



APT ICT Pilot Project 2005 in the Philippines

**International Cooperation Forum
on Telecommunications & Broadcasting
October 6, 2006**

**International Cooperation Section
Government and Industrial Affairs Dep.
KDDI CORPORATION**



**E-Learning for local people in rural area
by utilizing ICT center
connecting through Wireless LAN
in Bantayan Islands
(Bridging Digital Divide in the Philippines)**





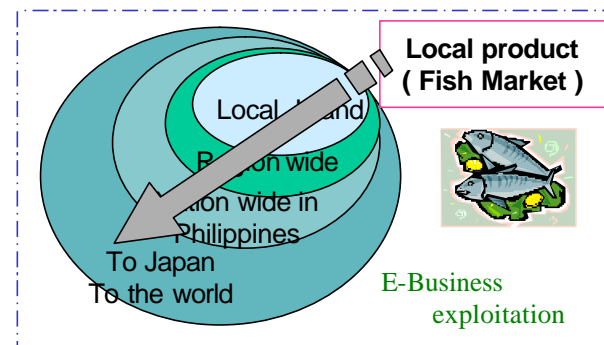
Purpose



To promote E-Learning for local people in rural area by utilizing ICT center connecting through broadband Wireless LAN in Bantayan Islands, northern part of Cebu region, and to bridge Digital Divide through Internet in the Philippines. This project is one of pilot model toward E-Philippines.

Bridging rural area and urban area, and growing local business opportunity

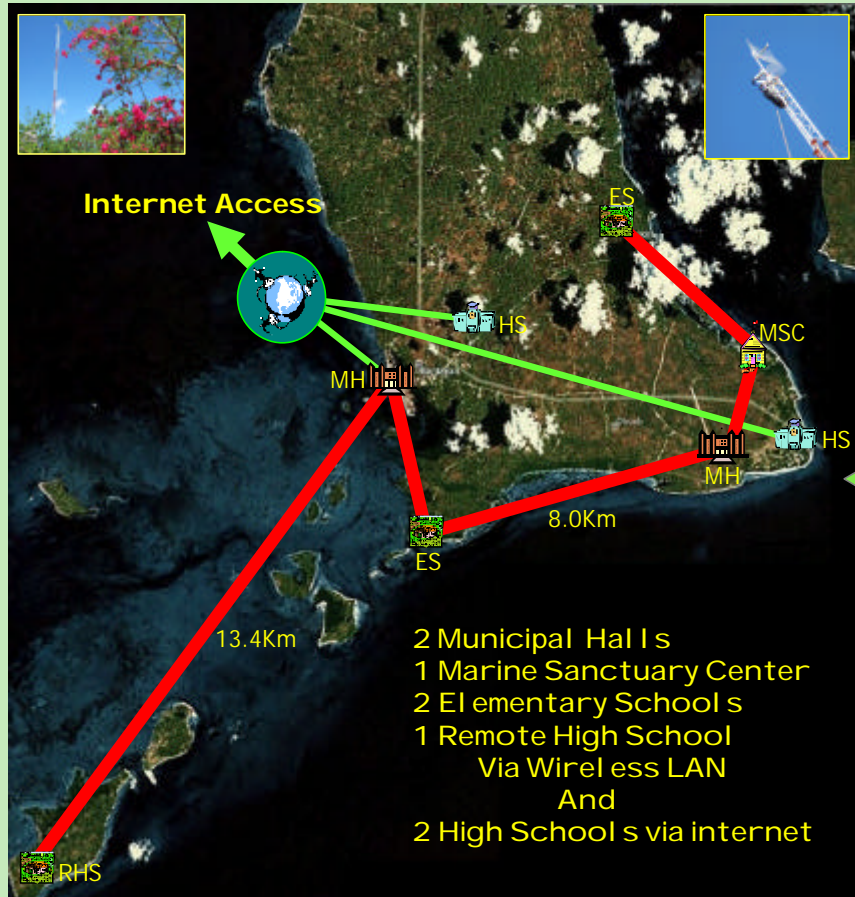
Growing local business opportunities by getting knowledge of new fishing technology and business solution connecting with the University of the Philippines through Internet .





