

COASTAL COMMUNITY ADAPTATION PROJECT (C-CAP)



Headquarters: Port Moresby, PNG

Regional Office: Suva, Fiji

C-CAP Team & Scope of Work

- **Donor**—U.S. Agency for International Development (USAID)
- **Implementer**—DAI
- **Subcontractors**—USP and Kramer Ausenco (PNG) Ltd.

Three Project Components:

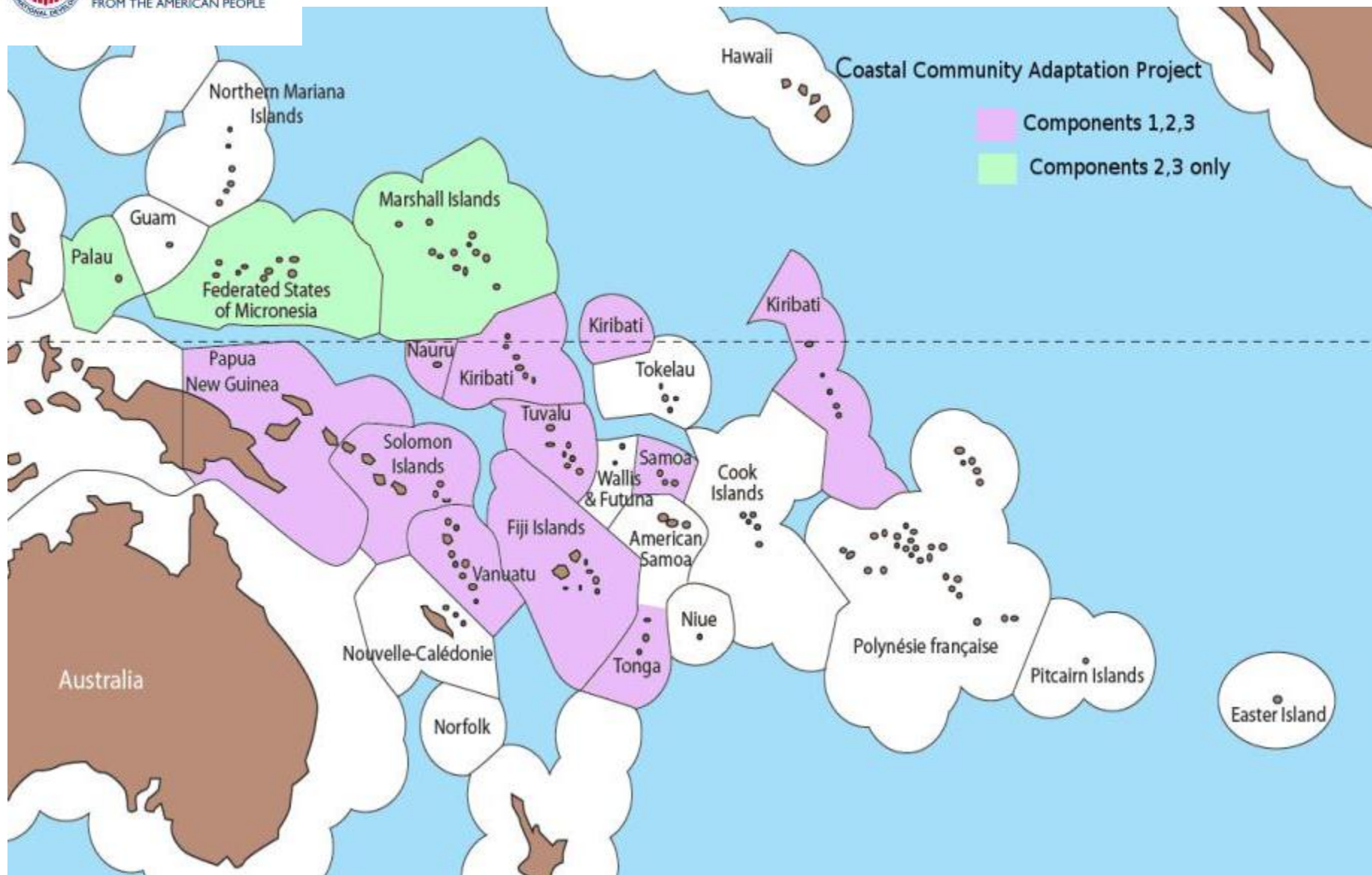
1. Rehabilitating and constructing new, small-scale community infrastructure
2. Building capacity for disaster prevention and preparedness
3. Integrating climate resilient policies and practices into long-term land use plans and building standards

C-CAP Goal and Contract

Goal: Build the resilience of vulnerable Pacific Island coastal communities.

- **Short Term Resilience**—to withstand more intense / frequent extreme weather events and ecosystem degradation (erosion, coral damage, flooding, drought, salt-water intrusion).
- **Long Term Resilience**—to the impacts of sea level rise.

Scope of Work: 3 years, US\$14 million* for climate adaptation, disaster risk preparedness and land use planning in 12 Pacific Island countries and 90 total communities.



C-CAP Work Plan—*Year 1*

Year One Overview (ends September 30, 2013)

- **Four Countries:** Fiji, Papua New Guinea, Samoa and Tonga.
- **In Each Country:** C-CAP will work with 5 communities.
- **Each *country*** will have one “C-CAP Country Mobilizer” who will oversee and manage all in-country activities.
- **Each *community*** will have one “C-CAP Social Mobilizer” who will organize all community meetings and activities.

C-CAP Work Plan—*Year 1 (ends 30/9/13)*

Overview for 20 “Year 1” communities

1. **Risk Mapping Activity**
2. **Assess vulnerability** of small-scale social, economic and water infrastructure to climate change impacts.
•I.e., health clinics, schools, community centers, jetties, water tanks, drainage systems...
3. **Identify climate adaptation projects** for vulnerable infrastructure.
4. **Prioritize adaptation projects** through a multi-criteria analysis exercise.
5. **Fund—prioritized—infrastructure** rehabilitation / construction project (*approx. US\$50,000 per community*).

C-CAP Work Plan—*Years 2 & 3*

C-CAP Years 2-3

20 “Year 1” Communities

- Review Risk Maps for projected climate impacts—and begin land use planning activities.
- Implement nature-based infrastructure activities when appropriate (mangrove reforestation, erosion control, etc.).
- Support disaster risk reduction and preparedness activities and planning.

New Target Communities and Countries

- In each country, identify **two new districts**, and **6-10 new communities** in these districts to participate in C-CAP and begin implementation.
- Begin work in 1-2 new Pacific Island countries.



