



# 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 summarize 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](http://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	Water recycling technologies for Namibia
Technical assistance reference number	2019000010
Country / countries	Namibia
NDE focal point and organisation	Dr. Jonathan Mutau Kamwi Department of Environmental Affairs Private Bag 13306, Windhoek, Namibia Phone: +264 61 2842808 Emails: mutauk@yahoo.co.uk
Proponent focal point and organisation	
Designer of the response plan	KEITI (Korea Environmental Industry & Technology Institute), Ministry of Environment
Implementer(s) of technical assistance	Yooshin Engineering Corporation, The republic of Korea.
Beneficiaries	<ul style="list-style-type: none"><li>• Wastewater reclamation plant: 5,000 people who live in informal settlement area</li><li>• Greywater recycling plant: 3,000 people from primary school and hospital (the exact number from hospital and primary school will be counted during the project implementation)</li></ul>
Sector(s) addressed	water
Technologies supported	Water recycling and reclamation





Deviations	<ul style="list-style-type: none"><li>- Communication with stakeholders to develop a shared vision of the broader opportunities and benefits emerging.</li><li>• Listing candidate projects of water recycling technologies in Windhoek<ul style="list-style-type: none"><li>- Communication with stakeholders to develop a shared vision of the broader opportunities and benefits emerging and literature research.</li></ul></li><li>• Financial mechanism for water recycling in Direct potable water and toilet wash<ul style="list-style-type: none"><li>- Communication with stakeholders to develop a sustainable project concept based on the market based condition.</li></ul></li><li>• GCF Concept Note Idea<ul style="list-style-type: none"><li>- Communication with stakeholders to develop GCF project by summarizing all the output of this project</li></ul></li></ul> <p>It was planned to build around 100 m3/day facilities considering the GCF project scale for water reclamation plant and greywater recycling plant.</p> <p>However, there was no proper site for 100 m3/day due to the small scale of this concept. And Due to the rapid urbanization in Winedhoek, we found out that there are some informal settlement area at the satellite city of WIndheok such as Otjiwarongo where the water supply is not sustainably supplied.</p> <p>We had a meeting with officials from Otjiwarongo and found out their needs well fit to this program.</p>
Anticipated follow-up activities and next steps	Concept paper was delivered to AE in Namibia and to develop Pilot-scale project connecting to the GCF project, Funds for pilot-scale project is being secured by Korean Government Research funds.

## 2. Lessons learned

	<b>Lessons learned</b>	<b>Recommendations</b>
Lessons learned from the CTCN TA process	<p>Describe lessons learned from following the steps of the TA process and interacting with the CTCN Secretariat. What were the challenges and essential factors contributing to successful implementation.</p> <ol style="list-style-type: none"> <li>1. Due to the covid-19 situation, it was difficult to go to the site survey</li> <li>2. the Proponent of CTCN, Namibia's Proponent, was not fully understood the CTCN TA mechanism and process.</li> </ol>	<p>Recommendations include</p> <ol style="list-style-type: none"> <li>1. Need to prepare guideline for the implementation of TA in the case of force measure case such as covid-19</li> <li>2. Before recruiting the CTCN implementer, proponent's clear understanding of CTCN process and its mechanism should be checked by CTCN.</li> </ol>
Lessons learned related to climate technology transfer	<ol style="list-style-type: none"> <li>1. Further improvement of the knowledge and capacities of the participating is necessary, especially the more involvement of technical person will be much better not the involvement of decision makers.</li> </ol>	<ol style="list-style-type: none"> <li>1. Expand the TA program from focusing on the general technical assistance to actual officials such as operators of water reclamation plant and greywater recycling plant.</li> </ol>

### 3. Illustration of the TA and photos

For communication purposes, please provide 2-4 Power Point slides, including illustrations or charts, describing barriers, opportunities, 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.

