



Technical Assistance Closure Report Template

Objective of the technical assistance (TA) Closure Report:

- To communicate publicly in one document a summary of progress made and lessons learned during the TA towards the anticipated impact (sections 1-4).
- To document qualitative and quantitative data collected during TA, for use in donor and UN reporting (Annex 1).

Steps for completing the TA closure report:

1. The lead TA implementer submits the closure report at the end of the technical assistance as a final deliverable. The TA closure report will capture outputs, outcomes and impacts of all activities conducted under the TA. Please copy and summarise relevant material from previous TA outputs/deliverables and the Response Plan, as relevant.
2. A CTCN Manager will review and revise the closure report before final approval by the CTCN Deputy Director.

Important note on public and internal use of the closure report:

Once approved by the CTCN Deputy Director, the TA closure report will be a public document available on the CTCN website www.ctc-n.org. Selected content will be used for targeted communication activities. Annex 2 is for internal use only and will not be publicly available.

Closure Report for CTCN Technical Assistance

1. Basic information

Title of response plan	Use of digital technologies to develop a methodology to increase climate resilience in the city of Ouagadougou in Burkina Faso through nature-based solutions
Technical assistance reference number	3100004637
Country / countries	Burkina Faso
NDE organisation	Direction Generale de l'Economie Verte et du Changement Climatique (DGEVCC)
NDE focal point	Pamoussa OUEDRAOGO
NDE contact information	ouedpams@yahoo.fr
Proponent focal point and organisation	Ouagadougou city council
Designer of the response plan	Foundation Green Action, Burkina Faso
Implementer(s) of technical assistance	Resalliance by Sixense Engineering and AGEIM Ingénieurs Conseils
Beneficiaries	Ouagadougou city council
Sector(s) addressed	Infrastructure and Urban planning
Technologies supported	Hazard mapping solutions; Flood hazard mapping
Implementation start date	28/06/2021
28/06/2021	01/012/2022
Total budget for implementation	USD 230 820

Description of delivered outputs and products as well as the activities undertaken to achieve them. In doing so, review the log frame of the original response plan and refer to it as appropriate

Output 1: Develop communication documents and implementation work plan

- Activity i: Develop detailed Implementation Plan
- Activity ii: Develop a monitoring and evaluation plan
- Activity iii: Impact description document (2-page description of the expected impact of the CTCN technical assistance)
- Activity iv: CTCN Closure and Data Collection report

Output 2: Territorial and geo-spatial diagnosis of the city of Ouagadougou through the use of satellite technologies

- Activity 2.1: Online kick off meeting with main stakeholders (preparation, delivery and report writing)
- Activity 2.2. Use of satellite technologies to map the city of Ouagadougou
- Activity 2.3: Analysis of satellite maps to identify issues, constraints, site management challenges

Output 3: Identify sites and definition of their use in consultation with all stakeholders

- Activity 3.1: Vulnerability assessments of the sites
- Activity 3.2: Two days workshops with main stakeholders (preparation, delivery and report)

Output 4: Presentation of a portfolio of urban green Infrastructure for the pilot city

- Activity 4.1: Definition of a plan for urban green Infrastructure in the city of Ouagadougou
- Activity 4.2: Two-day workshop for the presentation of vegetalization options to Urban green infrastructure & preparation of the awareness-raising campaign for citizens and younger populations (preparation, delivery and report) – online
- Activity 4.3: Advanced study of the economic, environmental, social and climatic impact of the selected greening projects (max 10)
- Activity 4.4: Campaign awareness for the citizens (preparation, delivery and report)
- Activity 4.5: Description of the methodology applied to the project in order to promote replicability to other pilot cities.

