

EqTAP - Research Innovation under Implementation Strategies

"Development of Earthquake and Tsunami Disaster Mitigation Technologies and their Integration to the Asia-Pacific Region"
=*EqTAP*

Thematic Session 3.6 / UN-WCDR
Hyogo-Kobe, 21 January 2005

Hiroyuki Kameda (NIED/ EqTAP PI)

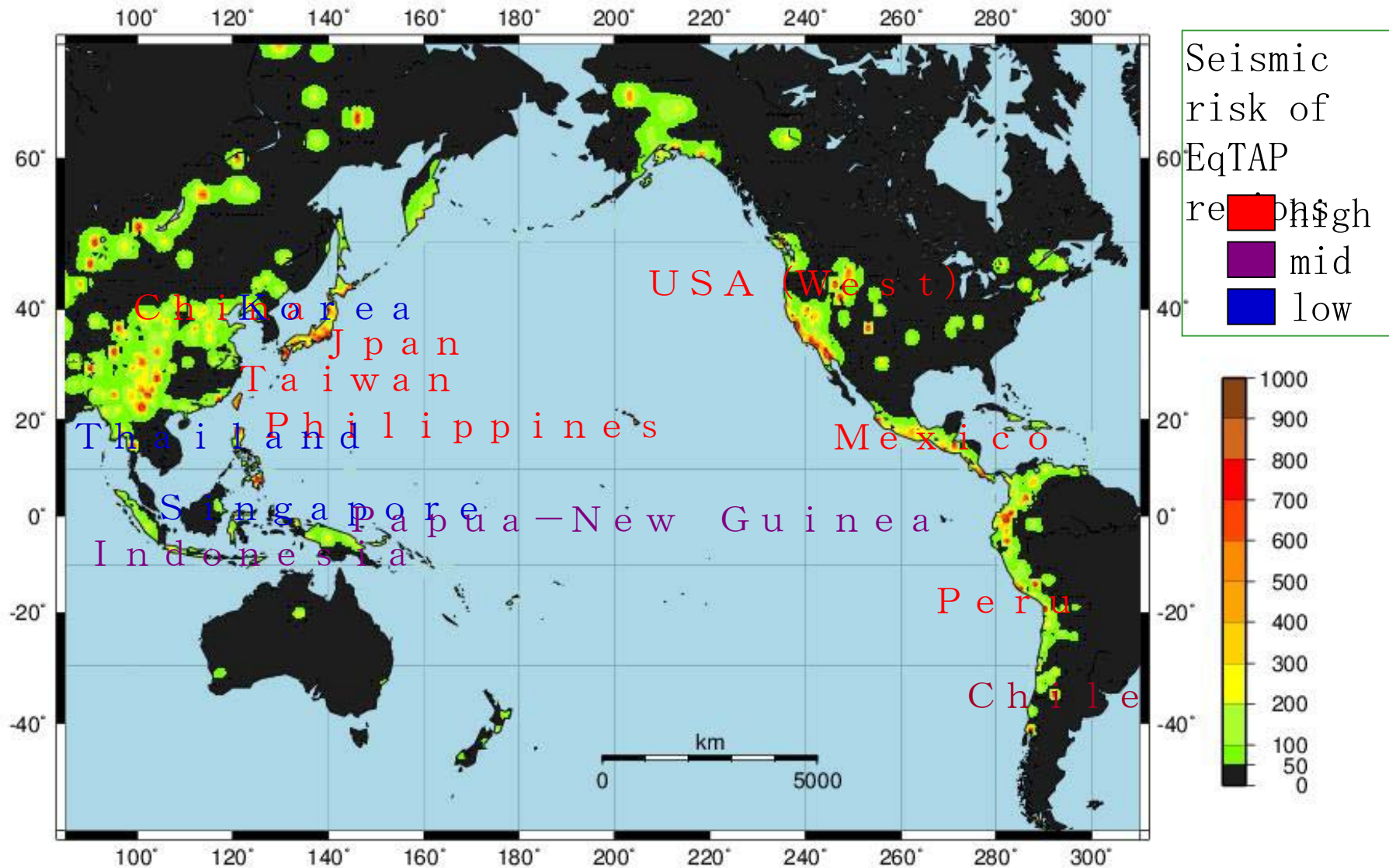
Rationale for EqTAP

*Motivation: Recognition of Hazards and Risks – (Impact of Kobe 1995)

