CTCN
CLIMATE TECHNOLOGY CENTRE & NETWORK

Instructions to lead Implementers for drafting the Technical Assistance Closure and Data Collection Report

Objective of the technical assistance (TA) Closure Report and Data Collection Report:

- To communicate publicly in one synthesis document a summary of progress made and lessons learned under the technical assistance (TA) towards the anticipated impact (main template).
- Compile TA-specific information required for internal use in donor and UN reporting (annex 1).

Steps for completing the TA Closure report:

1. The lead TA implementer drafts the report at the end of the assignment as a final deliverable /product. The TA Closure report will capture all activities conducted under the TA hence it is expected that duplication of information will occur from earlier documents. 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 report before final approval by the CTCN Director.

Important note on public and internal use of the closure report:
Once approved by the CTCN Director, the TA Closure and Data Collection Report will be a public document available on the CTCN website. Annex 1 is for internal use only and will not be publicly available.

Closure and Data Collection Report for CTCN Technical Assistance

1. Basic information

Title of response plan	Development of an urban adaptation plan for Kurunegala
Technical assistance reference number	2018000009
Country / countries	Sri Lanka
NDE focal point and organisation	Dr. R.D.S. Jayathunga, Director Climate Change Secretariat, Ministry of Mahaweli Development & Environment Email: climatesec@gmail.com; sunimal68@hotmail.com Address: Climate Change Secretariat, Ministry of Mahaweli Development & Environment, 416/1/C, Robert Gunawardena Mawatha, Battaramulla, Sri Lanka
Proponent focal point and organisation	Mr. Pradeep Thilakarathne, Municipal Commissioner Municipal Council Building, Kurunegala, Sri Lanka
Sector(s) addressed	Infrastructure and urban planning
Technologies supported	Infrastructure and urban planning – Urban planning – Urban infrastructure development
Implementation period and total duration	30 October 2018- 29 October 2019 : 12 month
Total budget for implementation	USD 106,910 (Pro bono support from the Republic of Korea
Designer of the response plan	Korea Environment Institute
Implementer of response plan	Korea Environment Institute

2. Summary of all activities, outputs and products that contribute to the expected impact of the technical assistance.

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	• Inception workshop and city level kick-off meetings • Literature review and collection of information for climate change vulnerability and risk assessment • Climate change vulnerability and risk assessment of Kurunegala, and field survey • Provision of the guidelines, including the methodology used in the CTCN TA, as a step by step tool that can be used in climate change risk assessment • Capacity gap analysis • Stakeholder consultant workshop • Development of adaptation action plan on water scarcity and heat stress for Kurunegala • Provision of local adaptation planning manual • Training workshop for capacity building of city planners and policy makers
Partners organisations	• Ministry of Mahaweli Development & Environment • Kurunegala Municipal Council (KMC)
Beneficiaries	• Kurunegala citizens by implementation of adaptation action plans
Methodologies applied to produce outputs and products	• Literature review and data collection • Qualitative risk assessment • Interviews and meetings with key stakeholders. • Field visit and survey • Consultant and training workshop
Deviations	At the initial concept meetings for developing response plans, water scarcity and heat stress were prioritized for developing adaptation action plan in Kurunegala.
Achieved or anticipated gender benefits from the TA	A survey for women was conducted to reflect their opinions in the adaptation action plan.
Achieved or anticipated co-benefits from the TA	In the CTCN TA, a literature review was performed, and a climate change risk assessment was conducted. Based on the results of the risk assessment, expert meetings, stakeholder meetings and field surveys were carried out, proposing an adaptation action plan to address water scarcity and heat stress in Kurunegala. The stakeholders involved in the process of the action plan development could enhance their capacity and apply the process to develop action plans to address other climate issues in Kurunegala. By implementing the action plan for addressing water scarcity and heat stress, the adaptive capacity and climate resilience of the urban population in Kurunegala will be strengthened.
Anticipated follow up activities and next steps	Activities to be followed up by the KMC and Ministry of Mahaweli Development & Environment: • Implementation of the adaptation action plan proposed in the CTCN TA. In particular, proceeding with short-term adaptation activities

	based on existing plans and budgets (in case of budget difficulties, the activities can be carried out through international cooperation) • Agreement and cooperation with relevant stakeholders for the implementation of the adaptation action plan • Encouraging residents in Kurunegala to actively participate in implementing the adaptation action plan