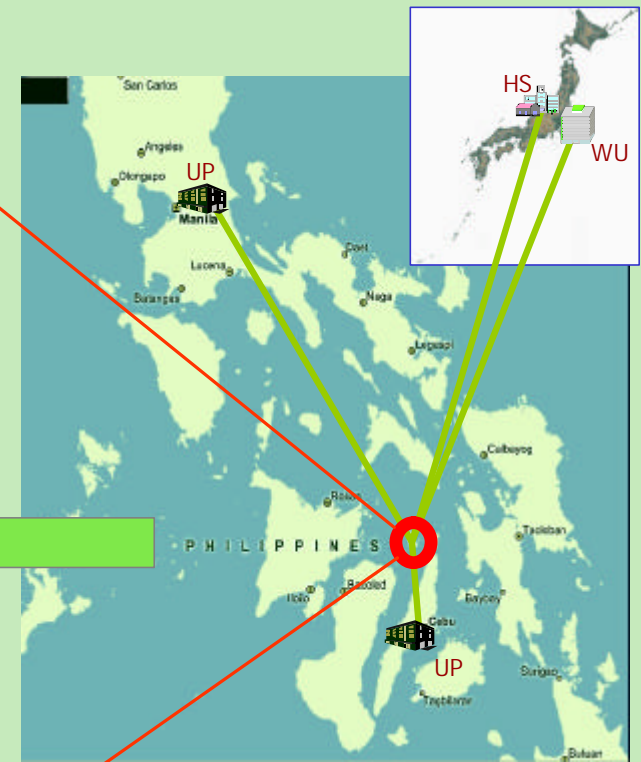
Project Overview (Network Configuration)

Wireless LAN Network (total length : 31.4Km)



2 Municipal Halls
 1 Marine Sanctuary Center
 2 Elementary Schools
 1 Remote High School
 Via Wireless LAN
 And
 2 High Schools via internet

Bantayan Island



Connection
 in Philippines and with Japan
 Through Internet

University of the Philippines (Diliman, Cebu)
 Waseda University & Honjo High School





Project Overview

Remote E-Learning



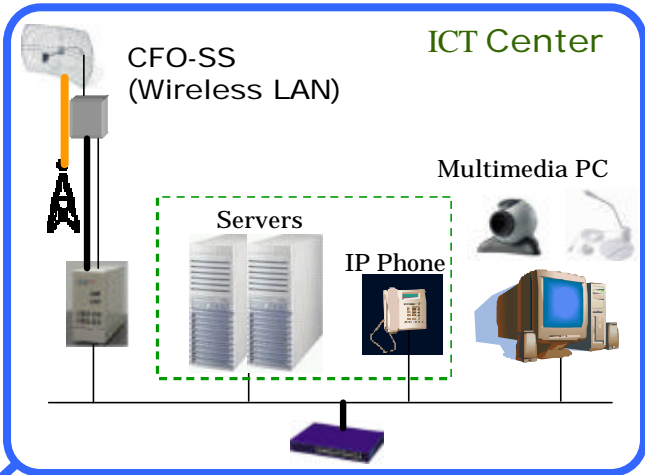
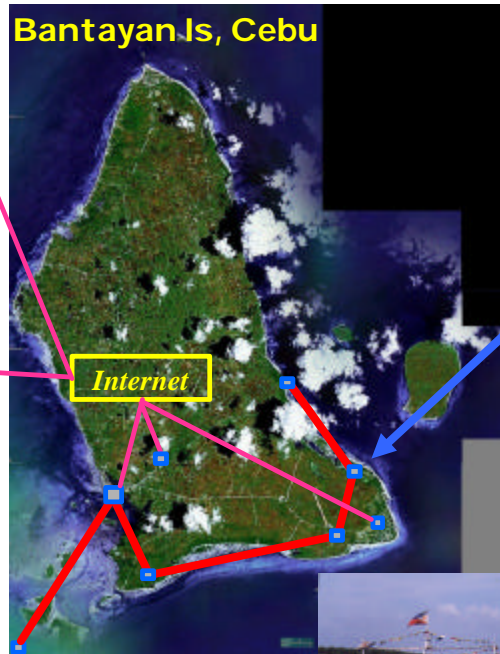
Connected by Internet with
University Philippines (Diliman, Cebu)