Output 5: Information, Communication and Awareness Raising of Schoolchildren on the Impact of Green Spaces and Urban Green Infrastructures

- Activity 5.1: Production of a graphic manual to raise awareness among young people about the impact of green spaces and urban green infrastructure
- Activity 5.2: Initiate awareness-raising, information and communication activities in three (03) schools through "an environmental week" (preparation, delivery and report)
- Activity 5.3: Organize the establishment of pilot projects in three schools in the city of Ouagadougou



	<p>Activity 5.4: Define a methodology that will enable the replication and promotion of environmental education in schools in Burkina Faso.</p> <p>Output 6: Redcat a concept note Activity 6.1: Select the idea for the concept note (meeting preparation, delivery and report) Activity 6.2: Redact concept note</p>
Methodologies applied to produce outputs and products	Literature review; Satellite imagery analysis; Multi-criteria analysis; GIS; Structured interviews with key stakeholders, Site surveys and site visit
Reference to knowledge resources	Monitoring and Evaluation Framework, TEC Brief on climate technology financing
Deviations	<p>Following difficulties related to the involvement of and communication with the stakeholders and the geopolitical context in Burkina Faso (Coup d'Etat and putsch in September 2022 in January 2022), certain planned activities were modified.</p> <ul style="list-style-type: none"> • The workshop with main stakeholders (activity 3.2) was held online. • The vulnerability assessments of the sites (activity Activity 3.1) were performed as part of Output 4, after the consultation workshop of Output 3 where the stakeholders selected 6 sites out of the 22 pre-selected sites. • The campaign awareness for the citizens (activity 4.4) were performed as part of the site vulnerability assessment visits. In addition, the consultant proposed a strategy to later implement effective campaign awareness campaigns linked to the implementation of the green space/infrastructure projects.
<ul style="list-style-type: none"> • <i>Anticipated follow-up activities and next steps</i> 	<ul style="list-style-type: none"> • Submission of concept note for a green space/infrastructure project drafted with support from the CTCN • Development of green space/infrastructure project designed with support from the CTCN • Replication of the 'environmental week' to other schools in Ouagadougou (and potentially other cities in Burkina Faso) designed with support from the CTCN

2. Lessons learned

	Lessons learned	Recommendations
Lessons learned from the CTCN TA process	Need to ensure that the main stakeholders are identified and committed to contribute to the TA	<ul style="list-style-type: none"> • Include stakeholders mapping activities and budget in the TA

		<ul style="list-style-type: none"> Ensure that the stakeholders are aware of the CTCN TA implementation rules regarding expected contribution and non-financial benefits
Lessons learned related to climate technology transfer	NA	NA

3. Illustration of the TA and photos

Diagnosis of the city of Ouagadougou using satellite technologies

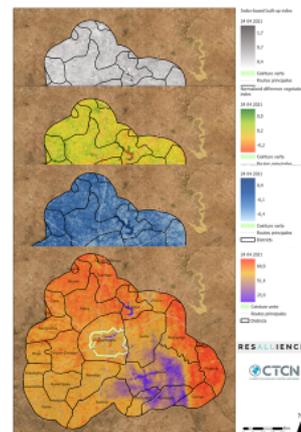
Flood vulnerability (flood maps)

Land use and Urban Heat islands (spatial analysis)

Satellite data: 2014-2021, U.S. Geological Survey

Spatial & temporal evolution of

- o the footprint of buildings and their materials / bare lands
- o footprint of vegetated areas and land water requirements
- o Surface T°, Urban Thermal Field Variation Index (UTFVI), Air T° (modeled and measured on site)



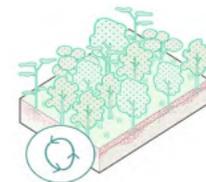
Collation of Nature-based solutions options

Example: Forest and wetlands

Description: Forest and wetlands can be used to form a natural stormwater (or flood) management system. Indeed, a medium-aged tree can capture 700 to 4,000 gallons of water/year depending on the species. Phytoremediation forests will be used for soil decontamination using specific algae or fungi. In a complementary manner, the creation or restoration of wetlands is also part of the stormwater management initiative.