- Multi-disciplinary integration
- Low probability – high impact disaster

*Policy Background of *EqTAP*

- Common concern among APEC member economies
- Leadership of STA, GOJ



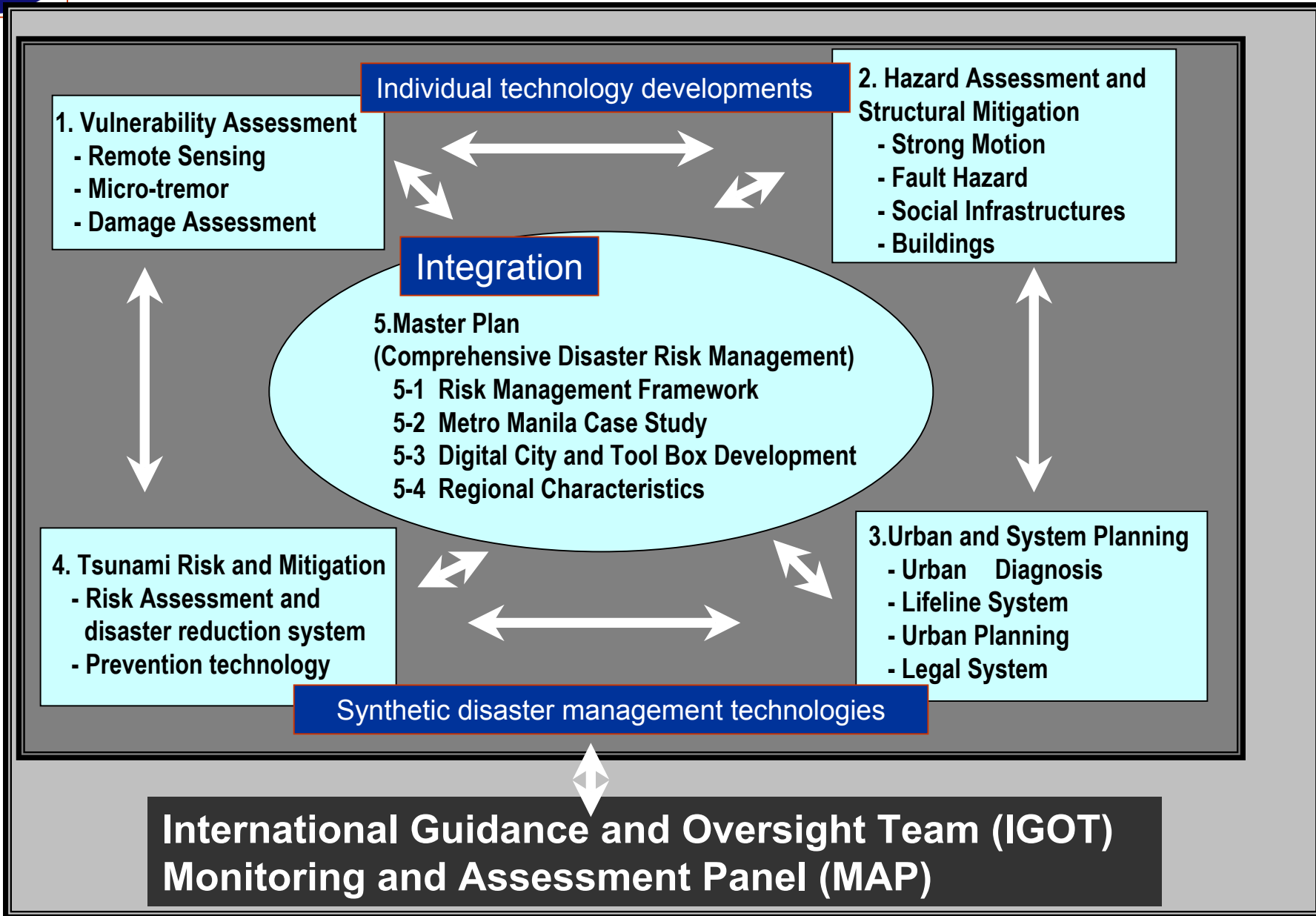
Seismic Hazard for the Asia-Pacific Regions
(PGA for 1000year return period)

EqTAP (Kiyono, Kyoto Univ.)

Framework of EqTAP

- Special Coordination Fund for Promotion of Science and Technology (April 1999–March 2004) – funded by MEXT, GoJ
- Institution in Charge : NIED
- Program management & leadership: EDM–NIED

EqTAP Framework for Phase II



Outputs of EqTAP

"EqTAP Master Plan"

1. *EqTAP DIGITAL CITY/TOOL BOX* –
Communication tool using web technologies
3. *EqTAP CASE STUDIES* – Disaster reduction technologies developed upon regional characteristics and implementation strategies
2. *EqTAP RISK MANAGEMENT FRAMEWORK* –
Working process toward implementation

<http://eqtap.edm.bosai.go.jp/index.html>

EqTAP - Digital City/ Tool Box-

The Development of Earthquake and Tsunami Disaster Mitigation Technologies and their Integration for the Asia-Pacific Region

This is the official site of a multi-lateral research project EqTAP. Various paths are available to obtain information.