Waseda University,
Waseda Honjo High School



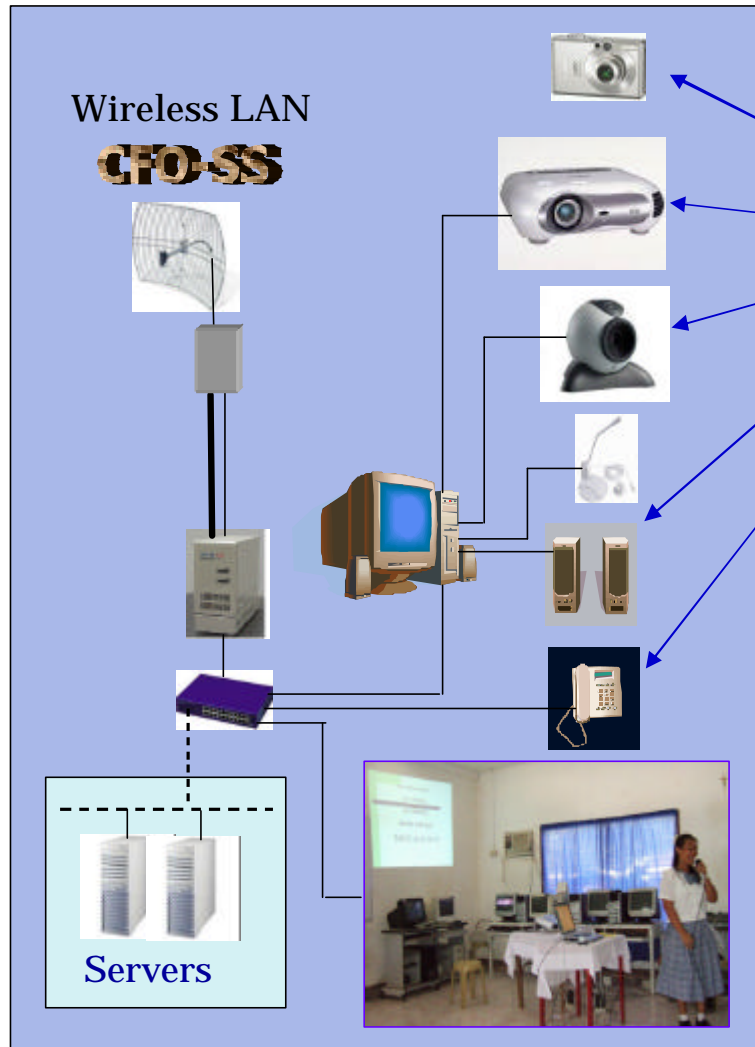
Japan

Bantayan Is, Cebu





Multi Media Client at ICT Center



Basic component

Tools for Multimedia communication

Digital Camera

Projector

Web Camera

Audio (microphone and speaker)

IP Phone (VOIP) for Internal communication and for trouble-shooting

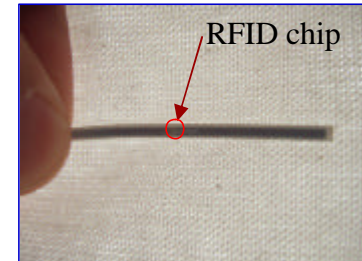
Soft Phone through Internet

Video Conference

Document Sharing

(Word Processing, Spread Sheet, Presentation, and more with Multimedia)

RFID experiment for "plant name" application





Network

Broadband Wireless LAN Network

6 sites were connected by Broadband Wireless LAN.