Coastal Community Adaptation Project (C-CAP)—**Activity 1**

COMMUNITY ENGAGEMENT AND RISK MAPPING

C-CAP Risk Mapping Methodology (Jan. '13)

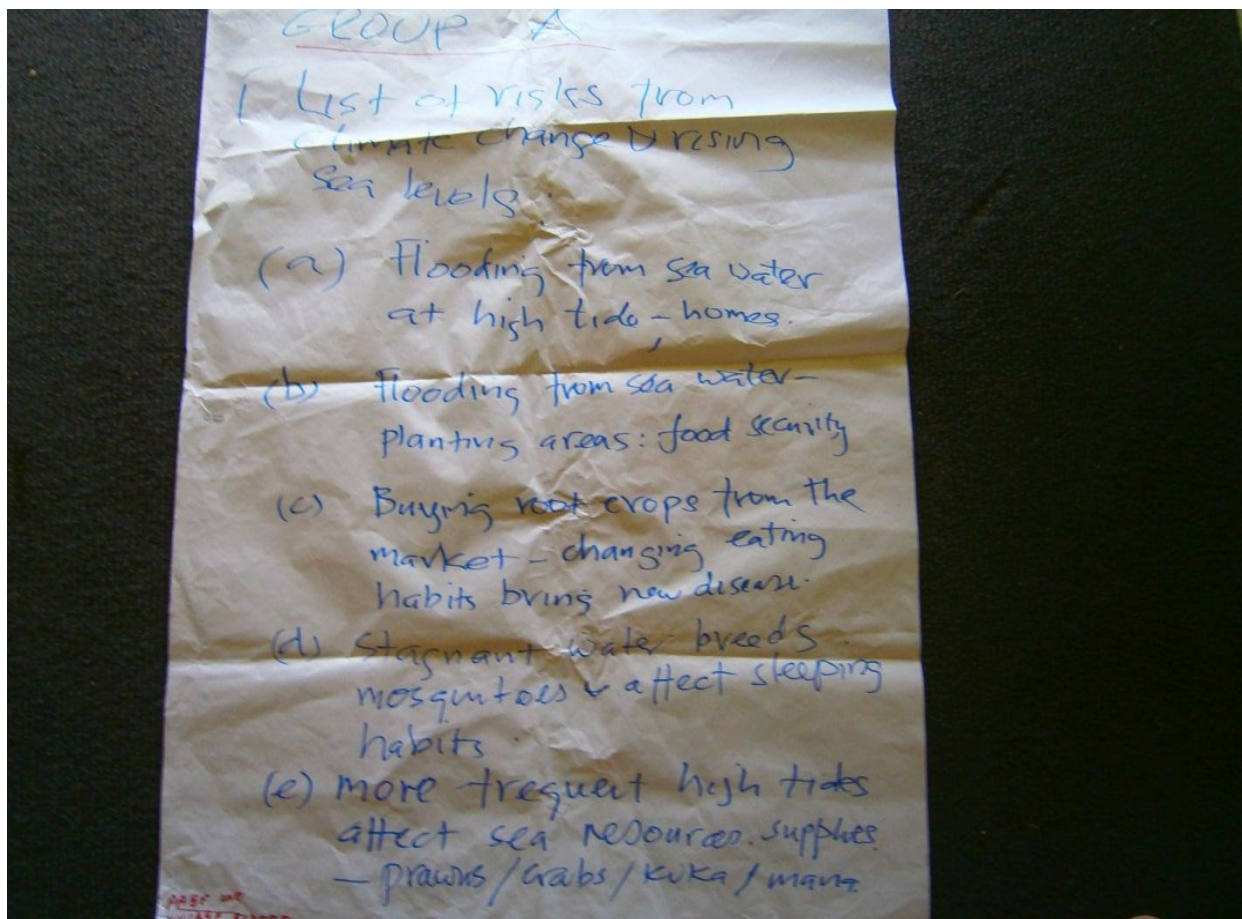
Risk Mapping Workshop Overview

1. Introduction to C-CAP program and goals
2. Brainstorm 5-10 biggest climate change risks to the community



C-CAP Risk Identification brainstorm in Gabagaba, PNG (November '12)

C-CAP Risk Mapping Methodology (Jan. '13)



C-CAP Risk Mapping Methodology (Jan. '13)

Examples from Fiji and Samoa – ensure that women and young people are included in exercise

- Food supply
- Water
- Health
- The local economy

C-CAP Risk Mapping Methodology (Jan. '13)

Workshop Overview (continued)

3. Lead brainstorm to identify vulnerable water, social and economic infrastructure
4. Group sessions to create community infrastructure maps



Gabagaba community members work together to design water and social infrastructure maps

What is “Infrastructure”?

•Social Infrastructure

Health Clinic	School
Town Hall	Church Hall

•Economic Infrastructure

Jetty / Wharf	Village Roads
Town-Run Business	Tourism Sites

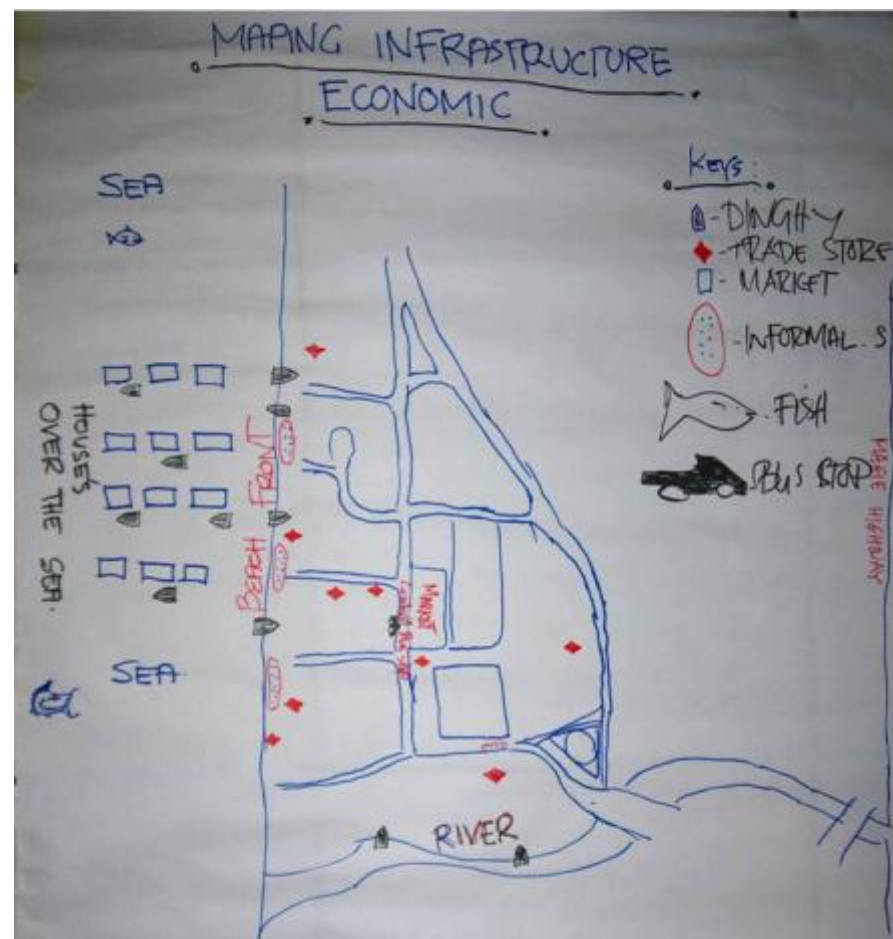
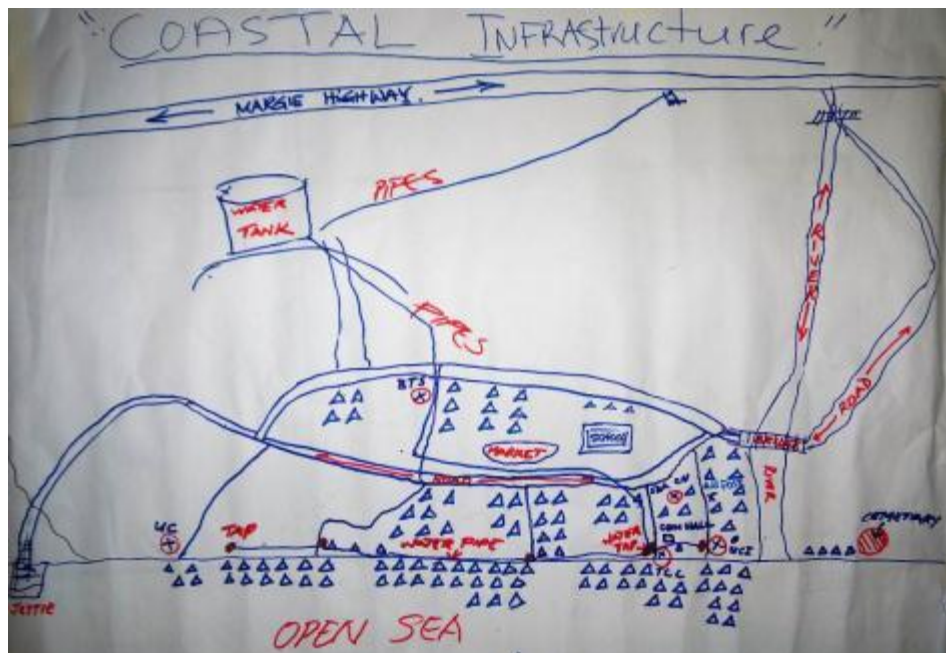
•Water Infrastructure

