Progress of ICT
Development for Development
18th June 2015

Tonga Multi Disaster Early Warning System

"APT Pilot Project for e-disaster communication network in rural island environment"

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Outlines

- **Objectives of the project**
- **Project output**
- **Project Sites**
- **Partner organizations**
- **Project schedule**
- **Network Configuration**
- **Evaluation**

Objectives of the project

- Introduce a broadband IP radio network and OFC as e-disaster communication infrastructure of the pilot system

- Introduce multi-purpose Early Warning System using loud speakers for securing information dissemination to the residence in vulnerable area.

- Establish Disaster Information System (DIS) which supports Disaster Management activities.

- Implement experiments on ambitious technologies to find feasibilities in South Pacific environment as research activities.
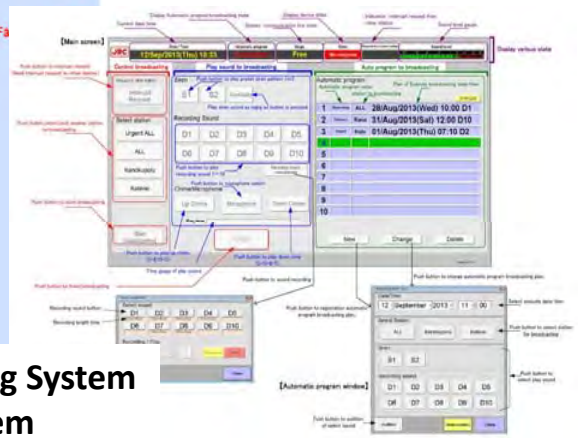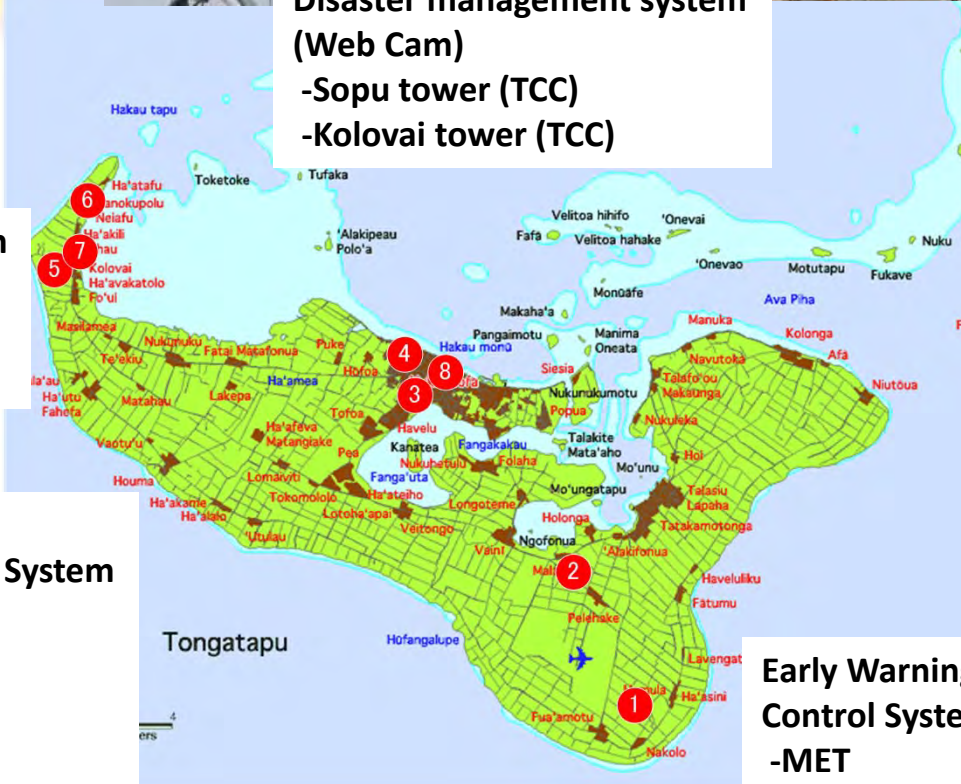
Project output
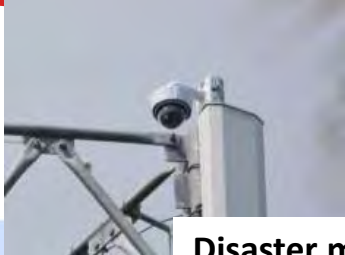
Disaster management system (Web Cam)
-Sopu tower (TCC)
-Kolovai tower (TCC)