Total length of 31.4Km from West remote Island to East end of Main Island

Communication among Local Communities (Local Government, Schools, Sanctuary)

- Two Municipal Halls

- Two Elementary Schools

- One Remote High School

- One Marine Sanctuary Center

Wireless LAN provides broadband communication (up to 10Mbps for internal communication)

Internet Access (Connected from Bantayan Municipal Hall by DSL of up to 256Kbps)

- Two High Schools in Bantayan Island

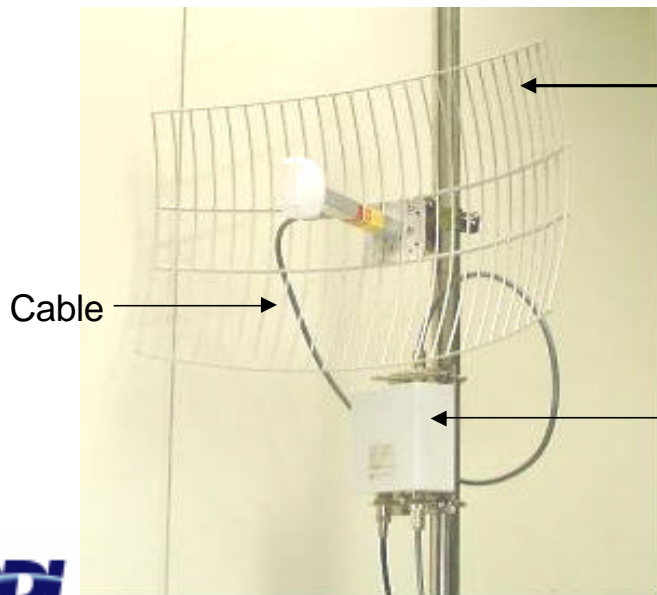
- University of the Philippines in Diliman (Manila) and in Cebu

- Waseda University and Honjo High School in Japan



CFO-SS 10A (Wireless LAN system)

- **CFO-SS** : Carrier Frequency Offset – Spread Spectrum (developed by KDDI R&D)
- Less interference with Multi-Path and other wireless LAN devices
- Big Capacity / High Speed (up to 10Mbps)
- 2.4GHz ISM Band
- Low output (less than 10mW = lower than typical PC LAN Card)
- Long Range (Less Repeater) / Wide Coverage (up to 20Km depending on Line of Sight)
- Low Construction and Running Cost (Easy Installation, Operation, and Maintenance)
- Separate type (Indoor unit and Outdoor unit)