3. Lessons learnt

	Lessons learnt	**Recommendations**
Lessons learnt for this TA. Describe essential factors contributing to successful implementation, as well as specific challenges. Recommendations include considerations on what would need to be in place for increasing success of similar efforts (i.e. regulatory, legal, stakeholders, communication, etc.)	• The Government of Sri Lanka and KMC were very active during the period of CTCN TA implementation. • Stakeholders and local residents understood climate change risk, but there was a lack of awareness of what actions were needed. • A number of adaptation activities to address water scarcity and heat stress have been proposed, and the most important thing for their implementation would be the government's willingness and budget availability.	• Citizens and stakeholders need continued empathy and build their capacity to reduce the impact and risk of climate change • International climate funds can be an option for implementing the action plans that require a large amount of budget.
Lessons learnt related to climate technology transfer Describe opportunities, challenges and barriers for the use and deployment of the technology or technologies supported by the TA. The objective is to identify specific success factors for technology transfer	• There was limitation of data availability to conduct the Indicator-based approach for quantitative climate change risk assessment. • Major barrier was a lack of hardware and software to build basic data.	• Enhanced data availability is required to assess the impact of climate change and identify adaptation measures.
Lessons learnt related the CTCN process for TA	CTCN is an useful platform between developing countries	

4. Illustration of the TA and photos

For communication purposes, please provide 2-4 Power Point slides with illustrations or charts showing the TA process, applied methodology, activities, outputs and achieved results. The illustrations must be copied into the TA Closure report but must also be delivered as power point files. Also, please provide at least five high-resolution pictures in

jpg format, capturing technical assistance. The pictures should illustrate how the TA has impacted the lives of the beneficiaries in particular and the communities in general.

Kurunegala Risk Assessment - Establish the context

[Day 1] *Inception Workshop for CTCN Technical Assistance 2019*

- **Date:** *14th January 2019*.
- **Venue:** *Mahagedara Hall, Kurunegala City, Sri Lanka*.
- **Participating Organizations:**
  - *Korea Environment Institute (KEI) : Hanna Cho, Gibong Yer*.
  - *Green Technology Center (GTC) : Rywon Yang, Inhye Park*;.
  - *Ministry of Mahaweli Development and Environment (MMDE) : Sunimal Jayathunga and 10 related ministers*;.
  - *Kurunegala Municipal Council (KMC) : 60 related members*;.

Left: *Opening Session of the Inception Workshop.*
Right: *KEI Presentation by Dr.Hanna Cho.*

[Day 2] *City level kick-off meeting with KMC*

- **Date:** *15th January 2019*.
- **Venue:** *Meeting room, Kurunegala Municipal Council*.
- **Participants:**
  - *(KEI) Hanna Cho, Gibong Yer*;.
  - *(GTC) Rywon Yang, Inhye Park*;.
  - *(MMDE) Sujith Ratnayake*;.
  - *(KMC) Shishiroda Ratnayake, Abdul Saththar*.

The GTC, KEI, MMDE and KMC participants gathered to discuss the draft of the CTCN TA Response Plan, workshop result, and details of the project.

