

## CONCEPT IDEA NOTE FOR CLIMATE RELATED ACTIVITIES THAT MAY BE FUNDABLE BY THE GREEN CLIMATE FUND AND OTHER FINANCIAL SOURCES

This Concept Idea Note is based upon the GCF Concept Note. It is designed to prepare any Concepts or Project Ideas with GCF financing in mind, however, can also be applicable to other financial institutions. Once the Concept Idea Note is completed please send to the CCCI office (as the GCF National Focal Point), where an assessment will be undertaken as to whether the Concept could be eligible for funding under the GCF or other financial source, or both. CCCI will then communicate the result of the assessment back to the proponent, and outline what will next happen to the Concept Idea Note, such as require more information to make a clearer assessment, the submitted Concept is GCF eligible for funding and the next steps, or a determination that outlines the Concept is not eligible for GCF funding but may get funding from another source.

**Title of Concept OR Project Idea:** desalination unit for Rakahanga

**Date of Submission** 11.10.18

**Submitted by and Contact** Te Ipukarea Society, 21144, a.smith@tiscookislands.org

<p><b>Indicate the areas for the Concept, which is based upon the CKI Country Program thematic areas</b></p>	<p><u>Mitigation:</u> Reduced emissions from:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Energy access and power generation</li> <li><input type="checkbox"/> Low emission transport</li> <li><input type="checkbox"/> Buildings, cities and industries and appliances</li> <li><input type="checkbox"/> Forestry and land use</li> </ul> <p><u>Adaptation:</u> Increased resilience of:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Most vulnerable people and communities</li> <li><input checked="" type="checkbox"/> Health and well-being, and food and water security</li> <li><input checked="" type="checkbox"/> Infrastructure and built environment</li> <li><input checked="" type="checkbox"/> Ecosystem and ecosystem services</li> </ul>
<p><b>Indicative total project cost</b></p>	<p>Amount: NZD ___\$NZD 73,301_____</p>

**Project/Programme rationale, objectives and approach of programme/project (max 100 words)**

**Brief summary of the problem statement and climate rationale, objective and selected implementation approach, including the executing entity(ies) and other implementing partners.**

With temperatures rising and droughts becoming more frequent and prolonged, isolated atoll destinations such as Rakahanga, and other northern group atolls, are now facing periods where drinking water is becoming scarce.

Enhancing water security for Rakahanga is essential to assist in the community's resilience to climate change.

Te Ipukarea Society hope to coordinate a pilot programme in Rakahanga for the installation of a small scale desalination unit, which will run off the existing solar power system, to alleviate some of the pressures associated with water security. The system is capable of producing 200 litres of drinking water per hour, has comparatively low energy consumption, and if used regularly, is very low maintenance. The cost of such a unit is comparable to the cost of recent charters of an inter island ship to deliver a one off supply of water to a drought stricken northern group island, but this unit will provide relief over a 10 year period, rather than just for several months

**Context and baseline (max. 2 pages)**

**Describe the climate vulnerabilities and impacts, GHG emissions profile, and mitigation and adaptation needs that the prospective intervention is envisaged to address.**

*Prolonged periods of droughts in the northern Cook Islands, particularly on Rakahanga, have resulted in periods of very low drinking water supply. This shortage has led to community pressures whereby the local school has had to close down for a number of days and well as Government offices. Rakahanga being positioned in the tropics of the South Pacific receives vast amounts of sunlight days, so much so that the whole island has capitalized on this by generating its electricity solely on solar power. This source of renewable energy along with being surround by the Pacific ocean complement each other for the prospects of installing a desalination unit, running off the solar energy produces, for the island community.*

**Please indicate how the project fits in with the country's national priorities and its full ownership of the concept. Is the project/programme directly contributing to the country's INDC/NDC or national climate strategies or other plans such as NAMAs, NAPs or equivalent? If so, please describe which priorities identified in these documents the proposed project is aiming to address and/or improve.**

*Of the 11 national priorities, this concept idea achieves 4 of those stated priority areas. The most relevant is goal 13, Strengthen Resilience to combat the impacts of climate change.*

*The solar powered desalination unit runs on solar energy, ticking those box for renewable energy development. The project proposal assists the priority area of water security by providing a solution to combat water shortages, during extreme weather conditions e.g droughts. Disaster risk management is also improved by enhancing water security on the island. The livelihoods of the people and communities are improved by providing an accessible supply of drinking water that can be produced at times of need.*

**Describe the main root causes and barriers (social, gender, fiscal, regulatory, technological, financial, ecological, institutional, etc.) that need to be addressed.**

*The root cause of the problem is Climate Change, which has led to a reduction of fresh water for the island at certain times of the year.*

Logistically, moving the needed materials to the northern group islands creates another barrier to the project in terms of project planning. Maintenance can also be a barrier to the sustainability of the project. This is addressed by including training and spare parts in the project, as well as choosing the most durable components to build the desalination unit.

**Where relevant, and particularly for private sector project/programme, please describe the key characteristics and dynamics of the sector or market in which the project/programme will operate.**

Te Ipukarea Society have been in communication with potential contractors to supply the proposed system. We intend to partner with a locally based private sector plumbing expert, in order to build in a support mechanism for future maintenance requirements of the system, as well as for potential expansion to other islands. The society has established a relationship with one potential supplier at a recent workshop in Samoa. Other suppliers will also be canvassed, to ensure the most appropriate system for the harsh atoll environment is obtained, at the best price.. All logistics and communications involved with getting the project installed and completed would be managed by Te Ipukarea Society.