Disaster management system (Large screen, Potal site)
-NEMO

Early Warning System Speaker System
-Kanokupolu
-Kolovai

Infrastructure 4.9GHz Wireless LAN System
-Kanokupolu
- Kolovai
- Sopu
- Malapo
- MET

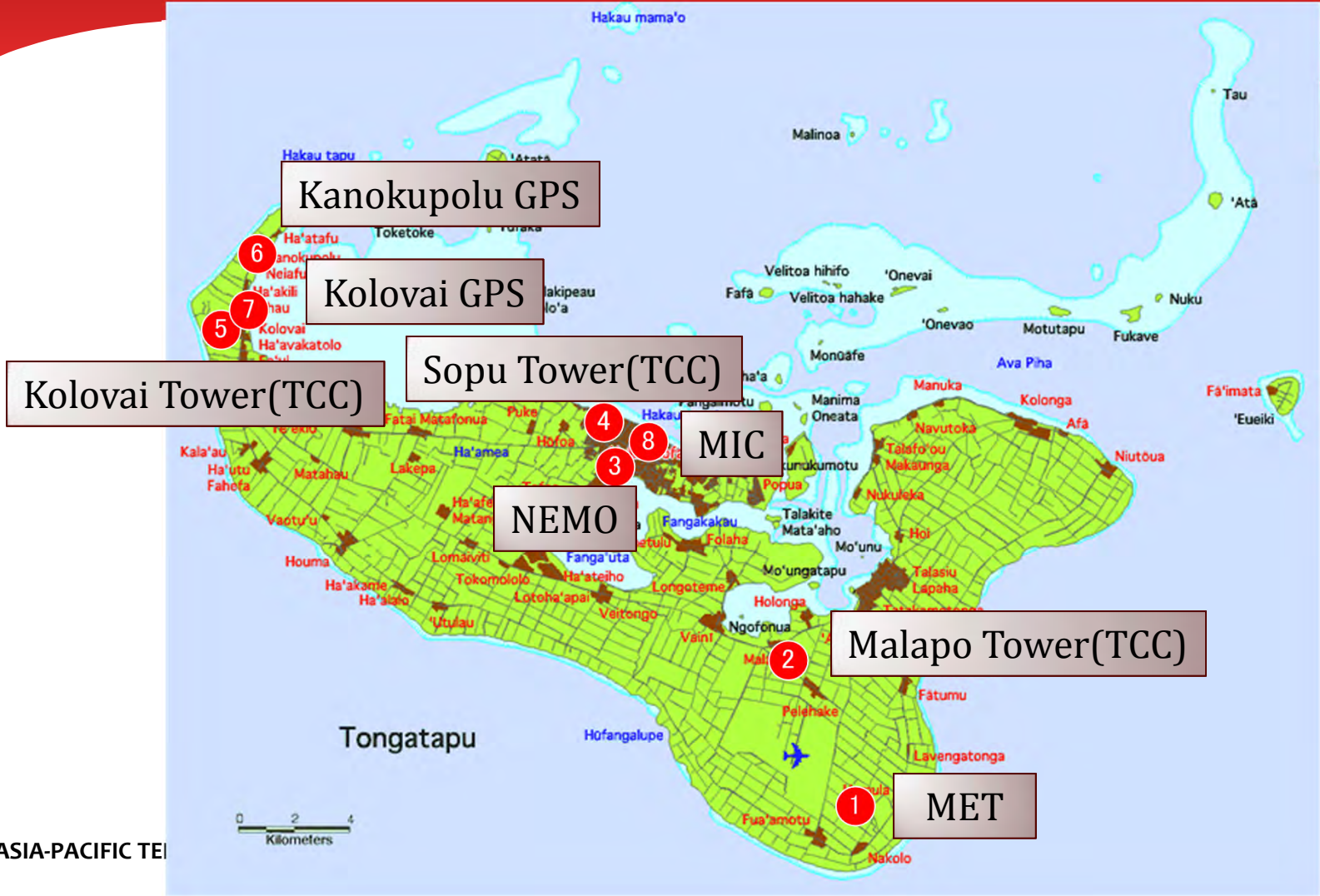**Early