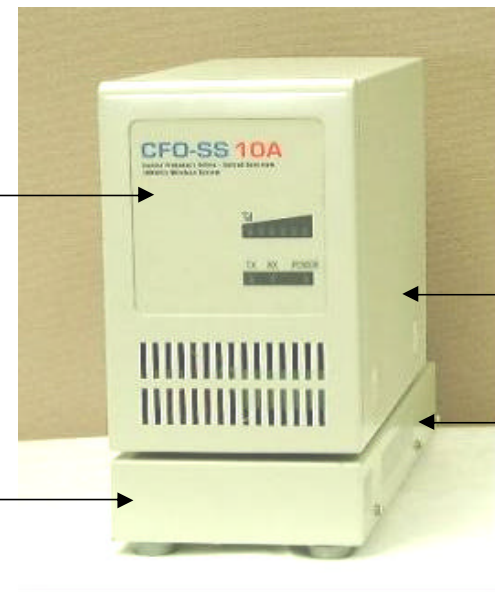


Antenna

Cable

Outdoor Unit

Power Supply Unit



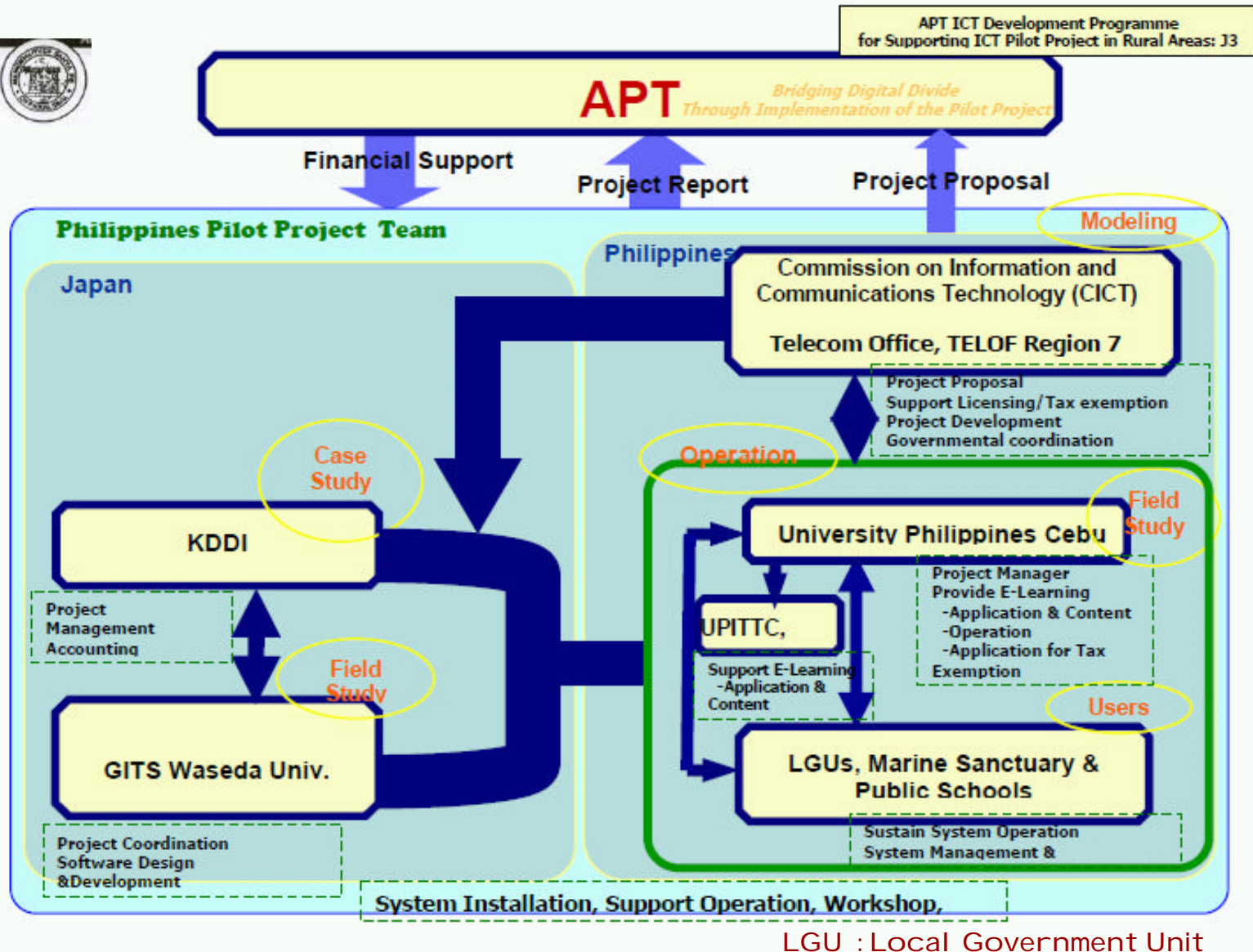
Indoor Unit

RJ45
Ethernet

AC 100V
70W



Framework





Timeframe

	Timeframe		
	2005 August	Proposal	
	2005 October	Approval	
	2005 November	Site Survey	
	2006 February	Installation Phase I & Workshop	
	2006 March	Installation Phase II, Workshop & Demonstration	
	2006 April	Completion	



Installation Phase 1 Feb-March 2006





Installation Phase 1 Feb-March 2006



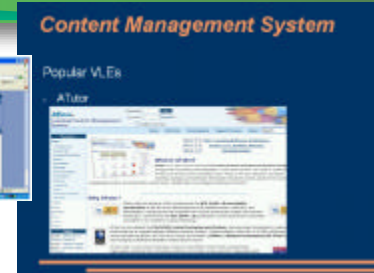


Installation Phase 2 March-April 2006





Application



SYMPLE

Home Page building in Web server

Remote Learning and Communication Tool

SOPHISTICATED

Web based individual Interactive Education System (E-Learning)

Management and Administration of individual achievement and accomplishment of study

Contents Creator (ICT, Language, Mathematics, Environment, Business, ...)