Community Water Tanks	Septic Systems
Drainage Systems	Water Wells / Boreholes

Coastal Infrastructure

Mangroves	Coral Reef
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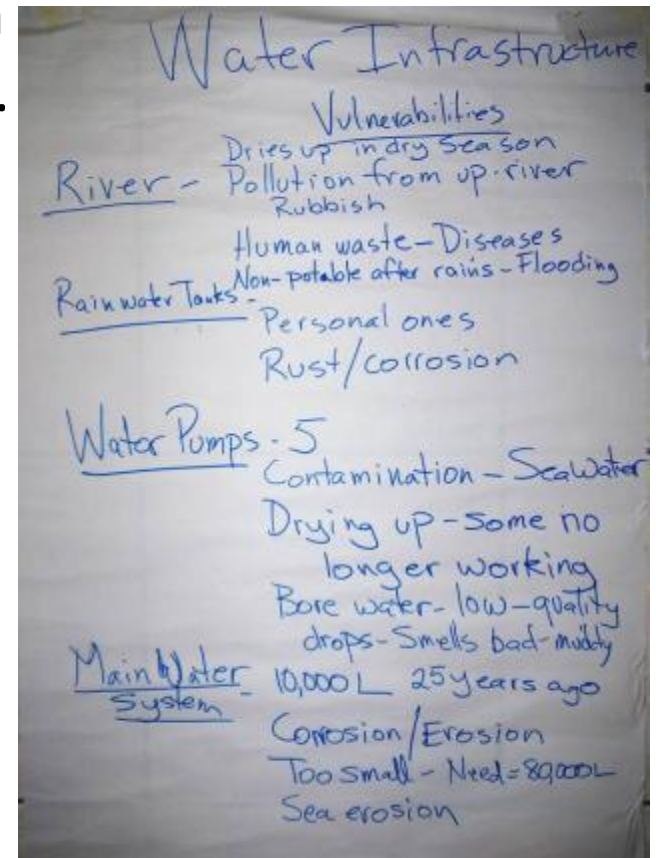
Community Mapping



C-CAP Risk Mapping Methodology (Jan. '13)

Workshop Overview (continued)

5. Groups present infrastructure maps (social, economic, water)
6. Facilitator lists climate impacts each infrastructure point is vulnerable to.



C-CAP Risk Mapping Methodology (Jan. '13)

Examples from Fiji and Samoa – ensure that women and young people are included in exercise

- Priorities – Fiji and Samoa – the flood gate, the beach, the seawall, the water supply
- A tale of two Churches (Falealupo and Sapapalii)
- Gap analysis – who else is working with this community in CCA?

C-CAP Risk Mapping Methodology (Jan. '13)

Workshop Overview (continued)

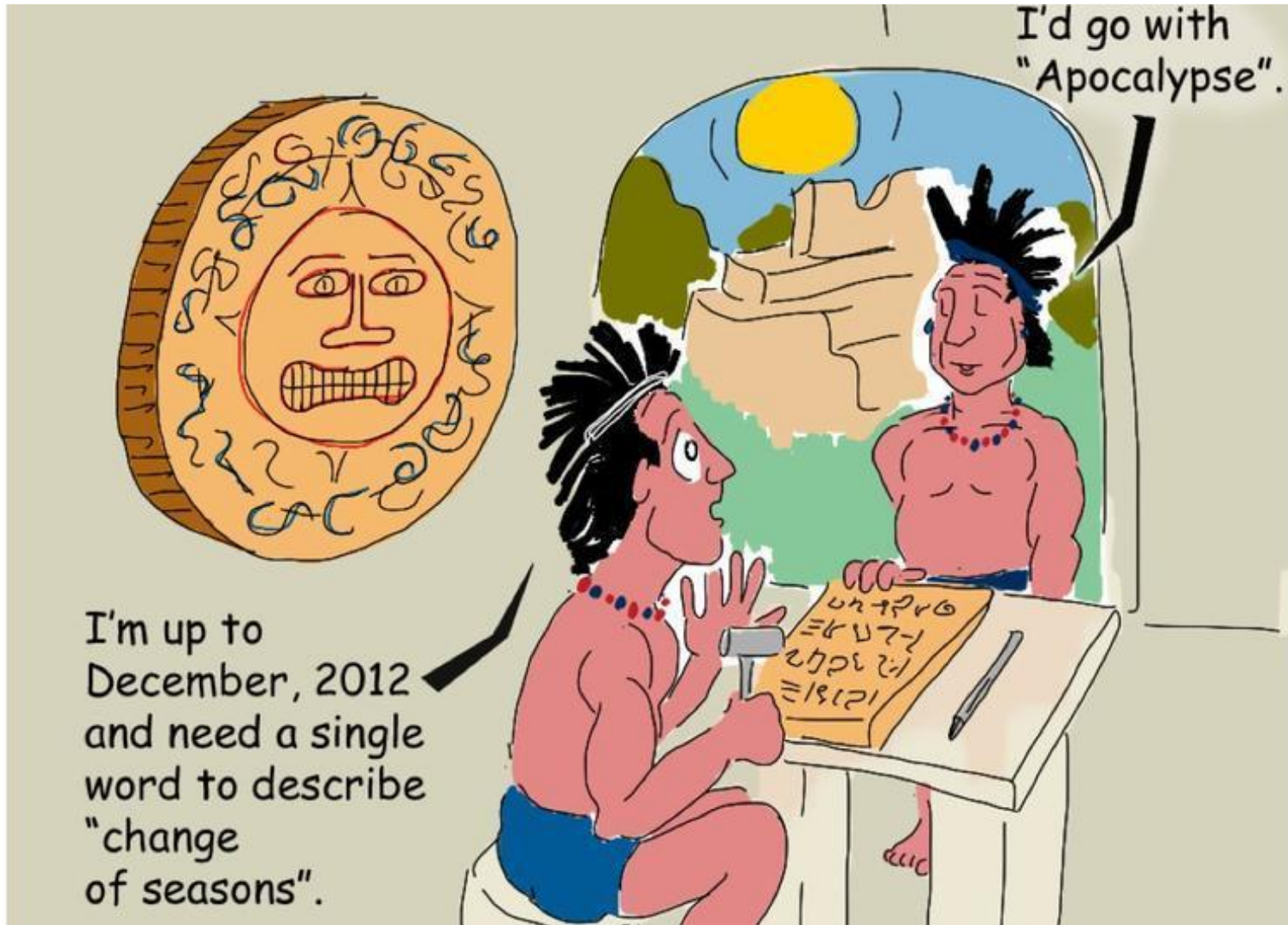
6. Geo-referencing and photo documentation of vulnerable infrastructure



