **v) Gender assessment** **vi) Technical assistance closure report**																			
Output 1: Developing a Steering Committee																			
Activity 1.1: Introduce a Steering Committee (SC). The project steering committee will be established and includes the NDE, a CTCN representative, the Implementing Partner, the Project Proponent, and beneficiaries (a representative of the pilot areas). The SC will define its terms of references, and then meet once a month (virtually or in-person) and be the decision making body of the technical assistance.																			
Activity 1.2: Kick-off (online) and regular hybrid meetings																			

The kick-off meeting will be held with the main representatives (Ministry of Public Works, Ministry of Internal Affairs, City Councils of Monrovia and Paynesville, NDE, NDA, CTCN, the network partner as well as potential ministries responsible for urban planning, and sewage management. The agenda of the kickoff should at least cover the following steps: i) Presentation of the consulting team and project stakeholders ii) Exchange of reference documents (national strategy, study, regulations, laws, progress of the raingardens project in Monrovia and Paynesville, etc.) iii) Description of the methodology that will be applied for the raingardens iv) Presentation of the work plan, the activities that will be carried out in this TA, the expected results. v) Identification of the key Stakeholders: The NDE, NDA, City Council of the Communes of Monrovia and Paynesville and other institutions, agencies, entities (including organizations working on gender and vulnerable populations) that should be involved in the development of this TA. After the kick-off meeting, monthly hybrid meetings will take place to inform on the progress of the TA and any follow-up actions needed.																	
Deliverable 1: Deliverable 1.1: Kick-off meeting report and minutes of the monthly meetings with list of participants, agenda, concept notes, list of reference documents etc.																		
Output 2: Develop a baseline study																		
Activity 2.1: Conducting a risk and vulnerability mapping which will include hydrological mapping, weather pattern mapping and include a list of potential barriers and challenges: **Infrastructure and Technical Constraints**: Identify challenges related to the installation and maintenance of rain gardens, such as limited technical capacity, resources, or expertise. **Environmental and Climate Risks**: Assess potential challenges posed by the local climate, such as heavy rainfall or periods of drought, that may affect the viability or effectiveness of rain gardens. **Cultural and Behavioral Factors**: Understand local perceptions about rain gardens, such as concerns over maintenance, water use, and the aesthetic appeal of rain gardens.																	
Activity 2.2: Conducting a site mapping i) Geo-spatial analysis of the communities of Monrovia and Paynesville to appreciate the territorial dynamics, the existence of urban green infrastructure, their state of conservation, available lands in which new urban green infrastructure could be developed, identification of territories on which a work on the rehabilitation of the mangrove should be done. ii) Geophysical analysis of the communities of Monrovia and Paynesville iii) Processing the maps to extract useful data for this TA.																		

iv) Identification of sites that could be used to promote raingardens in the communities of Monrovia and Paynesville.																			
Activity 2.3: Recommendations for Rain Garden Implementation Target Areas: Based on data collected, identify the most suitable areas for implementing rain gardens in Monrovia and Paynesville, prioritizing flood-prone and high-pollution areas. Each suggested site will be graphically presented with descriptions on composition, position, materials, budget, size, maintenance requirements and the expected benefits (non-exhaustive list) for better prioritization which of the suggestions to implement. A maximum of 10 sites will be presented which includes both Paynesville and Monrovia. A prioritization workshop will be conducted with SC members and community members deciding on the best sites for the pilots. The workshop will cover pilots in both Monrovia and Paynesville due to their close proximity and networking opportunities. Suggested strategies for community involvement, education, and awareness to ensure the long-term success of rain gardens will also be developed at the workshop. After the prioritization workshop and the selection of the raingardens, a project management plan including a gantt chart, a detailed list of actions and focal points for each action, and a more detailed budget, will be produced.																		
Deliverables 2: Deliverable 2.1: One pagers for each suggested rain garden site Deliverable 2.2: Community involvement strategies Deliverable 2.3: Project management plan																			
Output 3: Piloting and testing rain gardens																			
Activity 3.1: Procurement for the raingardens (based on the assumption that each 100 meters of residential buildings can be supported by a 25 meter large raingarden and each site (one in Paynesville and one in Monrovia) has one to three raingardens) (taking procurement of materials such as soil, gravel, mulch, and plants and hired labour into consideration, each site would cost approximately USD 2500 with a maximum of USD 15.000 for all procurement). Pilots should be different in Paynesville and Monrovia. *The list of materials is non-inclusive and may be amended by the Implementing Partner*																		
Activity 3.2: Piloting the raingardens in two types of seasons (monsoon season and non-monsoon season to test their viability in the two different weather conditions)																			
Activity 3.3: Training, capacity building, and monitoring and evaluation for the caretakers, users (including the community) and mayors during a period of between 4 to 6 months and beyond. The training should include engagement and community sensibilization for the communities and the mayors, and should include the development of a manual in Liberian English and other local languages. An M&E plan to track and monitor progress after implementation for the next 3-5 years using a set of easily monitored quantitative indicators and a clear ToR for the M&E focal point is included in the manual.																			
Deliverables 3:																			