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**Engagement among the NDA (Cook Islands Climate Change office), AE, and/or other relevant stakeholders in the country (max ½ page)**

**Please describe how engagement among the NDA, AE and/or other relevant stakeholders in the country has taken place and what further engagement will be undertaken as the concept is developed into a funding proposal.**

From having attended a recent climate change platform meeting held on the 24<sup>th</sup> sept 2018 it was brought to our attention that the outer island rep from the OPM was looking into upgrading water tank systems in the outer islands, highlighting the need for more accessible fresh water. Solar powered desalination units were considered but at a much smaller scale of producing 40L an hour and with limited outputs i.e only being able to use stream water as opposed to salt water. It was mentioned that larger desalination models were being looked into for the near future once funds became available. TIS were able to share their work experience in water security projects by mentioning one of their projects currently being implemented in Tokelau, where water tanks and water refill stations were being installed. TIS also mentioned their interest in getting into implementing water security based projects here in the Cook Islands.

TIS has worked with the NDA previously in delivering projects to the outer islands, under SRICC. They have also been closely following the progress of the MFEM in its bid to become an accredited entity to the GCF

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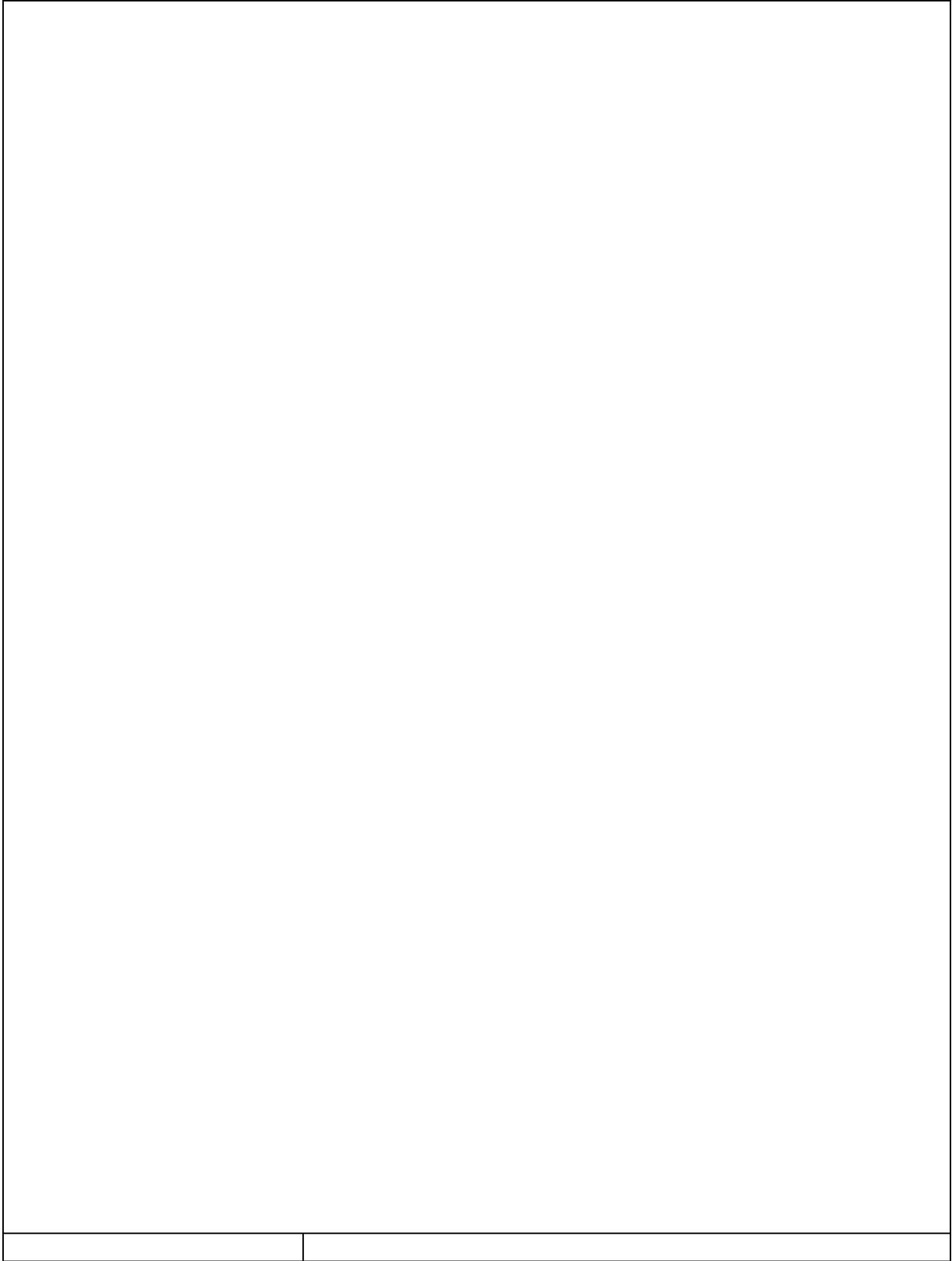
**Sustainability and replicability of the project (exit strategy) (max. 1 page)**

**Please explain how the project/programme sustainability will be ensured in the long run and how this will be monitored, after the project/programme is implemented with support from the GCF and other sources.**

This has been discussed earlier. A partnership with a locally based plumbing contractor will be established to deliver the project, to ensure sustainability. Replicability of the project will also be easier with a local contractor on board, once the particular system has proved itself on one island. Spare parts can be stocked by this contractor, plus some spares are also left on island.

Quarterly reports would be required by the person in charge of the unit to record how much water has been used as well as any issues that may have occurred. The units are expected to have a life span of at least 10 years.

**For non-grant instruments, explain how the capital invested will be repaid and over what duration of time.**



**Assessed By and Date:**

**Recommendation:**