Warning System Control System**
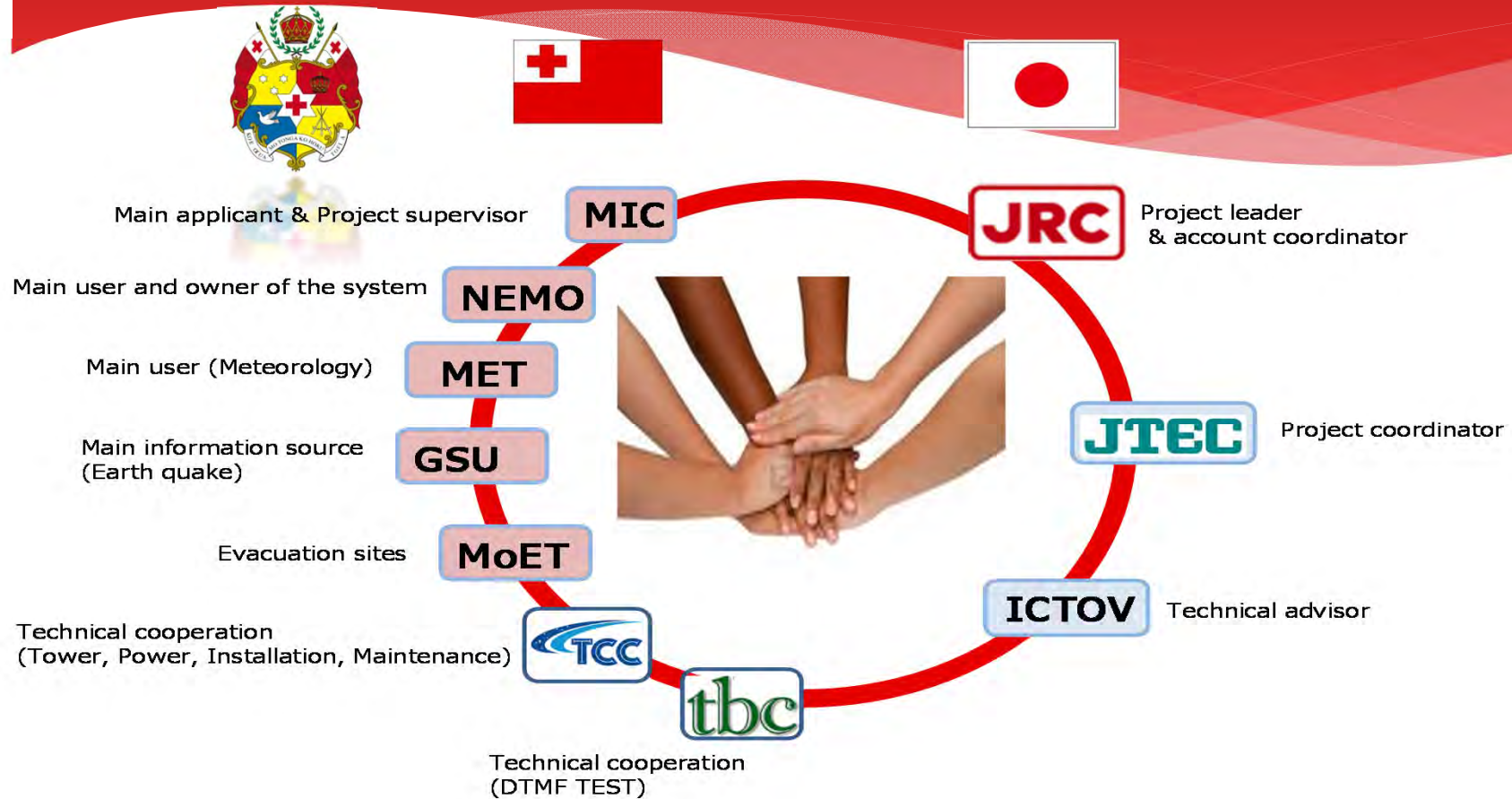-MET
-NEMO

Project output

Technical demonstration on "Horn array long range speaker" in Nuku'alofa downtown was implemented for multi-purpose standalone PA system.