Deliverable 3.1: training materials Deliverable 3.2: Manual on raingardens																		
Output 4: Closure Workshop																		
Activity 4.1: closure workshop to disseminate information about the project to all the stakeholders including local financial / funding entities, Government entities, NGOs, private sector, academia and else																		
Activity 4.2: prepare closure report including a set of recommendations for scale-up																		
Deliverable 4 Deliverable 4.1: minutes of closure workshop Deliverable 4.2: closure report																		

4. Resources required and itemized budget:

Please provide an indicative overview of the resources required and itemized budget required to implement the CTCN technical assistance, including for M&E-related activities, using the table below. Important to note that minimum 5% of the budget should explicitly target gender specific activities related to the technical assistance (please see section 10 for further information on gender). Once the Response Plan is completed, a Response Implementation partner(s) will be selected by the Climate Technology Centre (CTC). A detailed activity-based budget for the CTCN assistance will be finalized by the CTCN and selected Implementer.

Activities and Outputs	**Input: Human Resources** *(Title, role, estimated number of days)*	**Input: Travel** *(Purpose, national vs. international, number of days)*	**Inputs: Meetings/events** *(Meeting title, number of participants, number of days)*	**Input: Equipment/Material** *(Item, purpose, buy/rent, quantity)*	**Estimated cost** *Please accumulate the costing at Activity and Output level and provide an estimated costing range for each activity and the total Response Plan*	
					Minimum	**Maximum**
Mandatory Output: Development of the work plan and related communication documents	I1: 16 days I2: 0 day N1: 12 days	*None*	KM seminar	None	11,800	12,980

	N1+N2:6 DAYS N3 : 0 days					
Output 1: Developing A Steering Committee.	I1: 5 days I2: 2 days N1: 4 days N2 : 4 days N3 : 0 days	Activity 1.2: 2,300 for the team leader to travel to Liberia for 4 days + 800 USD for 2 national staff travel (100 USD x 8 travel)	Activity 1.2: 1 day of workshop for a total of USD 2,000 for logistics costs and USD 2,460 for travel costs of participants + room rental etc.	For regular SC hybrid meetings throughout the project implementation, a total of USD 4,000 for workshop materials and conference room rental.	15,960	17,556
Output 2: **Develop a baseline study**	I1: 18 days I2: 20 days N1: 25 days N2 : 2 days N3 : 0 days	Activity 2.2: USD 3,100 for the Expert in green infrastructure and urban greening to travel to Liberia for 8 days + 800 USD for national staff travel (100 USD x 8 travel)	Activity 2.2: USD 1,000 for Prioritization Workshop with SC members and community members deciding on the best sites for the pilots and identification of strategies for community	Activity 2.2: USD 1,000 for workshop materials and room rental	31,760	34,936

			involvement, education, and awareness.			
Output 3: Piloting and testing rain gardens	I1: 32 days I2: 30 days N1: 12 days N2 : 20 days N3 : 60 days	Activity 3.2: 2,300 for the team leader to travel to Liberia for 4 days + 400 USD for 2 national staff travel (100 USD x 4 travel)		Activity 3.1: USD 15.000 (for materials for raingardens at 2 sites with between 1 to 3 rain gardens per site) Activity 3.3: USD 2.400 for workshop materials and room rental	75,500	83,050
Output 4: Closure Workshop	I1: 8 days I2: 2 days N1: 13 days N2 : 6 days N3 : 0 days	Activity 4.1: 2,300 for the team leader to travel to Liberia for 4 days + 200 USD for 2 national staff travel (100 USD x 2 travel)	Activity 4.1: 1 day of workshop for a total of USD 1,500 for logistics costs and USD 960 for travel costs of participants + room rental etc.		14,660	16,126
				Total	149,680	164,648