<p><b>3 Project History</b></p> <ul style="list-style-type: none"> <li><b>Request TA (2019. 2)</b></li> <li><b>Establishment of Response Plan (2019. 7 - 12)</b></li> <li><b>Approval of Response Plan (2020. 2)</b></li> <li><b>Implementation of TA (2020. 5 - 11)</b></li> </ul> <p><b>Output 1 : Development of implementation planning and communication documents</b></p> <p><b>Output 2 : Assessment of water resources management and water recycling technologies in Windhoek</b></p> <p><b>Output 3 : Roadmap and Action plan for promoting water recycle</b></p> <p><b>Output 4 : Formulation of Market based financial mechanism</b></p> <p><b>Key activities:</b></p> <ul style="list-style-type: none"> <li>Kick-off meeting with stakeholders (KETT, NDE, Voodika)</li> <li>Confirming willingness of applicant and NDE</li> <li>Data collection : Difficult due to COVID-19</li> <li>Shift of project area from Windhoek to Otjomuho after consultation with stakeholders</li> <li>Water reuse recycling plant for possible use</li> <li>Grey water recycling plant</li> </ul> <p>CICN TA for Namibia 3</p>	<p>CICN TA for Namibia 9</p>
<p><b>Process of Greywater recycling plant(Component 2)</b></p> <p>CICN TA for Namibia 13</p>	<p><b>Process of wastewater reclamation plant (Component 1)</b></p> <p>CICN TA for Namibia 11</p>







<p>Gender aspects of the TA</p> <p>Anticipated contribution to NDC</p>	<p>essential for good health, sanitation and a resource for maintaining life across the plane. Windhoek is expected to face absolute water scarcity. Climate change, however, will alter patterns of water availability and the frequency of droughts and floods will increase. In water scarcity country, waterborne disease, which is mainly caused by not enough supplying of potable water, needs to be addressed and be improved. The TA will encourage the development of water reclamation project in Namibia especially funded by organization related to the climate change. The TA will contribute to improve dweller's living quality in project area where mostly low-income citizen's live such as reducing the cost buying potable water and possibility of waterborne disease. Especially the people in informal settlement area will be free from labour and money spending for the collecting water.</p> <p>If the project successfully completed, some people from the informal settlement are will get the job for the operation and maintenance of this water reclamation plant which is called to be self-sustainable operation.</p> <p>Women and girls usually bear the responsivity for collecting water, which is habitually very time consuming, more vulnerable to abuse and attack while walking to and from water points. As a result of this TA, it will contribute to reduce women's and girl's labor force collecting water and vulnerability to be abused and attacked while collecting water. It is estimated that at least 50% of beneficiaries which is around 4,000 people of female will be from the labour of water collecting.</p> <p>2 to 4 bullet points. Approximately 350 characters with spaces.</p>
<p>The narrative story</p>	<p>There is growing concern on whether the finite water resources will still be sustainable to all in the future. If climate change is brought into the mix, it seems apparent that countries like Namibia currently suffering water supply shortages will find it ever more difficult to quench the thirst of their people</p>

	<p>There is a need for water recycling technologies to be installed that will help build the resilience of droughts under the worsening drought conditions. The recycling and storage can provide security against periods of low rainfall and the failure or degradation of other water supplies.</p> <p>There is a limited level of water recycling technologies in Namibia, combined with high costs of water, and its capacity does not meet the demand requirement. While encouraging the adoption of more water saving techniques, locally applicable technologies for water recycling are not known.</p> <p>Based on the aforementioned situation related to the water resources in Namibia, the objectives of This TA is</p> <ul style="list-style-type: none"> <li>➤ To propose feasible water recycling project to improve adaptation of climate change in Namibia</li> </ul> <p>To develop roadmap and action plan in terms of sustainability, the consultation and communication with variety of stakeholders such as government officials, technical officials and expected beneficiaries will be necessary.</p>
<p>Contribution to SDGs</p> <p>A complete list of SDGs and their targets is available here: <a href="https://sustainabledevelopment.un.org/partnership/register/">https://sustainabledevelopment.un.org/partnership/register/</a></p>	<ul style="list-style-type: none"> <li>• SDG 3(Good health and well-being) is to ensure healthy lives and promote well-being for all at all ages. As a result of project which is leveraged by this TA will contribute to improve the living condition such as healthy life and well-being life quality in project area</li> <li>• SDG 6(Clean water and sanitation) is ensure availability and sustainable management of water and sanitation for all. This TA will directly contribute to ensure availability and sustainability of potable water in project area</li> <li>• SDG 13(Climate action) to take urgent action to combat climate change and its impacts.</li> </ul> <p>After this TA, the adaptation capacity against climate change in project area will be increase.</p>