Options:

- Phytoremediation forest,
- Wetland,
- Agroforestry,
- Assisted natural regeneration (ANR)



Phytoremediation forest



Wetland (e.g. dam of Ouagadougou)



Environmental week in 3 pilot schools

Programme of the week

- Day 1: Ouagadougou in the past and future prospects with the Grand Ouaga
- Day 2: A global dynamic, the Sustainable Development Goals part 1
- Day 3: A global dynamic, the Sustainable Development Goals part 2
- Day 4: Meeting with local sustainability and environmental advocates
- Day 5: Games and ideas for the future



Cover of the tailor-made manual



Pictures of the CM1 (4th grade) classes of two of the pilot schools



Handing over of the manual to the headmaster of the Kulwéoghin B. school by Mr. Valentin BAYIRI (Ouagadougou city council)



CTCN Use of digital technologies to develop a methodology to increase climate resilience in Ouagadougou through nature-based solutions



4. Impact Statement

The information in the table below will be used to communicate results and anticipated impacts of this technical assistance publicly. Please copy information from impact statement developed in the M&E Plan and update as relevant.

<p>Challenge</p>	<p>Burkina Faso is experiencing strong population growth and urban sprawl. The population could reach 25 million by 2025, 9 million of whom will live in urban areas (mainly in the capital Ouagadougou and Bobo-Dioulasso). The accelerated urbanization of the country is one of the major causes of environmental degradation, which increases the city's vulnerability to climate hazards. The geographical position of Burkina Faso (the Sahel region) means that the country is subject to climate hazards such as floods, droughts, heat waves, strong winds and dust storms. Green spaces and green infrastructures could be used to increase the climate resilience of the city. However, areas intended for green sites in Burkina Faso are often illegally occupied (27% in 2012) and diverted from their initial use.</p>
<p>CTCN Assistance</p>	<ul style="list-style-type: none"> • develop and implement a methodology based on satellite technologies to identify sites for the promotion of urban green infrastructure • prepare a plan to implement and manage green infrastructure on the identified sites • draft a concept note to facilitate the financing of the proposed projects • contribute to capacity building in green infrastructures in Burkina Faso and

	<p>awareness rising to the challenges of sustainable cities among the youngest and most vulnerable populations</p>
Anticipated impact	<ul style="list-style-type: none"> • Anticipated increased infrastructure and built environment resilience to climate change impacts (core indicator 2) • Anticipated amount of public funding mobilised from climate finance sources (core indicator 4)
Co-benefits: Achieved or anticipated co-benefits from the TA	<p>The construction of green spaces will have a positive impact on the entire population, especially women and children, by reducing pollution, improving air quality and beautifying the city in addition to the improvements in the city resilience to climate risks.</p>
Gender aspects of the TA	<p>The notion of gender is explicitly considered in various national strategies of Burkina Faso so that vulnerable or disadvantaged populations can take part in the implementation of landscaping actions through creation of decent green jobs and access to the goods and services of these landscaped areas. In line with these strategies, the TA accounts for gender equality issues, though:</p> <ul style="list-style-type: none"> • Participatory strategy and actions: to involve citizens in urban planning and allow them to participate in the design, selection and maintenance of landscaped areas. • Communication actions: Participation workshops where the importance and impact of green spaces on the resilience of cities to the effects of climate change was discussed, including the organization of an “environmental week” in three pilot schools • Education actions: a graphic manual was prepared for schools in Ouagadougou and could be adapted for dissemination to other municipalities (not only the pilot municipality) <p>In addition, a gender expert was involved in the TA to ensure that gender issues were considered in the development of the green space/infrastructure development and management strategy.</p>
Anticipated contribution to NDC	<ul style="list-style-type: none"> • Contribution to the restoration and protection of ecosystems • Contribution to urban cooling and energy-saving