5. Profile and experience of experts

Based on the required Human Resources identified in section 4 (Resources required and itemized budget) please provide a description of the required profile of all involved experts for the implementation of the CTCN Response Plan. A gender expert is required for each technical assistance and suitable experts can be identified from the CTCN Gender and Climate Technology Expert Roster or other relevant sources.

Experts required	Brief description of required profile
Team leader and urban planning - I1	Architect or master's degree or above in smart cities, sustainable planning, green infrastructure or affiliate At least 12 years of demonstrated experience in smart cities, green infrastructure, sustainable planning. Minimum 8 years of experience in digital technologies for urban planning such as SIG, satellites, drones or affiliate At least 5 references in formulating sustainable urban planning in developing countries. At least 3 references in budget estimation for sustainable city planning. Experience with coordinating and liaising with multiple national and international agencies. Experience in campaign awareness, capacity building and trainings to professionals. Excellent level of English is compulsory. Qualified women candidates are highly encouraged to apply.
Expert in green infrastructure and urban greening – I2	Architect or master's degree or above in smart cities, sustainable planning, green infrastructure or affiliate At least 8 years of experience in sustainable urbanization, sustainable city planning, urban greening projects or other. At least 5 relevant references on urban planning, urban green infrastructure, smart cities of similar. At least 5 references in urban greening projects Experience in Africa is a plus. Excellent level of English is mandatory. Qualified women candidates are highly encouraged to apply.
National experts	
Expert in landscaping, horticulture, or affiliates – N1	A Master's or bachelor's degree in landscaping, horticulture, agricultural engineer or affiliate. At least 8 years of demonstrated experience in greening spaces with local varieties of plants in West Africa, and Liberia preferably.

	At least 5 years of experience in Liberia on greening urban spaces, construction of parks or garden, green infrastructure, agriculture or affiliate. Expected localization in Liberia or with availability to travel to Monrovia and Paynesville often and for long period of time. Fluency in English is a must. Qualified women candidates are highly encouraged to apply.
Gender Expert – N2	A Master's or bachelor's degree specializing in gender studies or other related field from a recognized university. At least 5 years of experience in mainstreaming gender benefits in development programs. Knowledge of climate change, adaptation, green infrastructure, urban planning, smart cities of affiliate. Demonstrated experience in Africa. Expected localization in Liberia or with availability to travel to Monrovia and Paynesville often and for long period of time. Fluency in English is a must. Qualified women candidates are highly encouraged to apply.
Expert in climate change specialized in capacity building and campaign awareness – N3	A Master's degree in climate change, sustainable urban planning, hydrology, sustainable development or another related field. At least 8 years of experience in training professionals in the climate change / environmental / sustainability sector/ urban planning / smart cities/ green infrastructure or affiliate. At least 5 references in capacity building for sustainable development, sustainable urban planning, nature management or related projects. Expected localization in Liberia or with availability to travel to Monrovia and Paynesville often and for long period of time. Fluency in English is a must. Qualified women candidates are highly encouraged to apply.

6. Intended contribution to impact over time

Please provide a brief description of the intended contribution to impact over time of the outcome and outputs provided by this technical assistance on resilience to climate change and/or carbon abatement. To the extent possible, please quantify the intended impact contribution, for example by indicated estimated number of people potentially impacted over time, GDP contribution of the focus sector, carbon emissions by the focus sector, etc. This intended contribution to impact is what will happen if the objective (as articulated in section 3) is met. Please ensure relevant complementarity with text in sections 7 to 12. (maximum 1250 characters including spaces)

Suitable nature based solutions (NBS) in combination with traditional grey infrastructure, such as drainage pipes, will be adopted in Monrovia and Paynesville to adapt to increased flooding. It is expected that this contribution will increase Liberia's urban population's resilience to flooding as an adaptive response and by supporting the use of blue-green infrastructure in urban settings, it will prevent drinking water contamination thus preventing disease outbreaks and ensuring the city population has clean drinking water. Rain gardens, as a nature-based solution, have manifold benefits as an urban planning tool including storm water preservation, reduction of runoff and flood protection, groundwater pollution prevention, biodiversity enhancement and microclimate control reducing urban heat islands. Monrovia and Paynesville have a combined population size of around 1.76 million inhabitants and are considered the beneficiaries of this technical assistance.