## 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

<b>Indicator</b>  Please note indicators below highlighted as <b>anticipated</b>	<b>Quantitative value</b>  Value and unit	<b>Qualitative description</b>  List the various elements corresponding to the quantitative value as well as timelines and responsible institutions
Number of communication and outreach activities conducted by proponents and implementing partners to showcase CTCN support	<i>Total number of communication and outreach activities</i>	Events - Inception seminar: 2 - mid-term seminar:1 - stakeholder workshop:1 - final seminar: 2 - stakeholder on-line meeting: 3
Number of participants in the events above	36	- Inception seminar: 1 Development: 2 Yooshin Organizer:1 (KEITI) Advisor: 3 - Inception seminar: 2 (on-line) Development: 2 Yooshin Organizer:1 (KEITI) NDE: 2 (Namibia) - Mid-term seminar: 1 Development: 2 Yooshin Organizer:1 (KEITI) Advisor: 3 - stakeholder workshop: 1 (on-line) Development: 2 Yooshin Organizer:1 (KEITI) NDE: 3 (Namibia) CTCN:1

		<ul style="list-style-type: none"> <li>- Final seminar: 1</li> <li>Development: 2 Yooshin</li> <li>Organizer:1 (KEITI)</li> <li>Advisor: 3</li> <li>- Final seminar: 1 (on-line)</li> <li>Development: 2 Yooshin</li> <li>Organizer:1 (KEITI)</li> <li>NDE: 3 (Namibia)</li> </ul>
a) Number of men	26	
b) Number of women	10	
Number of training sessions and capacity strengthening activities	<b>None</b>	List the title of the training sessions and capacity strengthening activities
Number of people who received the training		Ministry of Environment and Tourism Namwater Aqua Service MAWF Wingoc city of Windhoek Arongo desalination plant
a) Number of men		
b) Number of women		
Total number of institutions trained	<b>None</b>	
a) Number of research organisations, laboratories and universities		None
b) Number of private companies		Aqua Service Wingoc Arongo desalination plant
c) Number of cities and local government		city of Windhoek
d) Number of communities		None
e) Number of ministries		Ministry of Environment and Tourism MAWF
f) Number of specialised governmental institutions		None
g) Number of non-profit organisations		None
Percentage of participants reporting satisfaction with CTCN training (from CTCN training feedback form)		
Percentage of participants reporting increased knowledge, capacity and/or understanding as a result of CTCN training (from CTCN training feedback form)		
a) Number of men		
b) Number of women		
Total number of deliverables produced during the	11	1. Detailed work plan



<p>assistance (excluding mission, progress and internal reports)</p> <p>a) Number of tools and technical documents strengthened, revised or developed</p>		<ol style="list-style-type: none"> <li>2. M&amp;E plan and impact statement</li> <li>3. Assessment of water recycling technologies</li> <li>4. Evaluation of existing water recycling technologies</li> <li>5. classification of each sub-category for adopting water recycling tech</li> <li>6. Feasibility Review of each sub-category for adopting water recycling technologies</li> <li>7. Roadmap and action plan for adopted sectors in Namibia</li> <li>8. List of candidate projects of water recycling technologies in Namibia</li> <li>9. Financial Mechanism for water recycling in direct potable water</li> <li>10. Concept Note</li> <li>11. Closure report</li> </ol>
<p>b) Number of other information materials strengthened, revised or created (For example training and workshop reports, Power Points, exercise docs etc.)</p>		<p>Workshop power point</p> <ul style="list-style-type: none"> <li>- Introduction of water recycling technology</li> </ul>
<p>Total number of policies, strategies, plans, laws, agreements or regulations supported by the assistance</p> <p>a) Adaptation related</p>	<p><i>None</i></p>	
<p>b) Mitigation related</p> <p>c) Both adaptation- and mitigation related</p> <p><b>Anticipated</b> number of policies, strategies, plans, laws, agreements or regulations proposed, adopted or implemented as a result of the TA</p> <p>a) Adaptation related</p> <p>b) Mitigation related</p>	<p><b>1</b></p>	
<p>c) Both adaptation- and mitigation related</p> <p><b>Anticipated</b> number of technologies transferred or deployed as a result of CTCN support</p>	<p><b>1</b></p>	<p>Water recycling technology such as desalination and membrane</p>

Number of South-South collaborations enabled during or through CTCN TA support		process List the names of the organisations (excluding the CTCN or TA implementers)
Number of climate technology RD&D related outreach activities	<b>None</b>	
Number of participants in climate technology RD&D related workshops and events		Disaggregate by country
a) Number of men		
b) Number of women		
<b>Anticipated</b> number of cooperative research, development, and demonstration programmes facilitated as a result of CTCN TA		
Number of countries with strengthened National System of Innovation as a result of CTCN support		
Number of organisations engaged through CTCN support		Ease accountant Co. for market based financial analysis based on the feasibility study for sustainable operation of wastewater reclamation plant
<b>Insert any additional indicators here</b>		