	<ul style="list-style-type: none">• Contribution to awareness raising on climate change issues among the population
The narrative story	<p>Burkina Faso faces several challenges, including population growth and urban sprawl, vulnerability to climate hazards (floods, droughts and windstorms), illegal occupation of land intended for green spaces in the National Landscaping Strategy, and disappearance and decline of local and foreign fruit, ornamental and forest species in Burkina Faso. The Government of Burkina Faso (through the Ministry of Environment, Green Economy and Climate Change), the City of Ouagadougou and the Green Action Foundation have recognized the need to address these challenges through the protection, beautification and enhancement of green spaces and infrastructures. Hence, they requested the assistance of the CTCN and a consulting team (RESALLIANCE and AGEIM) to leverage innovative technologies to identify, secure, develop and protect green spaces and infrastructures in Ouagadougou.</p> <p>The main objectives of this technical assistance were to i) develop and, implement a methodology based on satellite technologies to identify sites for the promotion of urban green infrastructure, ii) prepare a plan to implement and manage green infrastructure on the identified sites, iii) and draft a concept note to facilitate the financing of the proposed project.</p> <p>To ensure that this initiative is successful in the long term, the assistance included the promotion of citizen participation and awareness-raising actions towards women and children that are often exempted from such initiatives. The CTCN will also ensure that the methodology developed and implemented can be replicated to other pilot cities in Burkina Faso.</p>
Contribution to SDGs A complete list of SDGs and their targets is available here: https://sustainabledevelopment.un.org/partnership/register/	SDG 9 - Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation: The TA leveraged satellite technologies to identify, secure, develop and protect green spaces and infrastructures. To this end, a

geo-spatial analysis of the city of Ouagadougou was performed to assess the territorial dynamics, the importance of urban green infrastructure, their state of conservation and the need to renovate them. This analysis was complemented by a geophysical analysis of the city to assess the spatial and temporal evolution of surface and air temperatures, and to identify Urban heat (UHI) and Freshness (UFI) island. Hence, this TA provided information based on innovative methodologies and satellites technologies to support urban planning.

SDG 11 - Make cities and human settlements inclusive, safe, resilient and sustainable: The TA will contribute to the development of urban green infrastructures in Ouagadougou. The concept and implementation of green infrastructures is innovative and aims to allow humans to recognize the role of environmental resources in their livelihoods, and also to point out that ecosystem services also require maintenance to sustain their capacity to provide clean water and air, aesthetic benefits, physical and mental health, wildlife conservation and other community values. The TA also includes the consultation and participation of stakeholders in the design and selection of the green infrastructures' options, in particular vulnerable groups (women and children) for inclusive urban planning.

SDG 13 - Take urgent action to combat climate change and its impacts: The promotion of green spaces and infrastructures in Ouagadougou will contribute to the reduction of climate change impacts by increasing flood resilience (through water retention and filtration) and urban heat islands (through cooling and energy-saving benefits). The restoration of ecosystems can help combat climate change.



Annex 1 Technical assistance data collection

Please add quantitative and qualitative values for the indicators selected in the M&E plan and monitored throughout the technical assistance in the tables below. Indicators which have been monitored in addition to the proposed indicators below may be added at the end of table A. Non-relevant indicators should be left blank.

A. Output and outcome indicators

Indicator	Quantitative value	Qualitative description
Please note indicators below highlighted as anticipated	<i>Numerals only; disaggregates must sum to the total</i>	<i>List the various elements corresponding to the quantitative value as well as timelines and responsible institutions</i>
Total number of events organized by proponents and implementing partners	3	Environmental week in 3 schools
Number of participants in events organized by proponents and implementing partners	283	Environmental week in 3 schools
a) Number of men	131	Burkina Faso
b) Number of women	152	Burkina Faso
Number of climate technology RD&D related events		
Number of participants in climate technology RD&D events		
a) Number of men		
b) Number of women		
Number of training organized by proponents and implementing partners	1	<i>Training and consultation workshops on site and NBS selection</i>
Number of participants in trainings organized by proponents and implementing partners	13	
a) Number of men	11	
b) Number of women	2	
Total number of institutions trained	1	
a) Governmental (national or subnational)	1	<i>City council of Ouagadougou</i>
b) Private sector (bank, corporation, etc.)		