Limited Freshwater Resources

The old piped water system is corroded; the nearest river runs dry after the rainy season and there are no community rainwater tanks; and hand pumps harvest brackish water following high tide events.

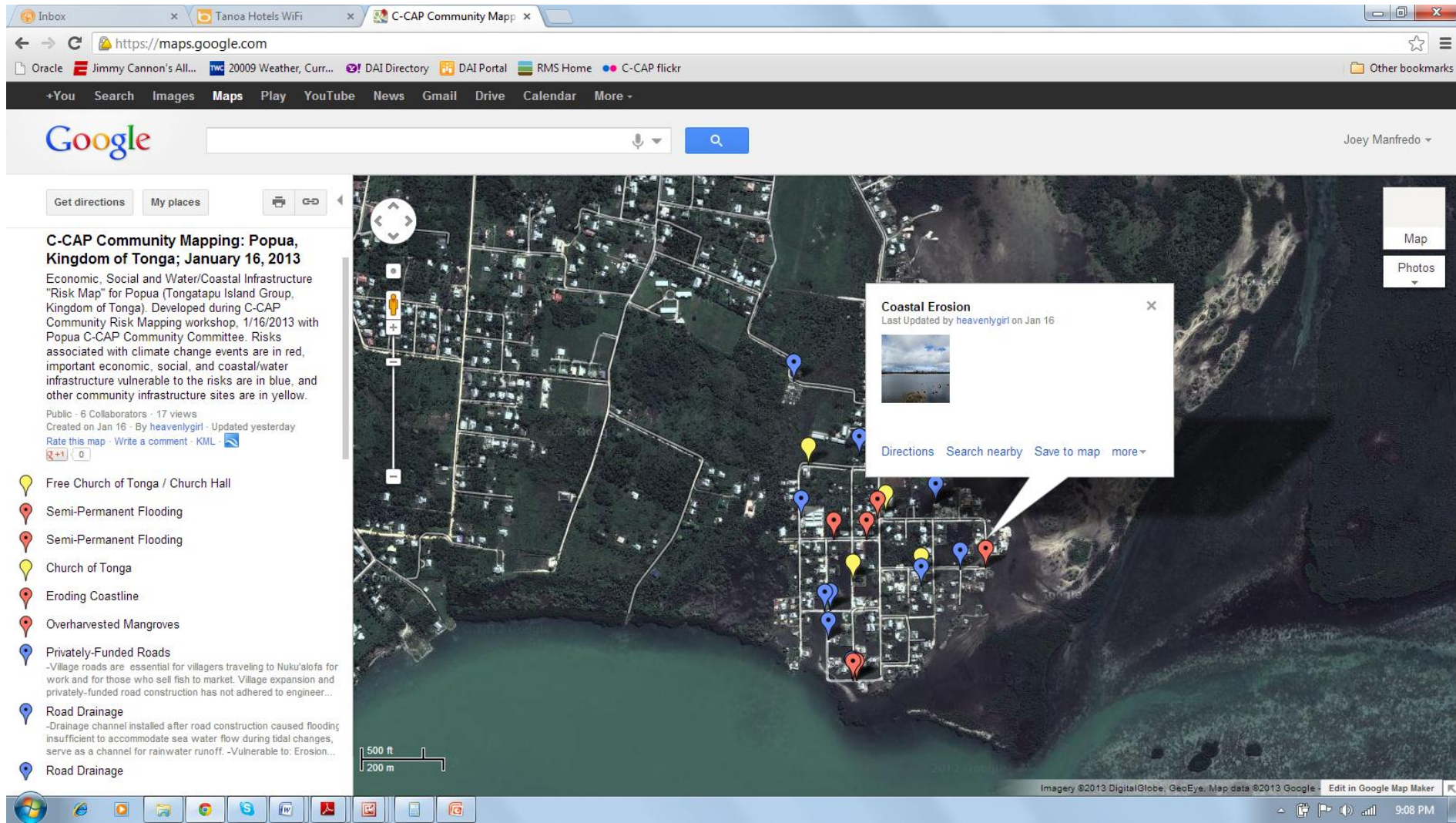
Lost in Translation



Overcoming Imperfect Translations to Ensure Understanding

- Translating C-CAP in Tongan:
 - Risk
 - Vulnerability
 - Climate/Weather Change?
 - “Infrastructure”
- What C-CAP / Climate Change Words are hard to translate in **YOUR** country?

4 Simple Steps to Geo-Reference Community Infrastructure & Climate Risks



Inbox x Tanoa Hotels WiFi x C-CAP Community Mapping x

https://maps.google.com

Oracle Jimmy Cannon's All... 2009 Weather, Curr... DAI Directory DAI Portal RMS Home C-CAP flickr

+You Search Images Maps Play YouTube News Gmail Drive Calendar More

Google

Joey Manfredo

Get directions My places

C-CAP Community Mapping: Popua, Kingdom of Tonga; January 16, 2013
Economic, Social and Water/Coastal Infrastructure "Risk Map" for Popua (Tongatapu Island Group, Kingdom of Tonga). Developed during C-CAP Community Risk Mapping workshop, 1/16/2013 with Popua C-CAP Community Committee. Risks associated with climate change events are in red, important economic, social, and coastal/water infrastructure vulnerable to the risks are in blue, and other community infrastructure sites are in yellow.