7. Relevance to NDCs and other national priorities

Liberia's first NDC was submitted in 2015 and a revised NDC was submitted in 2021 by the Environment Protection Agency, the country's Designated National Authority for UNFCCC. It comprises 9 sectors (both for mitigation and for adaptation): agriculture, coastal zone, energy, fisheries, forestry, health, industry, transport and infrastructure, and waste. Urban green corridors are cross-cutting in the NDC. In this context, there is a specific reference to rain gardens as a solution to urban resilience strengthening.

8. Linkages to relevant parallel on-going activities:

Liberia's National Disaster Management Policy from 2012 is the guiding document to deal with natural and manmade disaster across governmental agencies. It has as a stated goal to increase resilience to increased risk of natural hazards, extreme events and to reduce the vulnerability of local communities and institutions. However, Liberia suffers from financial constraints and limited institutional capacities to effectively respond to climate hazards, particularly with regards to increasing the resilience of the urban population in response to flooding and excessive rain fall such as evidenced in the extreme and continuous rainfall between 28 June to 1 July 2024, which lead to flash, coastal and river basin flooding in Monrovia and neighboring areas. 10,000 households (51,000 persons) were affected and the Liberia Refugee Repatriation and Resettlement Commission (LRRRC) had to set up eight temporary shelters for IDPs according to an IFRC flood response operation. Liberia has faced recurrent flooding in 2023, 2022, 2017, 2003, and 2002 partly as a result of inadequate drainage infrastructure.

Responses to date have centred around immediate emergency responses to recurring extreme weather events and to enhance the capacity of disaster and emergency actors such as the National Disaster Management Agency, the Liberia National Red Cross Society, the Environmental Protection Agency, and the Ministry of Internal Affairs, and have not focused on increased resilience of urban settlements.

The "HOT" project has trained and conducted mapping to track flooding in rural Liberia to strengthen disaster risk reduction and emergency responses including early warning systems.

However, blue-green infrastructure to strengthen urban resilience in response to flooding has not been implemented in Liberia and is a key missing element in Liberia's adaptive capacities.

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

Once the TA is completed, communities in Monrovia and Paynesville with support from the local government can use the raingardens for their health, biodiversity, and ecosystem properties and communities in the area can enjoy clean drinking water. The national government, including the Ministry of Public Works, could develop and implement a programme/project to replicate the system to other coastal cities in Liberia.

10. Gender and co-benefits:

Each technical assistance must integrate gender mainstreaming activities and lead to gender and other co-benefits. At least 5% of the technical assistance budget needs to be allocated to gender mainstreaming activities.

Imbedded in design of the activities:	Women have been and will be involved in the implementation of all activities from the identification of priority sectors for climate change adaptation and mitigation climate change adaptation and mitigation, through stakeholder engagement in technology to the development of the roadmap for the prioritized technology.
Gender and co-benefits intended as result of the activities:	Women and Men in the prioritized sector whose technology roadmap will be developed will benefit ultimately through creation of sustainable jobs and opportunities in this sector.

11. Main in-country stakeholders in implementation of the technical assistance activities:

Using the table below, please list and describe the role of in-country stakeholders, participants and beneficiaries who will be involved in or directly consulted during implementation of the assistance.