Left: *City level kick-off meeting at the head office of the Water Supply and Drainage Board , Kurunegala City.*
Right: *Observation of Sundarapola waste dumping and recycling project during the field visit.*

[Day 3] *City level Kick-off Meeting with MMDE*

- **Date:** *17th January 2019*.
- **Venue:** *Climate Change Secretariat in Ministry of Mahaweli Development and Environment (CCS, MMDE)*.
- **Participants:**
  - *(KEI) Hanna Cho, Gibong Yer*;.
  - *(GTC) Rywon Yang, Inhye Park*;.
  - *(MMDE) Sunimal Jayathunga, Sujith Ratnayake, Ruwan Weerasooriya, Hasala Wickaramsinghe, Ambika Tennakoon, Shyamali Priyanthi, Jagath Vithanage, Susantha Udagedra*.
  - *(KMC) Shishiroda Ratnayake*.

The GTC, KEI, MMDE and KMC participants gathered to discuss the followings based on the draft of the CTCN TA Response Plan, and result of the workshop.

Left: *City level Kick-off Meeting at Climate Change Secretariat, MMDE,*
Right: *Discussion.*

Based on the stakeholder information and field observations,
the sectors were prioritized for action as followings; Water scarcity & Heat stress

Kurunegala Risk Assessment - Identify the risk

Water scarcity & Heat stress

Indicator tables from KMC

- **Drinking water Resources Risk/Vulnerability to drought**
- **Water Management Risk/Vulnerability**
- **Water Quality and Aquatic eco system Risk/Vulnerability**
- **Water Resources Risk/Vulnerability**
- **Sanitation Risk/Vulnerability of drought and flood**
- **Health Risk/Vulnerability to flood**
- **Health and Infrastructure Risk/Vulnerability to Heat wave**
- **THI (Temperature Humidity Indicator) analysis**

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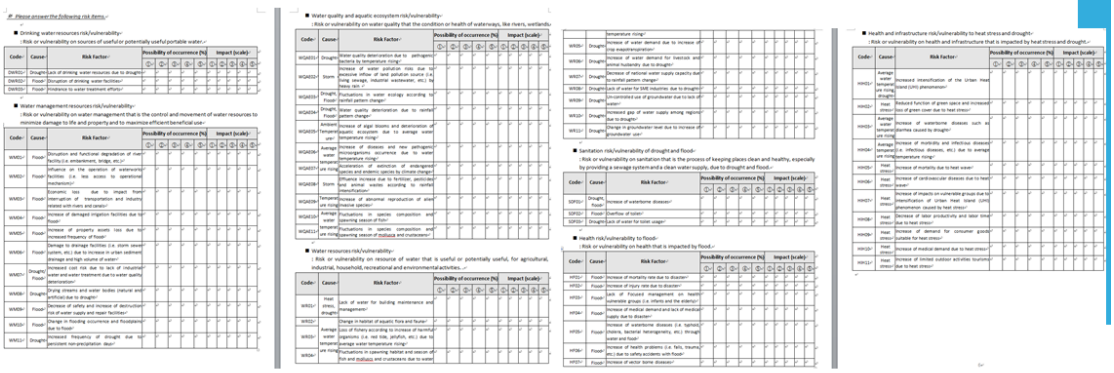
Kurunegala Risk Assessment - Analyse the risk

