Secretariat of the Pacific Community European Union Funded Global Climate Change Alliance: Pacific Small Islands States (GCCA: PSIS) Project Federated States of Micronesia Climate Change Adaptation Activity Project Concept Note

Name of Country: Name of Person/Agency submitting this concept note:

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General Information:

Project title: Increasing coastal food and water security for climate change in selected Federated States of Micronesia (FSM) state outlying islands

Project site(s): Fais, Yap State

Project Partners:

- Yap State Resources & Development (Energy, Water, Agriculture)
- Yap State Environmental Protection Agency
- Yap Community Action Program
- Council of Tamol
- Other organisations and partners: Institute of Migration, Micronesia Conservation Trust, Japanese International Cooperation Agency, US Agency for International Development

Total Project Cost: up to €500,000, budget for project activities; these will be detailed when the project design document is fully developed.

Project Duration: 18 months, June 2013 - December 2014 (with possibility of extension to June 2015 depending on the outcome of the extension request from the European Union)

Project Description:

Based on consultations with island leaders, community members and Yap State authorities, together with recommendations from previous studies, this project will improve the storage and distribution of good quality water in Fais. Household rainwater catchments and storage will be improved and/or installed. Groundwater well sources will be repaired, new pumps installed and storage tanks repaired. Distribution infrastructure will also be improved, including the provision of tanks or taps closer to communities thereby allowing better access. This will especially benefit women and children who are responsible for water collection for household use. Training and awareness activities focusing on maintenance and water conservation will also be an important part of the project.

Fais is approximately 1 square mile in size, with three villages having a total population of 294 (FSM Census 2010). A majority of Fais residents live along the island's coastal areas and due to the island's geology, water retention is low resulting in water and food shortages.

The improved water supply will allow residents to meet their daily needs, including irrigation of crops. This will contribute to improved agriculture and food production and will contribute to the success of the Yap State Resources and Development proposed seed bank project in Yap which includes Fais Island as a project site.

The project aims to provide good quality water, especially during drought and other extreme events. Indirect benefits include water for fire fighting within the communities.

Communities will take full ownership (by providing financial and in-kind contributions) before, during, and after the implementation of the project. The traditional chief of Fais Island will mobilise the community to deliver the project in a timely manner. The State government will replicate successes from the project and integrate them into infrastructure plans, the five year environment plan, integrated water resources management and water policy plans, and climate change policy. These will also be linked to Yap State and FSM Strategic Development Plans and Millennium Development Goals. Successes can also be replicated in FSM's low-lying atolls and high islands and shared with other Pacific countries.

Background and Justification

Water availability and access to good water quality in the outer islands, including Fais Island, Yap State, is unreliable as a result of natural variability in precipitation patterns which is largely influenced by the El Niño Southern Oscillation (ENSO). Changing storm tracks, salt water inundation and droughts are related factors.

Recent droughts in the Pacific region (e.g. 1997-1998) linked to climate variability have been highlighted as a priority in the region (Pacific Islands Forum, 2005). Droughts associated with ENSO events have depleted rainfall collection supplies and underground supplies. For example, in 1998, 40 atolls of the Micronesian sub-region ran out of drinking water supplies during an ENSO event (World Bank, 2000), resulting in the declaration of a national emergency.

During droughts when stored rainwater is in short supply or depleted, groundwater is used for human consumption. This greatly increases the probability of illness due to waterborne pathogenic organisms. This danger exists at other times too when groundwater is used for bathing, especially for children.

Budget

Up to €500,000 depending on the final project design, accessibility, population beneficiaries, community contribution to costs, etc.

Criteria	How does the proposed project adhere to the criterion?
1. Feasibility: Is the proposed project	Project implementation can be completed within the GCCA project
feasible taking into account:	time frame and budget of €500,000 based on research and initial
Time frame of GCCA: PSIS,	consultations. Research was carried out by the Water and
Available budget,	Environmental Research Institute (WERI), University of Guam (2007)
National human resources,	for the low-lying atolls of FSM. Consultation has taken place with Fais
Previous track record with project	communities and traditional leadership. Support and assistance for the
implementation.	project is being provided by state and national partners.
2. <i>Cost:</i> Does the project require minimal	Project uses minimal resources by focusing on key structural
resources/value for money	installations to develop water resources, complemented by training and
	awareness to develop community capacity in maintenance and
	conservation of water resources.
3. <i>Consistency:</i> Does the project support the	Yes: The project is consistent with FSM's Environmental 5-year Plan
country's climate change adaptation policy	and strategic goals; Climate Change Policy; Federal Emergency
and planning	Management Agency (FEMA) Mitigation Plan, Vulnerability and
	Adaptation Assessment; WERI Technical Reports; Food and
	Agricultural Organisation (FAO) Food Security, Water Declaration
	and Sustainable Development Plan; as well as State Plans which
	prioritise water resources.
4. Urgency: Is the project urgent or could it	The project is urgent. Delay of the project would make the remote
be delayed 10 years with minimal impact	communities more vulnerable to climate variability and extreme
	events. In the past declarations of emergency have been issued due to
	water snortages.
5. Scientifically valid: Is the project based on	Yes: Scientific projections show an increase in annual rainfall from -5
scientifically valid climate change	to +13% by 2055 under the A2 scenario relative to 1990 figures for the
projections	western part of FSM. Small increases in wet and dry season rainfall are

Assessment against Criteria for Project Identification

	also projected. However, there is significant variability from year to year which is expected to continue as a result of ENSO. There is no clear indication yet as to future changes in ENSO ¹ .
	Sea level is projected to continue to rise during the 21 st century thereby enhancing conditions favourable for saltwater intrusion into the freshwater lens.
6. <i>Equity:</i> Does the project involve all sectors of society (especially community participation and gender considerations)	Yes: Initial consultations took place with community leaders representing the various community groups including women, youth, and children highlighting and prioritizing the need for improving water and food security for sustainability of the community. Women and children are primarily responsible for collecting water for daily use. In addition the project can bring enhanced crop and food security improvements for all, as well as being a potential income earner. Traditional chiefs and leaders, State and National governments and NGOs have been involved in the consultations and project
7. <i>Replication:</i> Can the project be replicated in the country or elsewhere	Yes, development of water resources in the remote, low-lying outer islands to improve quantity, quality, storage, and access can be replicated in many other similar islands and environments in the Pacific.
8. <i>Measurability</i> : Can the benefits of the project be measured and quantified	Pre and post surveys can be conducted to monitor and measure progress, targeting percentage of households with improved access to water, percentage of land area that is able to be irrigated, and the number of rainwater tanks and improved storage capacity. A log frame together with monitoring and evaluation indicators will be used to measure outcomes and honofite
9. <i>Scope of project:</i> Does the project activity focus on one sector and include a blend of visible (on-the-ground) activities and intangible support activities (e.g. policy development, capacity building)	The project targets water security primarily, although this will also contribute to food security. There will also be benefits to health and livelihoods. There will tangible on-the-ground activities as well intangible capacity building and awareness activities.
10. <i>Risks</i> : Identify key risks to successful project implementation	Delay with project start-up; challenges with transportation which is very weather dependent for remote island sites like Fais; delays with shipping of materials and parts and possible damage en route; contractor delays with implementation of project activities; and extreme weather events.

¹¹ Bureau of Meteorology and CSIRO, 2011; Climate change in the Pacific: Scientific Assessment and New Research Volume 1: Regional Overview. Volume 2: Country Reports.