Public · 6 Collaborators · 17 views
Created on Jan 16 · By heavenlygirl · Updated yesterday
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- Free Church of Tonga / Church Hall
- Semi-Permanent Flooding
- Semi-Permanent Flooding
- Church of Tonga
- Eroding Coastline
- Overharvested Mangroves
- Privately-Funded Roads
-Village roads are essential for villagers traveling to Nuku'alofa for work and for those who sell fish to market. Village expansion and privately-funded road construction has not adhered to engineer...
- Road Drainage
-Drainage channel installed after road construction caused flooding insufficient to accommodate sea water flow during tidal changes, serve as a channel for rainwater runoff. -Vulnerable to: Erosion...
- Road Drainage

Coastal Erosion
Last Updated by heavenlygirl on Jan 16

[Directions](#) [Search nearby](#) [Save to map](#) [more](#)

500 ft
200 m

Imagery ©2013 DigitalGlobe, GeoEye, Map data ©2013 Google Edit in Google Map Maker

9:08 PM

Step 1: List of Community-Identified Climate Risks & Infrastructure

NGaahi 'ū meā fakasōsiale 'i he kolo

Uuni meā kuo 'osi 'i ai.

- Falelotu (ng. siasi e 6)
- NGaahi holo fakasiasi - 4.
- 'Api ako - 1
- Mala'e va'inga 'i he 'apiako' pē.
- Hala - uesta
- Fāitoka
- Kinder garden
- Sima Vai (fksiasi)

NGaahi uesta

- popo/mo 'umēumea kapa'.
- tutulu
- tāfea - fale
- hala - luolu - mafahifahi.
- kovi e ngāue

NGaahi Fiemai

- 'enisinia mataotao ki he langa fale, tanu hala, mo e kelekele'.
- holo fakakolo
- hala kumi hūfanga (evacuation road)
- sima vai ki he ng. holo fksiasi
- fakala e konga mala'e.

Ma'pe 'o Va'epopua # ng. feituu mahu'inga fakasōsiale OCEAN



KEY

- △ churches
- ch. halls
- xx proposed hall
- x proposed
- - - - - evacuation road
- xx cemetery

Step 2: Taking and Recording GIS Points

- Tour Village with Community Leader
 - Visit Infrastructure Identified by Community
 - Also Record Climate Risks Discovered on Tour (e.g. erosion)
- Geo-Reference!
 - Take data point
 - Number and record in GIS Notebook
 - Photo Document

Let's geo-reference Lower Campus!

Step 3: Creating a Googlemap

- Name and Describe Your Map
 - Simple Name
 - Brief Description and a Map Key
- Plug GPS in & Import Waypoints
- Input Descriptions
 - Set and Use Same Format for All Waypoints
 - Name the Risk / Infrastructure
 - Brief Description of Significance
 - List of Vulnerabilities

www.googlemaps.com

Step 4: Adding Photos

- Upload Photos to Flickr, Facebook or Web-based Photo Collection
 - Right Click on Photo
 - “Copy Image URL”
- Return to Googlemap Waypoint
 - Select “Rich Text”
 - Click “Insert Image”
 - Copy in the “Image URL”

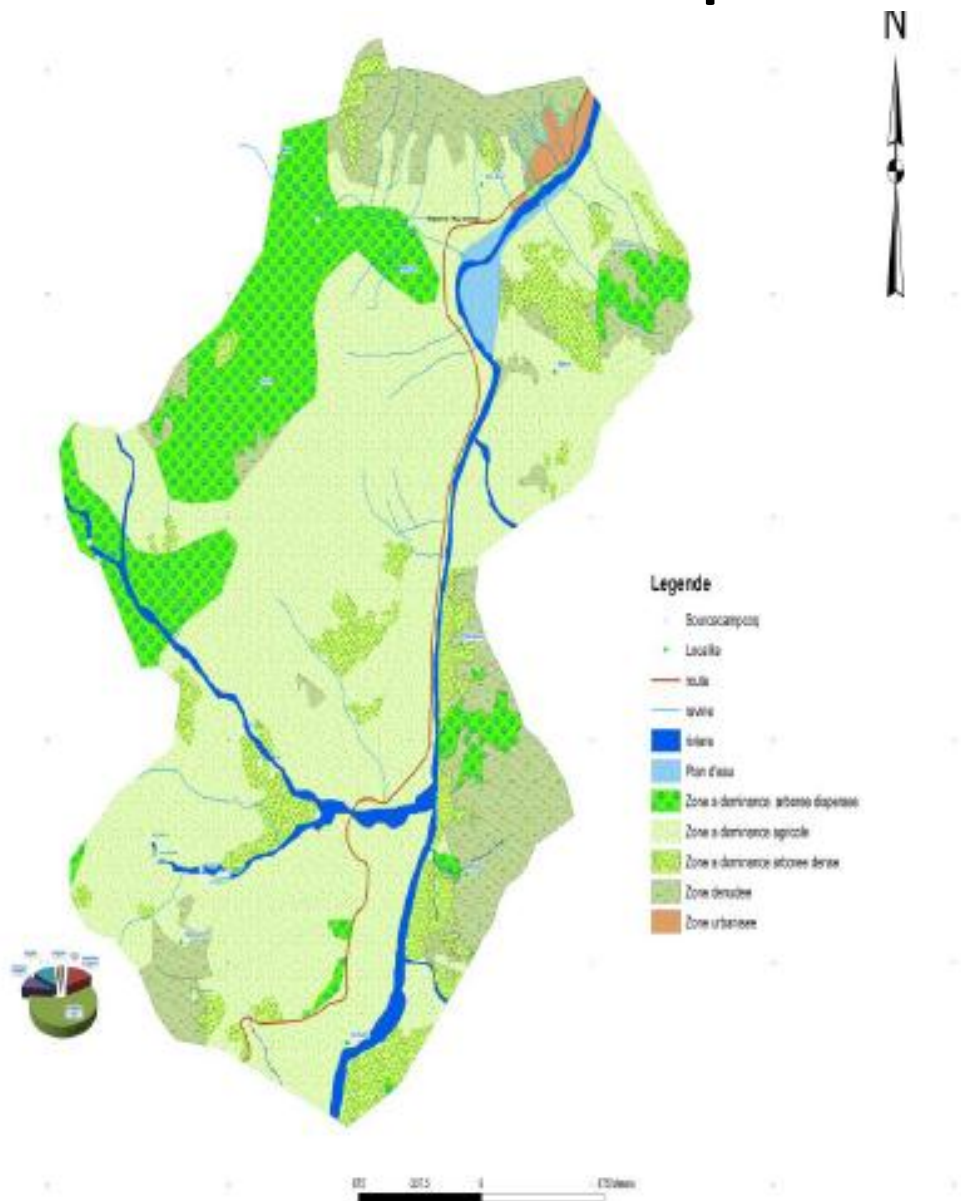
www.flickr.com

The Final Product!