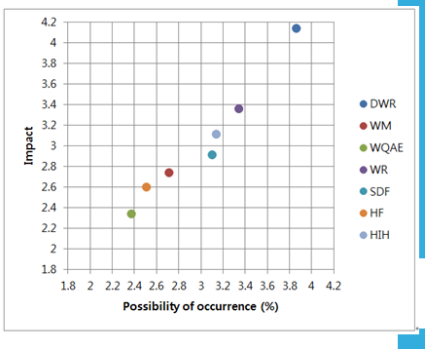
Water & Heat Experts : 35



Kurunegala Risk Assessment - Evaluate the risk

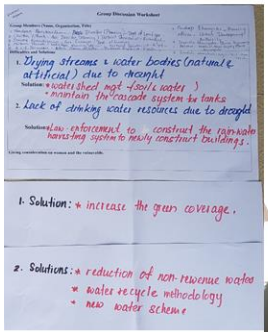
Water & Heat Experts

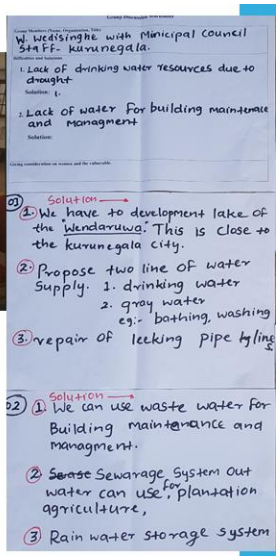
Code	Indicator (Category)	Number of items	Avg. possibility of occurrence (%)	Avg. Impact	Score	Rank
	Total	57	2.99	2.97	8.88	-
DWR	Drinking water resources risk/vulnerability	3	3.86	4.14	15.98	1
WM	Water management resources risk/vulnerability	11	2.71	2.74	7.43	5
WQAE	Water quality and aquatic ecosystem risk/vulnerability	11	2.37	2.34	5.55	7
WR	Water resources risk/vulnerability	11	3.34	3.36	11.22	2
SDF	Sanitation risk/vulnerability of drought and flood	3	3.1	2.91	9.02	4
HF	Health risk/vulnerability to flood	7	2.51	2.6	6.53	6
HIH	Health and infrastructure risk/vulnerability to heat stress and drought	11	3.14	3.11	9.77	3



Kurunegala Risk Assessment - Treat the risk

Consultant workshop





5. Information for TA Impact Description

The information in the table below will be used to produce the CTCN TA Impact Description.
The TA Impact description is a 2-page summary document for communication purposes.

Challenge: Approx. 500 characters with spaces	Kurunegala city, as an intersection of the south and the north districts of Sri Lanka, has been adversely affected by climate change. The increase of mean temperature has exposed Kurunegala city to climate change effects and increased its intensity with the specific climatic and geographic characteristics of the city: high temperature and humidity, and the rocky basin capturing the heat of the city. The variation of monthly rainfall pattern has been also influenced by climate change, and the dry season has been gradually extended. These changes in climatic conditions result in the decrease of the yearly planting period (cropping season) and finally bring a negative impact on primary industries such as agriculture, horticulture and forestry.
CTCN Assistance: 2 to 4 bullet points. Approximately 450 characters with spaces	The objective of the CTCN TA was to improve the resilience of Kurunegala city against local natural disaster amplified by climate change. To reduce the magnitude and scale of the impact, adaptation action plan for addressing prioritized issues (water scarcity and heat stress) has been developed based on the vulnerability and risk assessment on the prioritized issues. The CTCN TA concentrated on the followings: • Identify the current effects of climate change in Kurunegala city • Assess climate change vulnerability and risk to prioritized issues (water scarcity and heat stress) • Propose an adaptation action plan for addressing water scarcity and heat stress in Kurunegala city • Build the capacity of city planners and policy makers in order to transform Kurunegala city into a climate-smart city
Anticipated impact: 2 to 4 bullet points to summarise anticipated impact. Approximately 250 characters with spaces. As a minimum, please include the impacts described in annex 1B as well as other relevant qualitative and quantitative impacts anticipated after completion of CTCN technical assistance.	• The adaptation action plan will guide policymakers and stakeholders on how to increase the climate resilience of Kurunegala city against prioritized issues. • Enhanced capacity of the policymakers and stakeholders in Kurunegala city can be used to conduct risk assessments on other climate issues and develop associated urban adaptation action plans. • The direct beneficiaries of an updated urban plan with adaptation measures will be 40,000 people living in Kurunegala city. • Outputs from the CTCN TA, such as risk assessment guideline and the manual for adaptation planning, can be used for other cities not only in Sri Lanka but also in other developing countries to increase their resilience against climate change risk.
Linkages and contribution to NDC: 2 to 4 bullet points. Approximately 350 characters with spaces	According to NDC of Sri Lanka submitted in 2016, it strongly emphasizes to increase the climate resilience of main sectors, such as human health, water, food security and urban infrastructure and settlement, which are most vulnerable to the adverse impact of climate change. Based on the vulnerability and risk assessment on the prioritized issues, the CTCN TA could suggest scientific information which helps to find out what is most vulnerable and serious problems. Urban action planning with appropriate adaptation measures can improve the climate resilience of urban sectors against the prioritized issues.