In country stakeholder	**Role in implementation of the technical assistance**
NDE	*Project supervision*
Ministry of Public Works	*Proponent*
Mayors of Monrovia and Paynesville	*Consultations, data provision, participation in the steering committee, etc.*
Citizens of Monrovia and Paynesville	*Beneficiaries, Consultations, data provision, participation in the capacity building trainings, etc.*
Adaptation Fund focal point	*Mr. Jeremiah G. Sokan, Sr.* *Coordinator* *National Climate Change Secretariat* *Environmental Protection Agency (EPA)* *Liberia* *Tel: + 231-880-788-594 / +231-770-775-174* *Email: jsokansr7@yahoo.com;*

12. SDG Contributions:

*Instructions: Please complete the grey section below for **a maximum of three SDGs** that will be advanced through this TA. A complete list of SDGs and their targets is available here: https://sustainabledevelopment.un.org/partnership/register/.*

Goal	Sustainable Development Goal	Direct contribution from CTCN TA (1 sentence for top 1-3 SDGs)
1	End poverty in all its forms everywhere	
2	End hunger, achieve food security and improved nutrition, and promote sustainable agriculture	
3	Ensure healthy lives and promote well-being for all at all ages	The CTCN TA will prevent sewage overflow which leads to contaminated water and diseases such as malaria, cholera etc
4	Ensure inclusive and equitable quality education and promote life-long 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	The CTCN TA will support grey infrastructure during floods.
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, in particular 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	The CTCN TA will raise the adaptive capacity of citizens of Monrovia and Paynesville.

12	Ensure sustainable consumption and production patterns	
13	Take urgent action to combat climate change and its impacts	*All TAs should indicate relevance to Goal 13 and at least one target below (13.1 to 13.b).*
	13.1 - Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	The CTCN TA will strengthen the adaptive capacities of the citizens of Monrovia and Paynesville and make them more resilient in cases of flooding and storms.
	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	
	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:

Please indicate primary type of technical assistance. Optional: If desired, indicate secondary type of technical assistance.

Please tick off the relevant boxes below	*Primary*	*Secondary*
☐ 1. Decision-making tools and/or information provision	☐	☐

☐ 2. Sectoral roadmaps and strategies	☐	☐
☐ 3. Recommendations for law, policy and regulations	☐	☐
☐ 4. Financing facilitation	☐	☐
☐ 5. Private sector engagement and market creation	☐	☐
☐ 6. Research and development of technologies	☐	☐
☐ 7. Feasibility of technology options	X	☐
☐ 8. Piloting and deployment of technologies in local conditions	X	☐
☐ 9. Technology identification and prioritisation	X	☐

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

14. Monitoring and Evaluation process

Upon contracting of the implementing partners to implement this Response Plan, the lead implementer will produce a monitoring and evaluation plan for the technical assistance. The 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) NDE about overall satisfaction level with the technical assistance service provided; and (ii) the Lead Implementer about the knowledge and learning gained through delivery of technical assistance. Furthermore, the NDE together with the project proponent(s) will complete a periodic post-implementation form to track the impact of the activities beyond the technical assistance end date.

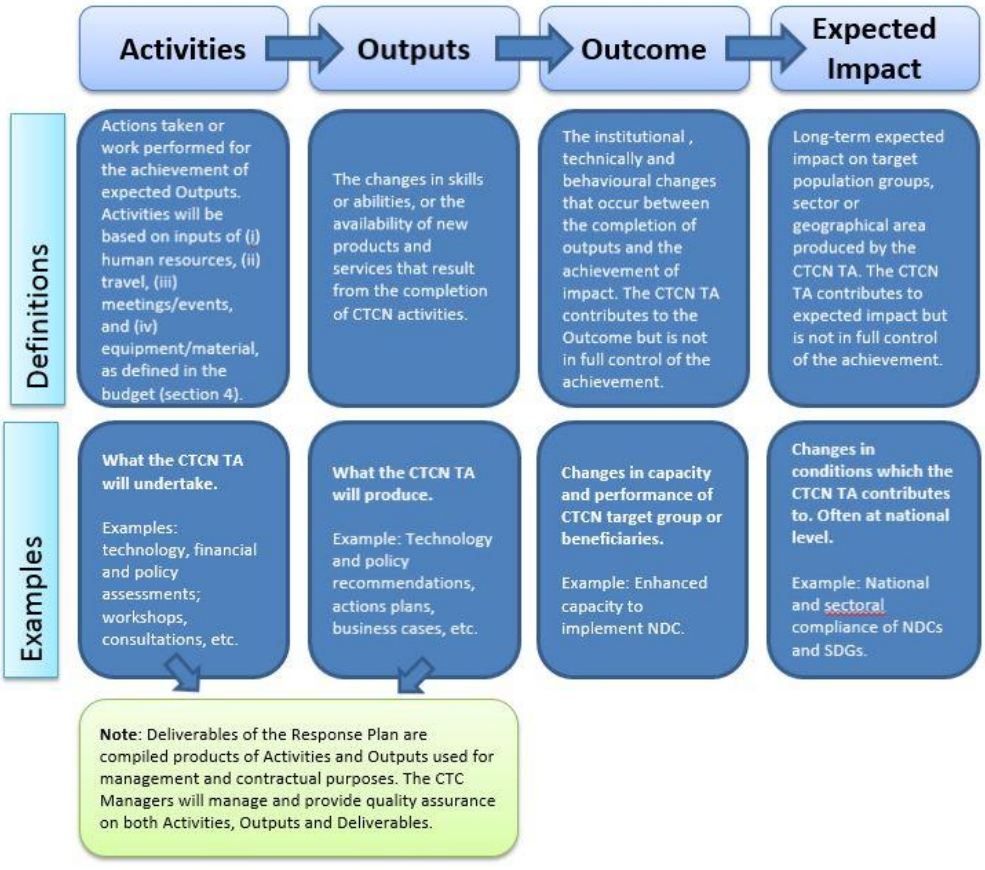
Annex 1: Guidance note for designing a Response Plan (to be deleted when submitting the Response Plan)