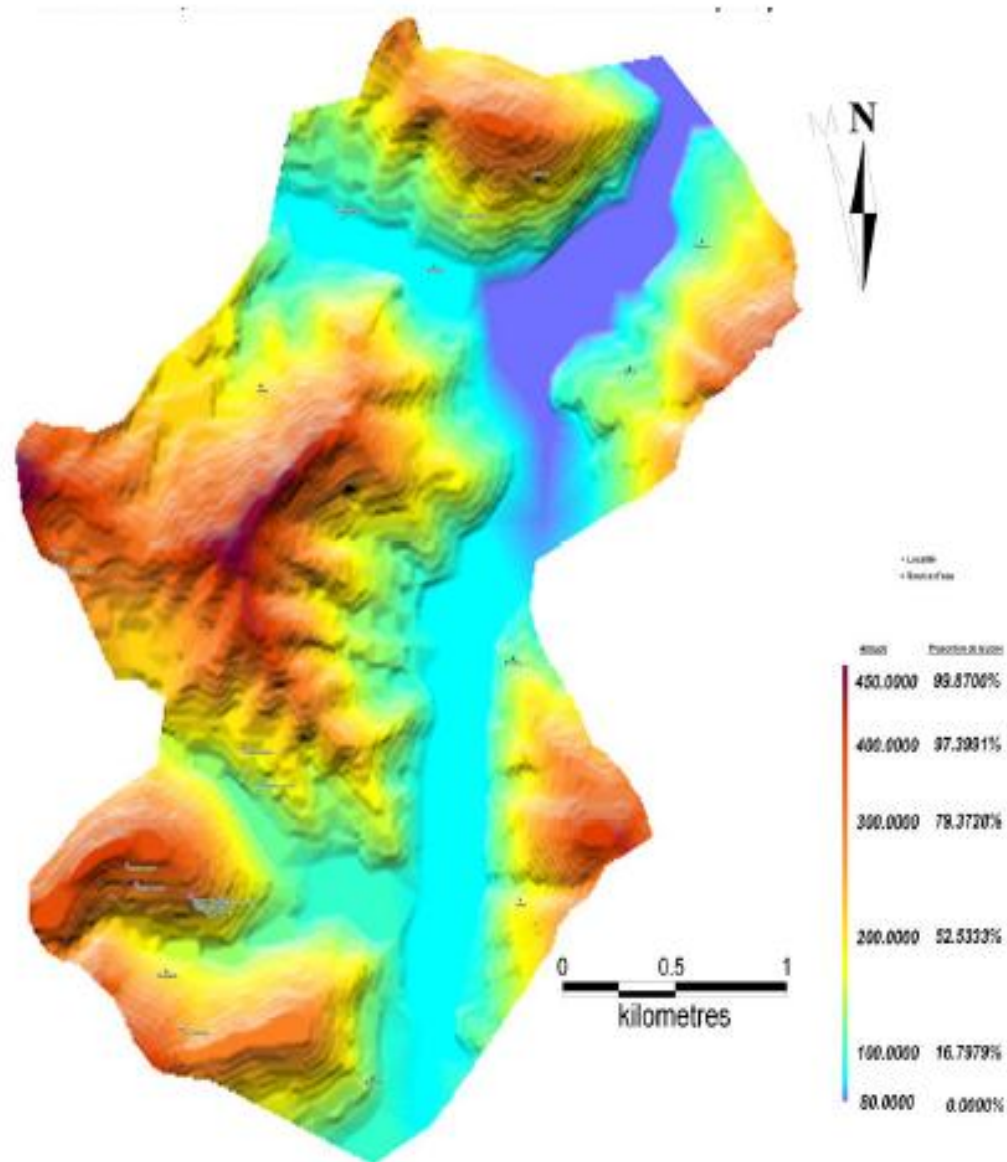
www.googlemaps.com

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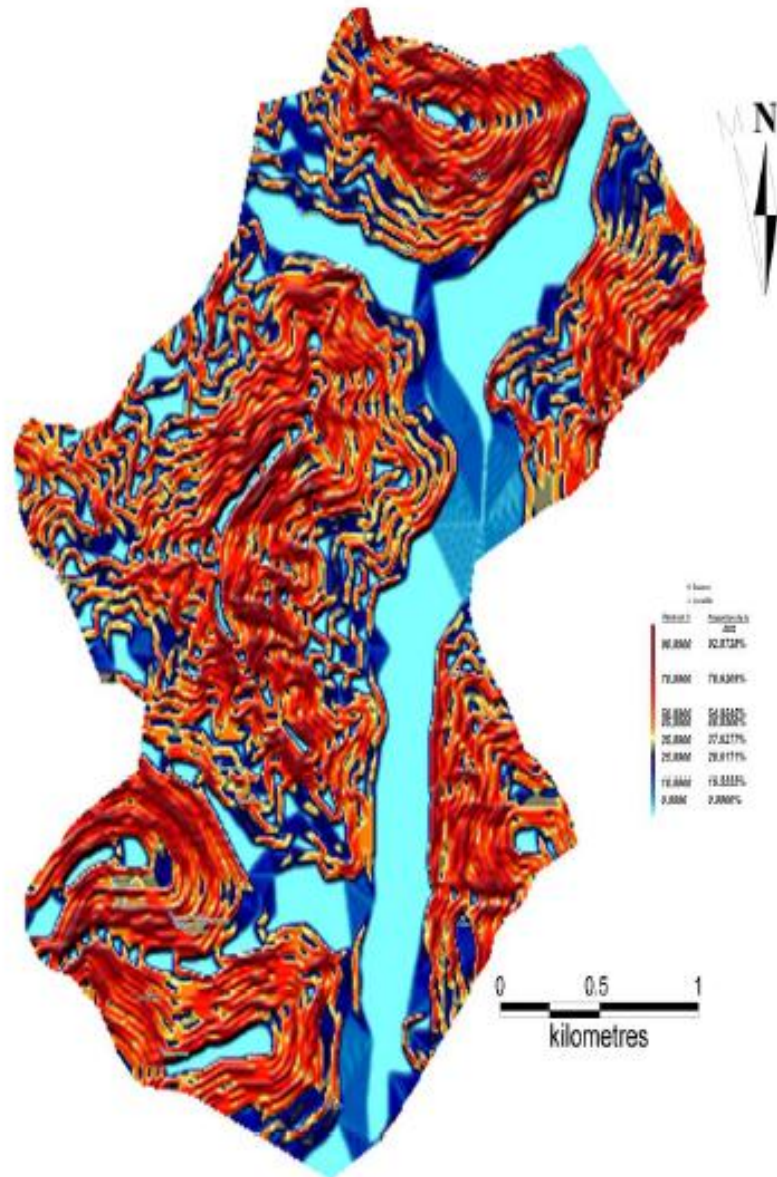
Land Use Map