	The NDC suggests the development of proper mechanisms at the local level against climate change impact. Outcomes from the CTCN TA can help the policymakers and stakeholders of Kurunegala city develop a suitable local adaptation mechanism which can lead them properly and make them invest to address the prioritized issues. This will ultimately result in enhancing the climate resilience of Kurunegala city.
The narrative story: Approximately 1200 characters with spaces	Kurunegala city (capital city of Kurunegala district) has the potential to become a major city (Greater Kurunegala) of Sri Lanka. The annual average population growth rate of 4 percent and increasing demand for the skilled labour and transportation facilities display the dynamic economic activities of the city. The increasing economic activities together with high population density (3,000/km^2), on the other hand, have caused social and environmental problems such as air pollution and issue with water management. The city established the 'Development Plan for Urban Development Area of Kurunegala 2006–2015'. While this plan initiated the improvement of environmental quality and service functions, adaptive measures to climate change were not included in the plan. According to the Global Climate Risk Index, Sri Lanka was among the 10 most affected countries in the year 2016, because climate change has intensified the damages from disasters. There has been no exception to Kurunegala city. The increase of mean temperature and variation of monthly rainfall pattern of Kurunegala city are gradually magnified, which results in the decrease of production of primary and second industries. However, adaptation measures based on scientific assessment of climate change impact have not been established due to a lack of awareness and non-identification of urban sectors most at risk in the context of climate change. Through the CTCN TA, a proper urban development plan in consideration with implementing adaptation measures to address the prioritized climate issues (water scarcity and heat stress) will be developed, enhancing the climate resilience of Kurunegala city. Moreover, policymakers and stakeholders in Kurunegala city will be able to use outputs of the CTCN TA, such as assessment guideline and a manual for adaptation planning, to address other climate issues and identify associated adaptation measures at the city level.
Contribution to SDGs: Always include contribution to SDG 13, and to the extent possible, please include contribution to 2 other SDGs, describing the contribution with a few sentences for each SDG concerned. A complete list of SDGs and their targets is available here: https://sustainabledevelopment.un.org/partnershiip/register/	The contributions to SDGs by the CTCN TA are the followings: SDG 11 'Make cities and human settlements inclusive, safe, resilient and sustainable' - The CTCN TA will support the urban adaptation planning for reducing the impact of water scarcity and heat stress, which can contribute to building the climate resilience of Kurunegala city. SDG 13 'Take urgent action to combat climate change and its impact' – As mentioned above, the context for SDG 11 can be also directly or indirectly compatible with SDG 13 (13.1, 13.2 and 13.b) for combatting against climate change impact. For instance, SDG 13.1 and 13.2 aim to enhance 'resilience and adaptive capacity' and integrate 'adaptation measures to planning' which can be achieved by the

	development of the action plan with adaptation measure. The CTCN TA can directly materialize the SDG 13.2 by developing the adaptation action plan for Kurunegala city to address the prioritized climate issues, which has a ripple effect to improve the climate resilience corresponding to the SDG 13.1. 13.b can be also potentially attained through the risk assessment guideline and the manual for adaptation planning provided by the CTCN TA. Based on these materials, it will be possible for policy makers and associated stakeholders to carry out activities for developing adaptation action plans to address climate issues at the city level. If the process including all of the relevant activities is repeated constantly, a proper mechanism for climate change adaptation in Kurunegala city will be able to be developed.

Note: Please see examples of TA Impact Description in adaptation and mitigation at the following link:
https://www.ctc-n.org/sites/www.ctc-n.org/files/learning-reports/18106-ctcnimpactdescriptionv02.pdf
https://www.ctc-n.org/sites/www.ctc-n.org/files/learning-reports/ta_impact_description_2014000002_gcai.doc