Project Sites

Kanokupolu GPS

Kolovai GPS

Sopu Tower(TCC)

Kolovai Tower(TCC)

MIC

NEMO

Malapo Tower(TCC)

MET

Tongatapu

Partner organizations

Main applicant & Project supervisor — **MIC**

Main user and owner of the system — **NEMO**

Main user (Meteorology) — **MET**

Main information source (Earth quake) — **GSU**

Evacuation sites — **MoET**

Technical cooperation (Tower, Power, Installation, Maintenance) — **TCC**

Technical cooperation (DTMF TEST) — **tbc**

JRC — Project leader & account coordinator

JTEC — Project coordinator

ICTOV — Technical advisor

Project schedule

item	2013										2014		
	Mar.	Apr.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Event	06Mar ▼ APT-J3 Selected					05.Aug ▼ interim report							
Meeting in Tonga.													
Design and production of the system /engineering work													
Transport /Customs clearance													
Installation /cable wiring													
Testing /evaluation OJT													
Follow up (Adjustment Wireless network)													
Reporting					Interim report							Final report	

Network Configuration

Infrastructure of IP Network

Kanokupou GPS
(Speaker Station,
Tele-center)

TCC
(Internet provider)

14.20km

Change

Change

Kolovai Tower
(Speaker Station)

Sopu
(Relay Station)

Change

NEMO
(Main center)

14.27km

Change

10.47km

Kolovai GPS
(Tele-center)

Change

Malapo
(Relay Station)

4.32km

4.9GHz Wireless LAN (SD)
4.9GHz Wireless LAN
Optical Fiber Network
Metal line Network (ADSL)