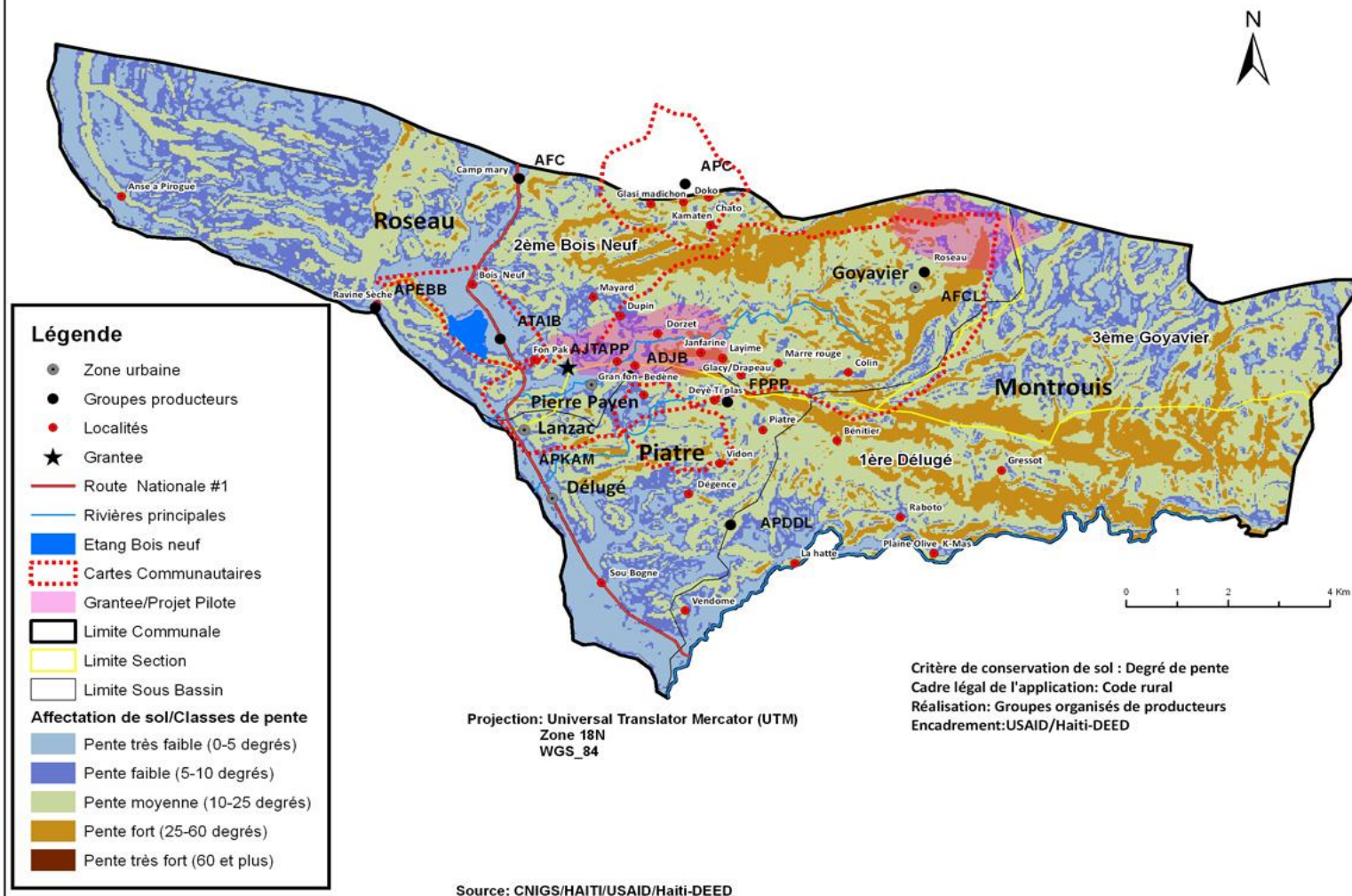
Topography



Slope Map



COMMUNE DE SAINT MARC: PLAN COMMUNAUTAIRE DE CONSERVATION DE SOL



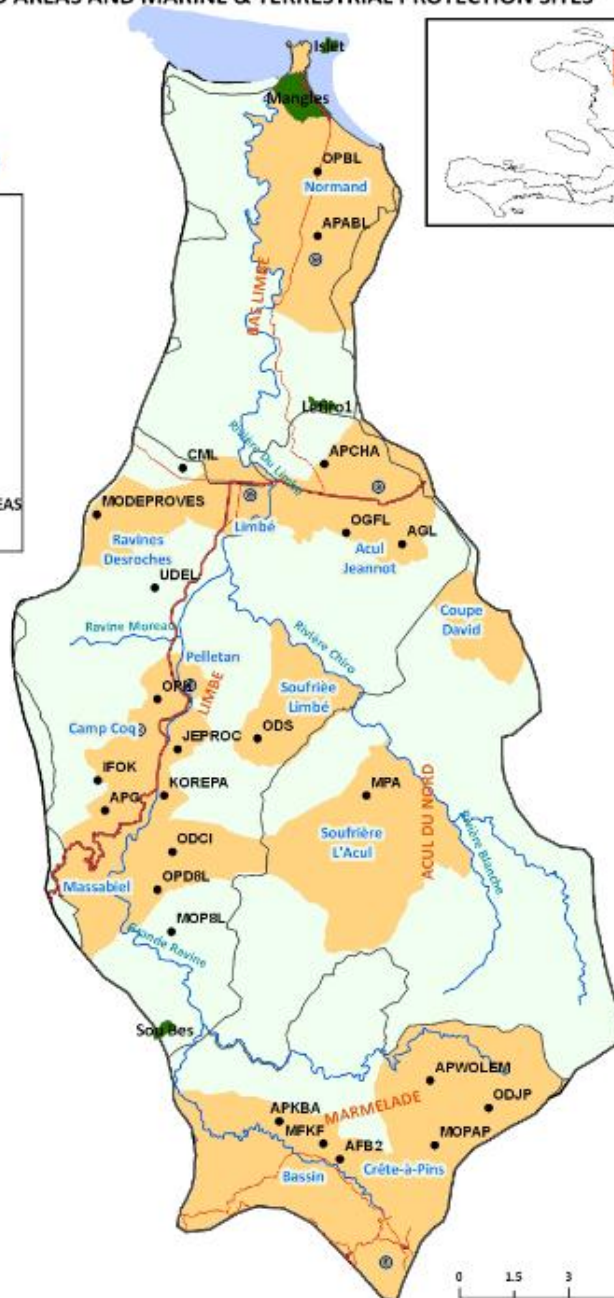
Shared Land Use Decisions

Producer Groups	Sustainable Production Technology
APWOLEM	Aquaculture and vegetable gardening
APKBA, ODS	Pineapple hedgerows and tree planting
OPD8L, MODEPROVES, APG, UFOK, KOREPA	Yam permaculture
CML, MPA, NOVELLA	Cacao
APCHA	Apiculture and nectar tree planting
MODAB	Intensive vegetable and hillside tree planting
GRADSPA/APABL	Semi-intensive goat production
Village Planete	Mangrove restoration

LIMBE WATERSHED: COMMUNITY MAPPED AREAS AND MARINE & TERRESTRIAL PROTECTION SITES



- PRODUCER GROUP
- ⊗ PRINCIPAL TOWNS
- NATIONAL ROUTE #1
- SECONDARY ROADS
- PRINCIPAL RIVERS
- COMMUNE BOUNDARIES
- TERRESTRIAL SITES
- MARINE SITES
- COMMUNITY MAPPED AREAS
- WATERSHED AREA



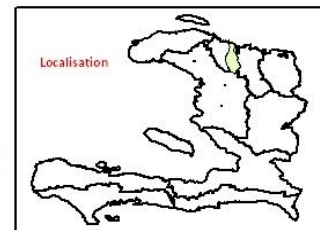
Projection:
Universal Transverse Mercator (UTM)
Zone 18 N
WGS_84