1. Objective of the Response Plan

The Response Plan is developed by CTCN specialists in response to a country request for technical assistance. It constitutes the Terms of Reference of the CTCN technical assistance that will be provided to the country and it provides the formulation of and subsequent basis for the monitoring and evaluation of the Response Plan implementation, as well as its expected outcomes and anticipated impacts.

2. Results chain and Logical Framework Approach to be defined in the CTCN Response Plan

The result chain is the causal sequence that stipulates the necessary flow of actions and processes to achieve desired objectives and results – beginning with inputs, moving through activities and outputs, and culminating in individual outcomes. The outcome will contribute to the desired impact in the society. The Logical Framework Approach is an analytical process used to support objectives-oriented project planning and management. It provides a set of pre-defined concepts which are used as part of an iterative process to aid structured and systematic analysis and management of the CTCN technical assistance.



3. Role of the Response Planning Design Team

The Response Planning Design Team is selected by the Climate Technology Centre (CTC). The composition of the team depends on each particular request but may include the National Designated Entity (NDE), the request Proponent, Climate Technology Manager of the CTCN, experts from the CTCN Consortium, UNIDO and UNEP experts from regional offices and other experts as needed.

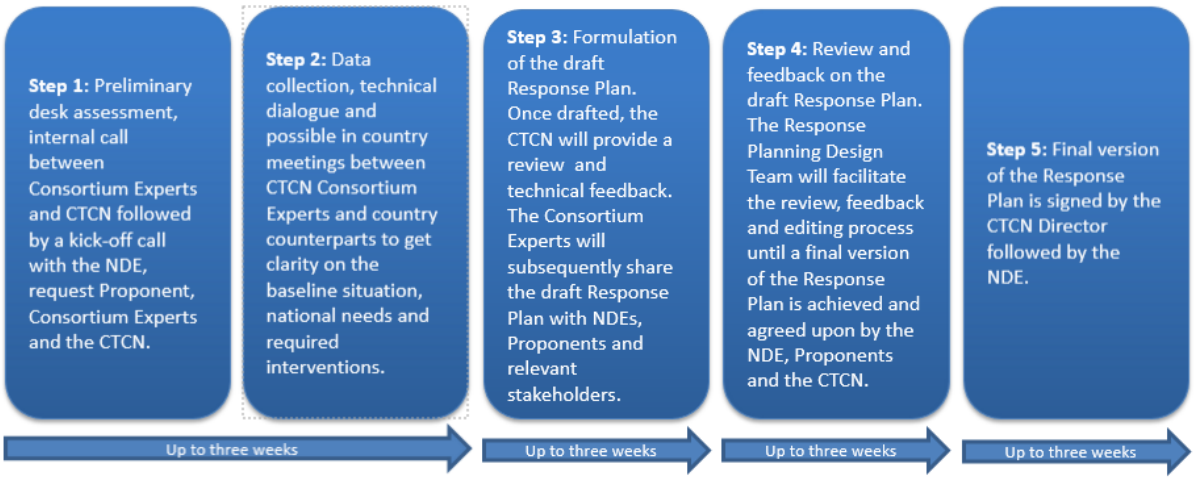
The role of CTCN Consortium experts is to lead the design of the Response Plan. The NDE will provide overall guidance on national context and priorities whereas the request Proponent will provide more detailed information on the sector, barriers and requested assistance. The Climate Technology Manager of the CTCN will provide quality assurance of timeliness and appropriateness of the Response Plan.