c) Nongovernmental (NGO, University, etc.)		
Total number of deliverables produced during the assistance (excluding mission, progress and internal reports)	13	
a) Number of communication materials, including news releases, newsletters, articles, presentations, social media postings, etc.	1	<p><i>List the name of the documents</i></p> <p>Facebook post on the environmental week: (m.facebook.com/story.php?story_fbid= =pfbid0m8pvTGj78YLXjvJByDnFcSrtHTNvCwzLNJT6xgfGnHFXEmW jZgm4RtSZC8Ae2AVEI&id=100064360225457&mibextid=Nif5oz)</p>
b) Number of tools and technical documents strengthened, revised or developed	8	<p><i>List the name of the documents</i></p> <ul style="list-style-type: none"> • Monitoring & Evaluation (M&E) Plan and Impact Statement • Technical Assistance Closure Report Template • Rapport du résultat 2 : Diagnostic territorial et géospatial de la ville de Ouagadougou par l'usage de technologies satellites • Rapport du Résultat 3 : Identification des sites et définition de leur utilisation en consultation avec toutes les parties prenantes • Rapport du Résultat 4 : Présentation d'un portefeuille d'infrastructures vertes urbaines pour la ville pilote • Rapport du Résultat 5 : Information, communication et sensibilisation des écoliers sur l'impact des espaces verts et des infrastructures vertes urbaines • Mon Ouagadougou 2050 : Manuel d'information, de communication et de sensibilisation des écoliers sur l'impact des espaces vert et des infrastructures vertes urbaines • Concept Note (Résultat 6)
c) Number of other information materials strengthened, revised or created (For example training and workshop reports, Power Points, exercise docs etc.)	4	<p><i>List the name of the documents</i></p> <ul style="list-style-type: none"> • PPT Kick off meeting • Compte-rendu de la mission de terrain du 05/11/2021 au 09/11/2021 à Ouagadougou • PPT Consultation Output 3 • PPT Atelier de clôture



Anticipated number of technologies transferred or deployed as a result of CTCN support	2	Hazard mapping solutions; Flood hazard mapping
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B. Core impact indicators

Please fill in the tables for anticipated impacts of the CTCN assistance. Every technical assistance should contribute to at least one of the indicators below. For guidance on how to report on core indicators see the [‘M&E Guidance Document for TA Implementers’](#).

Core indicator 2	Anticipated increased economic, health, well-being, infrastructure and built environment, and ecosystems resilience to climate change impacts as a result of technical assistance		
	<i>Please provide a qualitative description of the anticipated impacts on the categories below</i>		
Infrastructure and built environment Anticipated increased infrastructure resilience (avoided/mitigated climate induced damages and strengthened physical assets)	Increased flood resilience (less drainage capacity required) Increased resilience to heatwaves and urban heat island		
Ecosystems and biodiversity Anticipated increased ecosystem resilience (areas with increased resistance to climate-induced disturbances and with improved recovery rates)	Ecosystem service enhancement through improved soil structure		
Economic Anticipated increased economic resilience (e.g. less reliance on vulnerable economic sectors or diversification of livelihood)	Alternative income for smallholders’ Increase food security New job opportunities for crop drying, wood cuttings, furniture making, etc		
Health and wellbeing Anticipated increased health and wellbeing of target group (e.g. improved basic health, water and food security)	Air and water quality improvement for the population living close to the projected green space		

Core indicator 4	Anticipated amount of funding/investment leveraged (USD) as a result of TA (disaggregated by public, private, national, and international sources, as well as between anticipated/confirmed funding)			
	Quantitative value	Quantitative value anticipated in USD	Qualitative description	Methods

	confirmed in USD		<i>List the institutions, timelines, and description or title of the investment</i>	<i>Describe methods used for quantification of funds leveraged</i>
Total funding	<i>USD 3,5 million</i>	<i>USD 1 to 5 million</i>	Government of Burkina Faso Ouagadougou city council African development fund AFD Green Climate fund	This is an estimate done during concept stage. Actual amount to be determined after feasibility study of the pilot during development of full proposals.
Anticipated amount of public funding mobilised from national/domestic sources				
Anticipated amount of public funding mobilised from international/ regional sources				
Anticipated amount of private funding mobilised from national/domestic sources				
Anticipated amount of private funds mobilised from international/regional sources				

Annex 2 (for internal use – to be filled in by the CTCN)

CTCN evaluation

This section will be completed by the relevant CTCN Technology Manager.

- Evaluation of the timeliness of the TA implementation as measured against the timeline included in the response plan;
- Evaluation of TA quality as defined in the response plan;



- Overall performance of the Implementers;
- Overall engagement of the NDE and Proponent;
- Lessons learned on the CTCN process and steps taken by the CTCN to improve.