MET
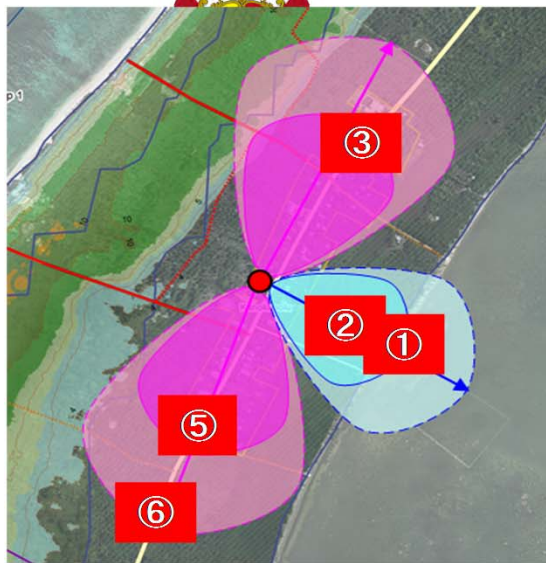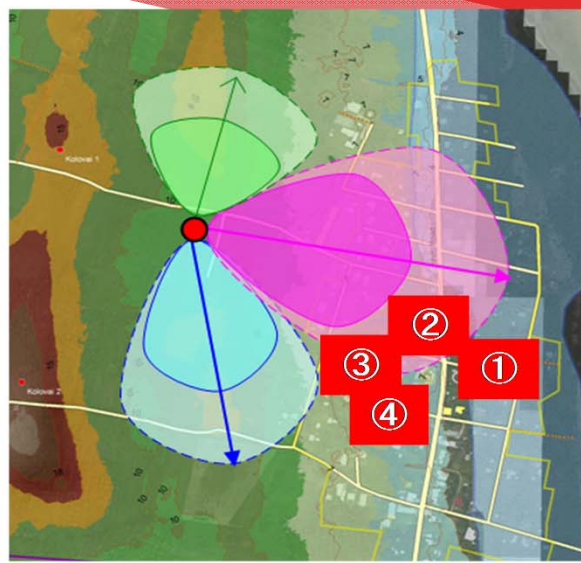(sub center)
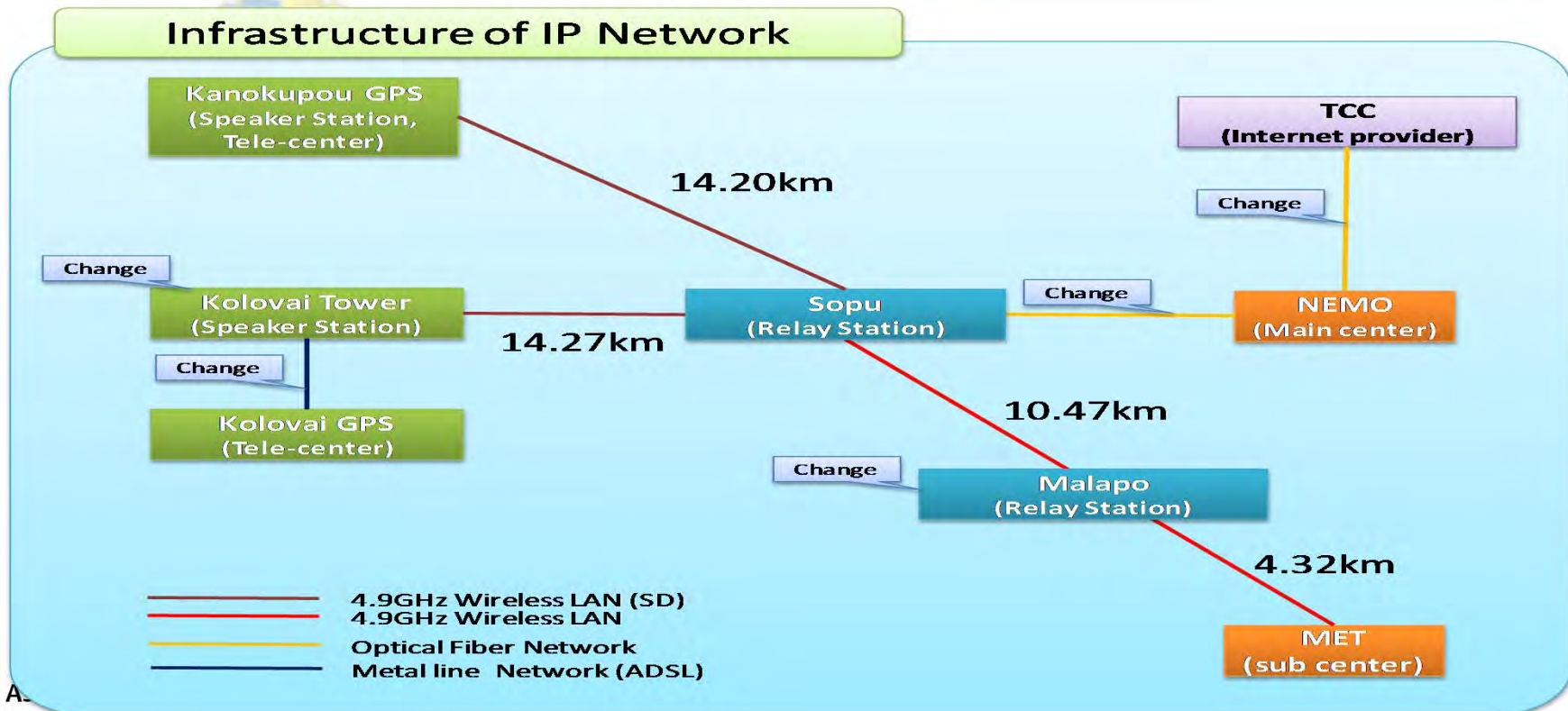
Evaluation (Early Warning System/Speaker)

Evaluation of the loud speaker service area

Kanokupolu

Kolovai

At all evaluating points got rating "four or more".

Rating	Criterion of judgment	Remarks
5	Excellent, understand well (no echo)	
4	Very good, understand well	
3	Good, understand	
2	Not good, but understand	
1	if it is heard carefully, understand	
0	Cannot understand what is said	

Thank you. Malo 'Aupito.