The Response Planning Design Team will draft all sections of the Response Plan template building on the information contained in the CTCN Request, based on expertise on the given topic and potentially further data collection, as required. This will be done by the CTCN Consortium Experts in consultation with the NDE, request Proponent and relevant stakeholders. The Response Plan has to be agreed to and approved by the NDE and the CTCN Director. This Response Plan will serve as the basis to identify, select and engage an expert institution from the Climate Technology Network or Consortium to lead the implementation of the CTCN Response Plan in the requesting country.

To the extent possible, staff from UNEP and UNIDO Regional, Sub-Regional and/or National Offices should be involve in all stages of formulation of the Response Plan to maximize synergies and avoid overlap with ongoing initiatives, as well as ensure relevance to regional and national context.

4. Process for designing the Response Plan

The Response Planning process should be completed over a period of up to 60 working days (12 weeks). Indicative steps and related timelines are laid out below:



5. Design Considerations

In order to maximize the impact of the technical assistance provided by the CTCN and provide an effective M&E process, the Response Plan should integrate as much as possible the considerations below:

Annex 1. Guidance Note for the Response Plan template

Climate Technology focus: The Response Plan should have a clear focus on climate technologies, and identify activities that enable the identification, development, deployment or diffusion of one or several specific technologies (including equipment, techniques, knowledge and skills).

Barrier removal / Problem solving: The activities should contribute to address the specific problem statement identified in the Request. The barriers identified should be those hampering the identification, development, deployment or diffusion of one or several climate technologies or climate actions. Therefore, it may be necessary to limit the CTCN Response Plan to a set of activities for technical assistance commonly agreed with the NDE (and Proponent when needed) compared to the original request submitted. The CTCN will liaise with NDEs and Proponent in case the scope of the technical assistance deviates from the original request.

Use of the CTCN assistance by stakeholders: The Response Plan should identify clearly how the products of the CTCN assistance will be used in the short term once support is delivered, by who and when, to ensure it will lead to specific impacts in the country. The activities should engage the stakeholders that will use the concrete results of the assistance to deploy the technologies, including from the private sector, the public sector, research institutions, etc.

Within the scope of CTCN resources: The cost of the technical assistance provided by the CTCN cannot exceed USD 250,000 per Response Plan. Therefore, it may be necessary to prioritize activities and limit the CTCN Response Plan to a set of priority activities commonly agreed with the Proponent and the NDE to remain under this value. Under section 4 of the Response Plan template, an indicative activity based budget should be presented. The proposed budget is indicative and should present an estimated costing range per activity, output as well as a total costing range for the delivery of the Response Plan. Once the Response Plan is finalised and published for tendering, interested parties will provide competitive offer against the indicative budget.

CTCN activities and outputs should be linkable to monitoring and evaluation indicators: All proposed activities and outputs must be linkable to monitoring and evaluation indicators that are specific, measurable, achievable, relevant, and time-bound. The monitoring and evaluation process and corresponding indicators will be developed by the Lead Implementer as part of the work plan and will allow the CTCN technology Manager to monitor the timeliness and appropriateness of the implementation.

Synergies with existing efforts: The Response Plan should focus on activities that are not already being fully supported or that are in the process of being fully supported by another national, regional or international organization. Synergies and complementarity also require that the CTCN assistance is not duplicating past activities. It is possible in the Response Plan to indicate co-financing from the government, the Proponent or another stakeholder, that will maximize the effectiveness of the CTCN assistance.

Gender mainstreaming: The CTCN mission is to build or strengthen developing countries' capacities to identify technology needs, to facilitate the preparation and implementation of technology projects and strategies taking into account gender considerations. The Response Plan must therefore describe how gender considerations will be included and monitored within the proposed activities, and any gender co-benefits that will be gained as a result of implementing the CTCN technical assistance.