Sources: CNIGS, USAID/Haiti-DEED
Realization: Haiti-DEED
Date: May 2010

0 1.5 3 6 Km

Plan aménagement Bassin versant Limbe

2 Departements
6 communes
16 sections communales
5 sous comités de gestion



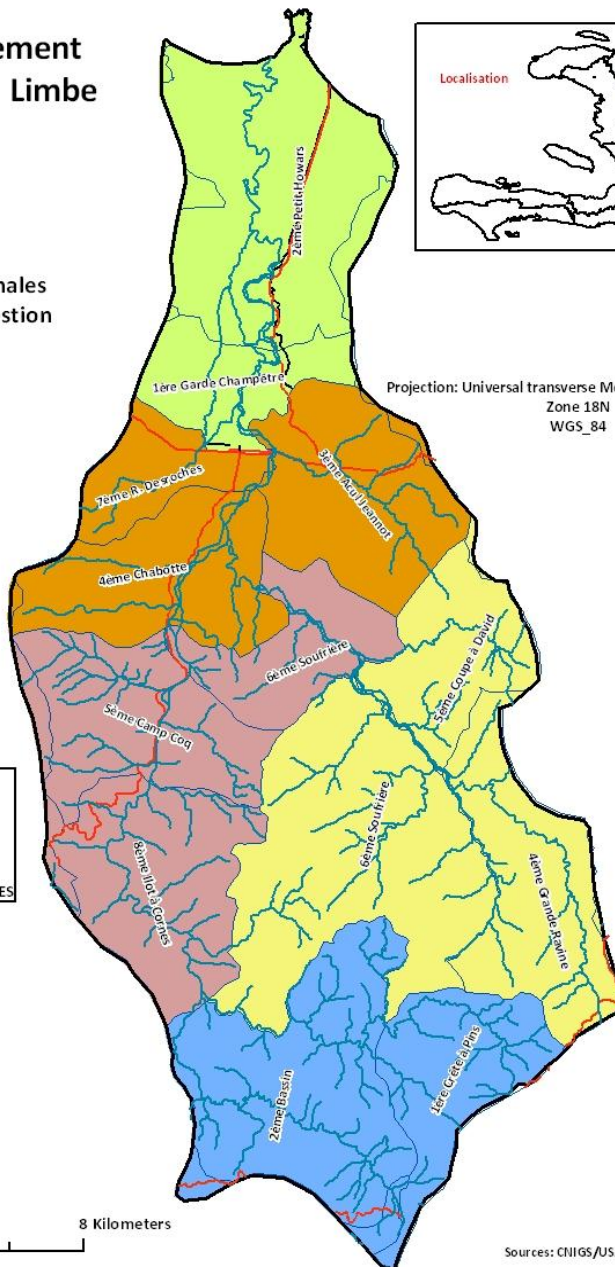
Projection: Universal transverse Mercator (UTM)
Zone 18N
WGS_84



	HYDROGRAPHIE
	RESEAU ROUTIER
	LIMITE BV
	SECTION BOUNDARIES

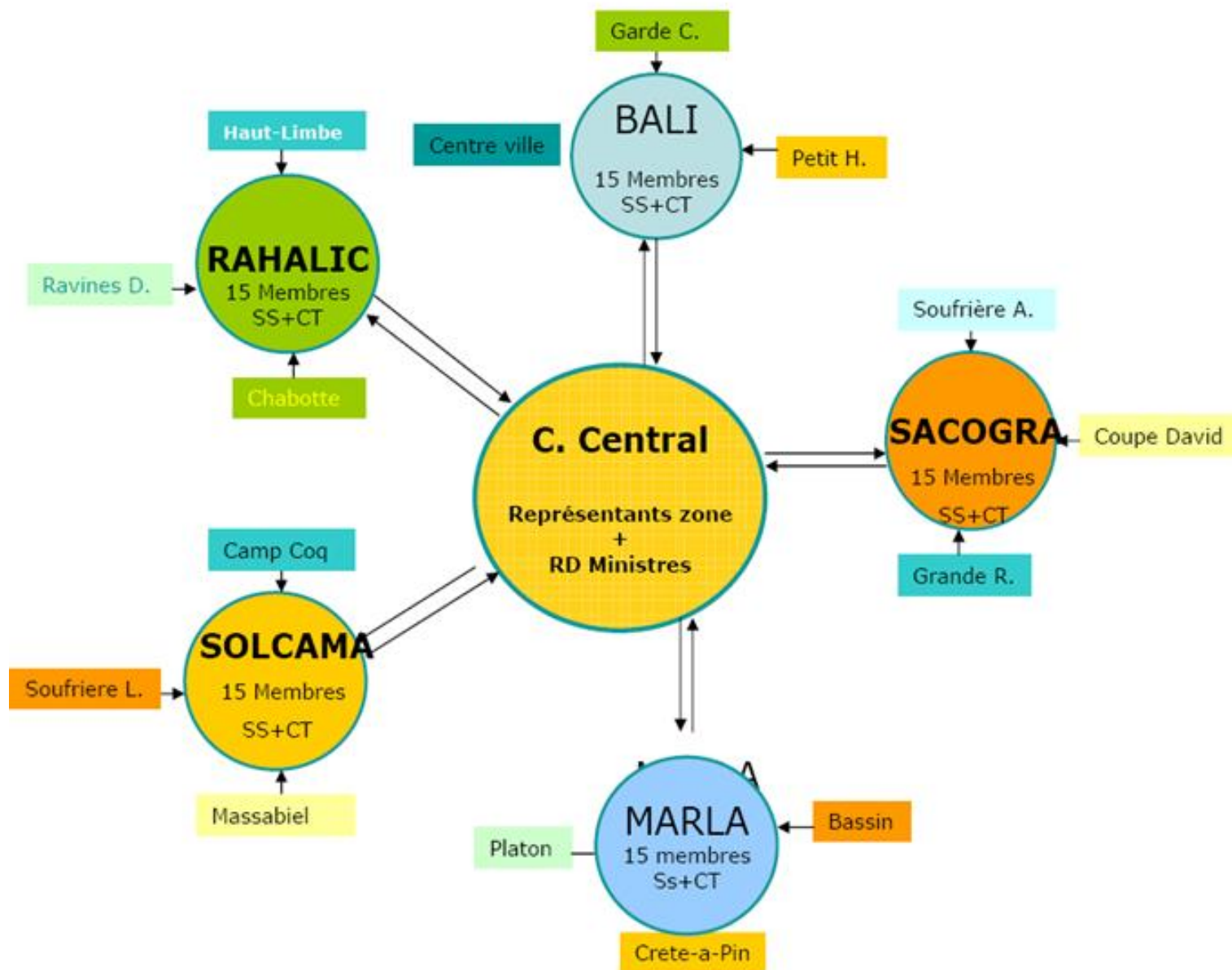
ZONAGE	
	BALI
	MARLA
	RAHALIC
	SACOGRA
	SOLCAMA

0 2 4 8 Kilometers



Sources: CNI/US/HAITI-DEED

Figure 1. The five sub-watershed management units in the Limbé watershed



Participatory Land Use Planning

- Based on real life experiences
- Peer to peer information exchange
- Multi-stakeholder inclusiveness
- Cross sector platform
- Local – Regional – National integration

Gabagaba, PNG



Contour - Gabagaba