## 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 1	Anticipated metric tons of CO <sub>2</sub> equivalent (CO <sub>2</sub> e) emissions reduced or avoided as a result of CTCN TA	
	Anticipated metric tons of CO <sub>2</sub> , equivalent emissions reduced or avoided as a result of the TA <b>on annual basis</b>	Anticipated metric tons of CO <sub>2</sub> , equivalent emissions reduced or avoided as a result of the TA <b>in total</b>
Quantitative value		
Unit		
<b>Methodology</b> Explain the method or process of verifying the indicator and how data was gathered		
<b>GHG assessment boundary</b> Identify expected post-TA activities, associated effects and assess boundary for quantification of GHG emission reductions		
<b>Baseline candidates</b> Define alternative technologies or practises used in baseline calculation to represent possible alternatives to the project activities		
<b>Baseline emissions</b> Describe baseline scenario and emissions calculated		
<b>Assumptions</b> Describe assumptions made during calculation and quantification of GHG reductions		

<p><b>Core indicator 2</b></p>	<p><b>Anticipated increased economic, health, well-being, infrastructure and built environment, and ecosystems resilience to climate change impacts as a result of technical assistance</b></p> <p><i>Please provide a <b>qualitative</b> description of the anticipated impacts on the categories below</i></p>
<p><b>Infrastructure and built environment</b> Anticipated increased infrastructure resilience (avoided/mitigated climate induced damages and strengthened physical assets)</p>	<p>2 number of water recycling plant will be built through this Technical Assistance. The one is for potable water, the other is for the grey water reuse.</p>
<p><b>Ecosystems and biodiversity</b> Anticipated increased ecosystem resilience (areas with increased resistance to climate-induced disturbances and with improved recovery rates)</p>	<p>In the project area, the use of groundwater will be less then, the water recycling ecosystem will be better.</p>
<p><b>Economic</b> Anticipated increased economic resilience (e.g. less reliance on vulnerable economic sectors or diversification of livelihood)</p>	
<p><b>Health and wellbeing</b> Anticipated increased health and wellbeing of target group (e.g. improved basic health, water and food security)</p>	

Core indicator 3	Anticipated number of direct and indirect beneficiaries as a result of the TA		
	Direct beneficiaries	Indirect beneficiaries	Means of verification
Adaptation related			<i>Describe calculation methods and assumptions made</i>
Mitigation related			<i>Describe calculation methods and assumptions made</i>
Both adaptation-and mitigation related			<i>Describe calculation methods and assumptions made</i>

Core indicator 4	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)		
	<b>Quantitative value</b> Value and currency	<b>Qualitative description</b> List the various elements corresponding to the quantitative value as well as expected timelines and responsible institutions	<b>Methods</b> Describe method use for quantification of funds leveraged including assumptions made and attention paid to causality, attribution and avoidance of double-counting
<b>Total</b> anticipated amount of funding/investment mobilised or leveraged (USD) as a result of the TA	Wastewater reuse: 6,091,633 \$  Greywater recycling 5,258,889 \$  Pilot plant for Wastewater reuse: 300,000 \$  Total: 11,650,522 \$	Treatment plant: 100 m <sup>3</sup> /day Pipe line: 5km  Treatment plant: 500 m <sup>3</sup> /day	Total amount of investment consists of construction cost and incidental costs including transportation cost and contingency cost (6.8%).  Total amount of investment consists of construction cost and incidental costs including transportation cost and contingency cost (6.8%).
Anticipated amount of <b>public funding</b> mobilised from <b>national sources</b> (USD)	-	-	-
Anticipated amount of <b>public funding</b> mobilised from <b>international and regional sources</b> as a result of the TA	Total: 11,650,522 \$	GCF: 11,350,522 \$ KEITI: 300,000 \$	KEITI: Supporting funds development of appropriated technology funded by Korean government
Anticipated amount of <b>private investment</b> mobilised (in USD) from <b>national sources</b> as a result of the TA	-	-	-
Anticipated amount of <b>private investment</b> mobilised (in USD) from <b>international and regional sources</b> as a result of the TA	-	-	-

**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.