RFID evaluation for introducing plant' s name and it details at Marine Sanctuary

BUSINESS

Remote Lecture about Internet and Computer for local people

Education for Marine Conservation, Commercial Fishing and Marketing





Sustainability

Participation to the Project
(from central Government to end Users)

Introduction and Demonstration of the Systems
for Users after installation

Workshop for local people during the project

Management of
System Operation, Maintenance, Contents Creation and Business Use

Open University program for Education
(ICT training for local Teachers, ...)

Sustainability Plan[1]

- Organizational set-up: ICT O&M Management Team
- Funding Options:
 1. Contribution from Municipal LGUs
 2. Funding Support from Congressional Representative
 3. Funding Support from Provincial Government
 4. Contribution from Local Business organizations
 5. All of the above

**University of the Philippines
OPEN UNIVERSITY**

UP Open University

The U.P. Open University is a constituent unit (CU) of the U.P. System.

The other CUs are U.P. Diliman, U.P. Los Baños, U.P. Manila, U.P. Visayas, U.P. Baguio and U.P. Mindanao.

UPOU was established by the UP Board of Regents through a board resolution during its 1084th meeting on **February 23, 1995.**

**National Center of Excellence
in Open and Distance Learning**



Conclusion

Conclusion

Beneficial for local people and variety of communities

Offline Service: Word Processing, Spread Sheets, Presentation and Database applications

Online Service: Communication (Mail, VoIP, Video Conferencing and Internet Access)

E-Service: E-Learning, E-Government, E-Commerce can be achieved on the infrastructure

This pilot project opens a lot of possibilities for the advancement of the community. It will help local people achieve reforms needed in education, business and governance. As a result, this model can contribute to Bridging Digital Divide.

Everybody can access information and take lots of opportunities!



Future Deployment

Expand this Network and System to nation wide !

Example of Application

E-Government from local units through to central unit

Education for Commercial Fishing Business and Conservation

Community Business Promotion of local product

Tourism

AND MORE.....



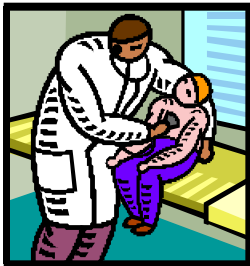
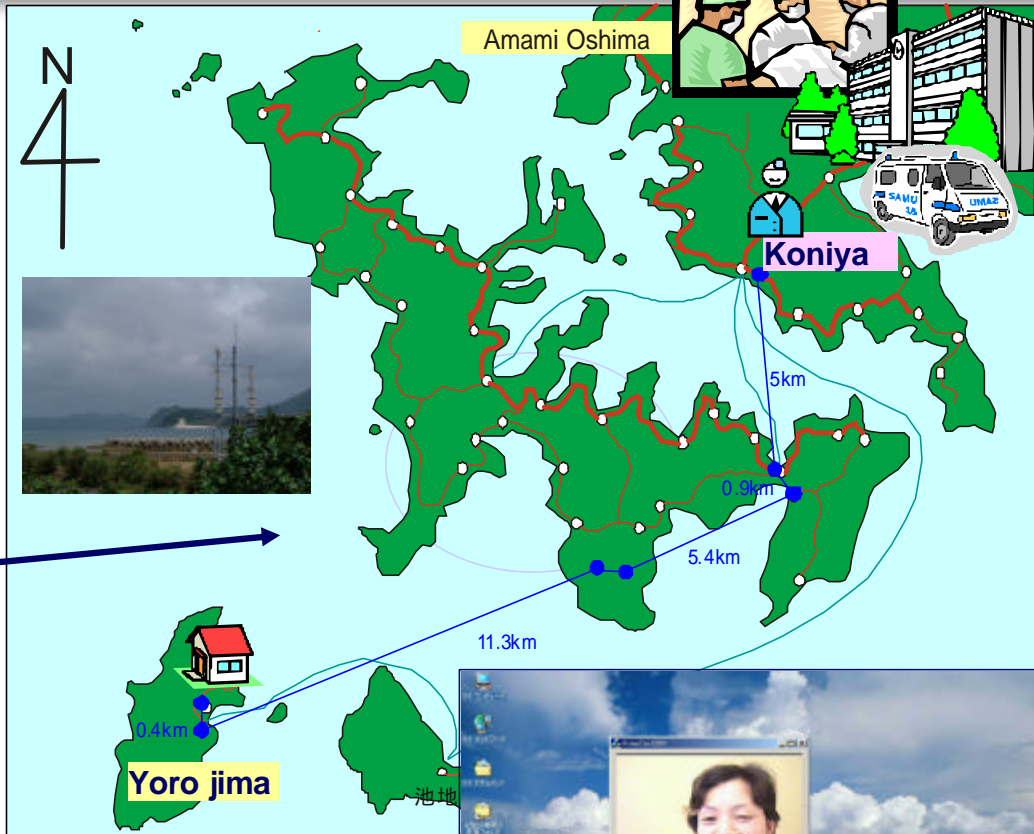


Past Projects





Amami Island, Japan in 2001



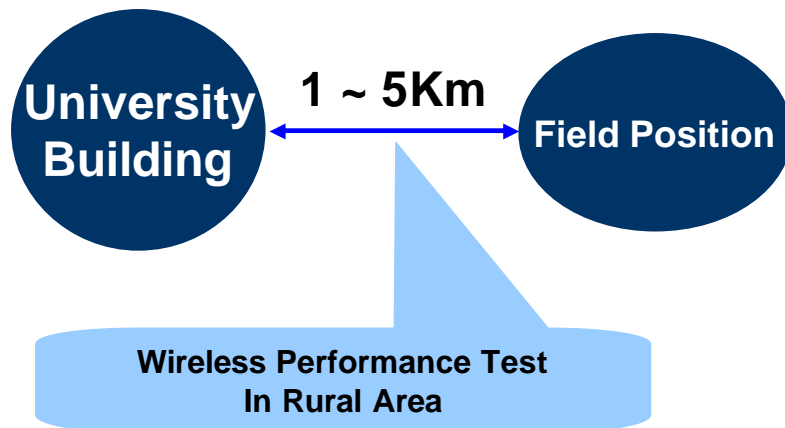
Medical Office in Rural Island



Multimedia Tele-Consulting between Doctor in Town and Nurse in Island



Kuching & Bario, Malaysia in 2002





Telemedicine, Peru in 2003

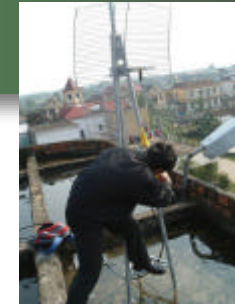
Tele-medicine as well as common telephone by Wireless LAN communication in rural area, Amazon



Revolution from relay by short wave radio



Hatinh Province, Vietnam in 2003



X-ray Image Transmission

Hatinh General Hospital

Video Transmission

Medical College

Cam Xuyen Hospital

13km

500m

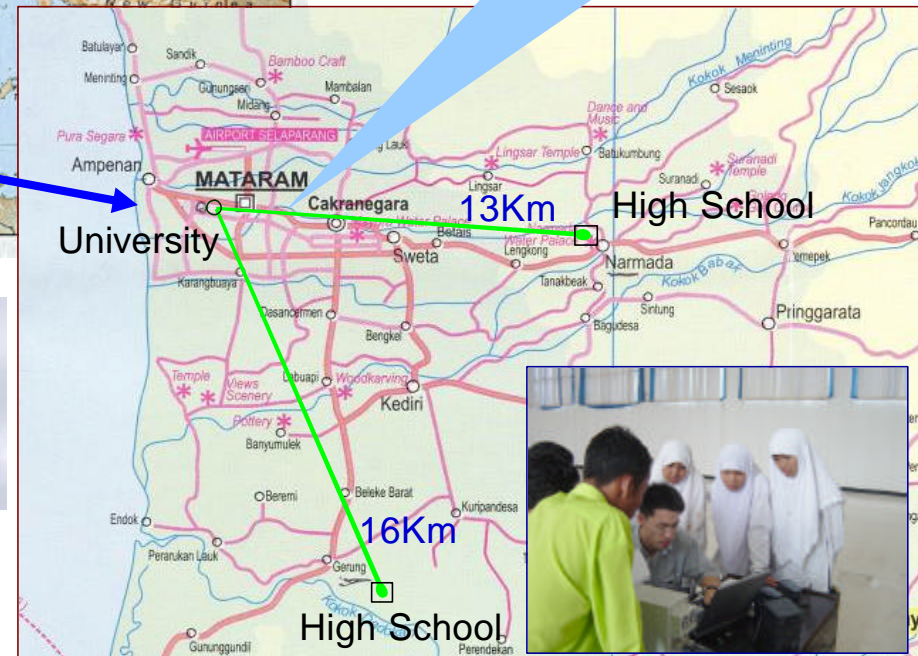




Lombok Island, Indonesia in 2004



Remote Education

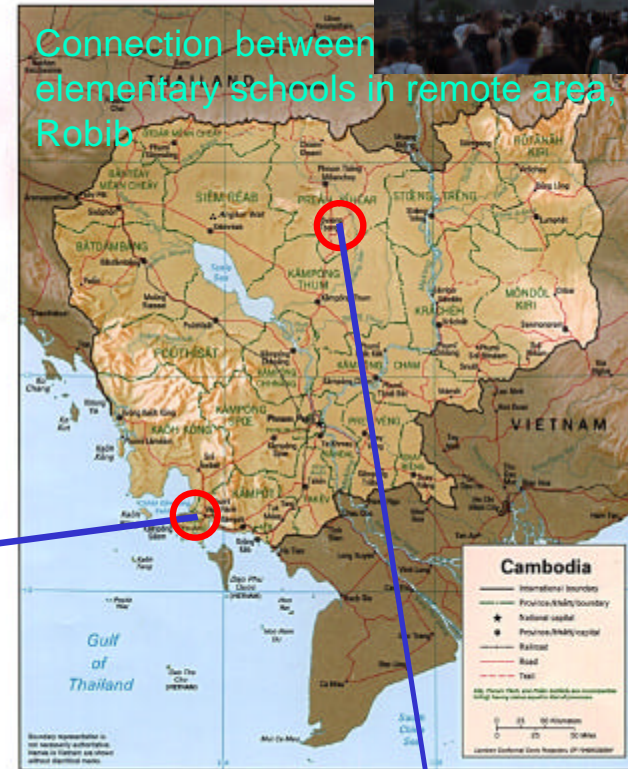




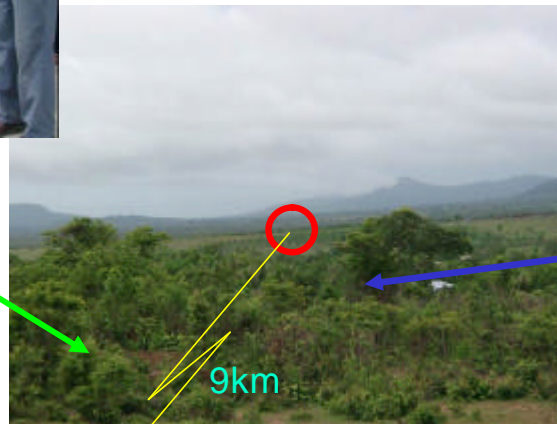
Wireless LAN Connection, Cambodia in 2005



Connection between elementary schools in remote area, Robih



Wireless LAN Demonstration between an elementary school and a mobile station





Thank you very much



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Government and Industrial Affairs Dep.
KDDI CORPORATION