EqTAP Master Plan



**Rationale
& Sponsor**



**Goals, Objectives
& Outputs**
(Message from PI)



Participants



**Subjects
& Sections**



**Project
Management**
(Message from CC)



Publications

● **Contact us**



**Useful Outputs
from EqTAP**



**Comprehensive
Disaster Reduction
Program
Planning Process**

(Highlighting Accomplishments from EqTAP)



**Metro Manila
Case Study**



**Risk Management
Framework**



**Implementation
Strategies**
(to be completed by EdM)

EqTAP Operating Principles

- * Regional Perspective
- * Integration
- * Risk-Management Framework
- * Inter-Disciplinary Approach
- * Implementation Strategy
 - Their concepts are mutually related.
 - “Implementation Strategy” is key agenda

Significance of Implementation Strategies in EqTAP

- (1) Researchers' **originality** remains essential element.
- (2) Problem identification and methodology development should involve direct **communication with stakeholders** and end-users.
- (3) It is essential that stakeholders will have **recognition and ownership** toward the research outputs that they have participated in the process of developments.
- (4) **Regional characteristic** should be properly incorporated, so that the technologies suit the local context in terms of available materials, cost and workmanship.
- (5) Proper **quality control of R&D** should be maintained, so that most advanced research methodologies and processes are mobilized to generate high-quality products, and meet the actual demands of the region.
- (6) Implementation strategies should be discussed substantially in the **planning stage of R&D** projects.

* Examples of EqTAP Activities Incorporating “Implementation Strategies”

- (1) Tsunami disaster reduction by means of greenbelt
(Hiraishi/ Indonesia, PNG)
- (2) Development of vulnerability assessment method
by Delphi approach to local engineers
(Midorikawa/ Philippines)
- (3) Seismic enhancement of masonry buildings on
collaboration with local experts (Inoue, Kubo/
China)
- (4) Seismic enhancement of non-engineered houses
based on local practice (Tanaka/ Philippines)
- (5) Development of disaster reduction planning
process (Hayashi/ Philippines)
- (6) Development of E-learning materials (Fujino/
Thailand, Philippines, Singapore)

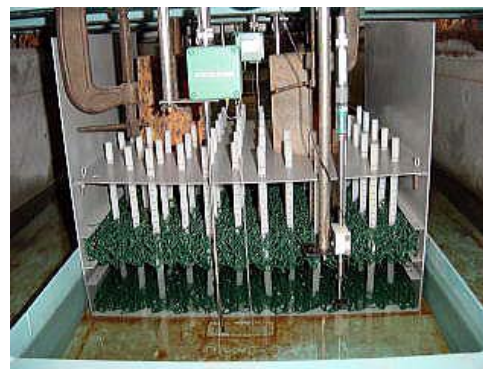
+ Tsunami disaster reduction by means of greenbelt-(mangrove, waru, etc.)

(Hiraishi, PARI - Indonesia/ PNG)

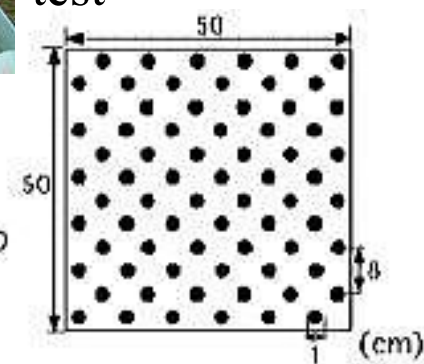
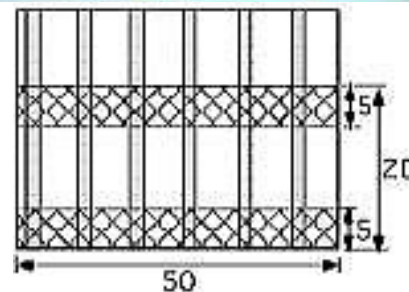
- *Can not stop tsunamis but can reduce their effects.
- *Inexpensive
- *No "high-tech" required
- *Design guideline
- *Being implemented in a tsunami project in Indonesia.



A project in Indonesia



Laboratory test



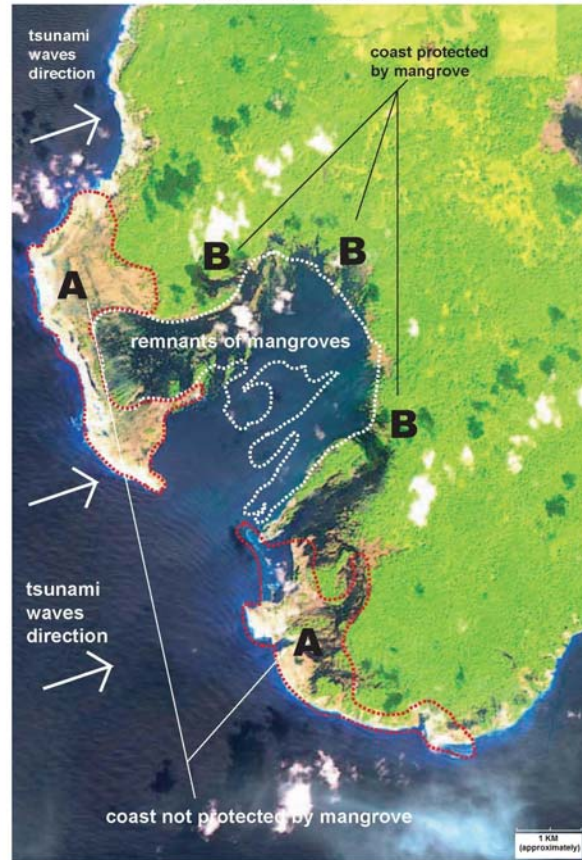
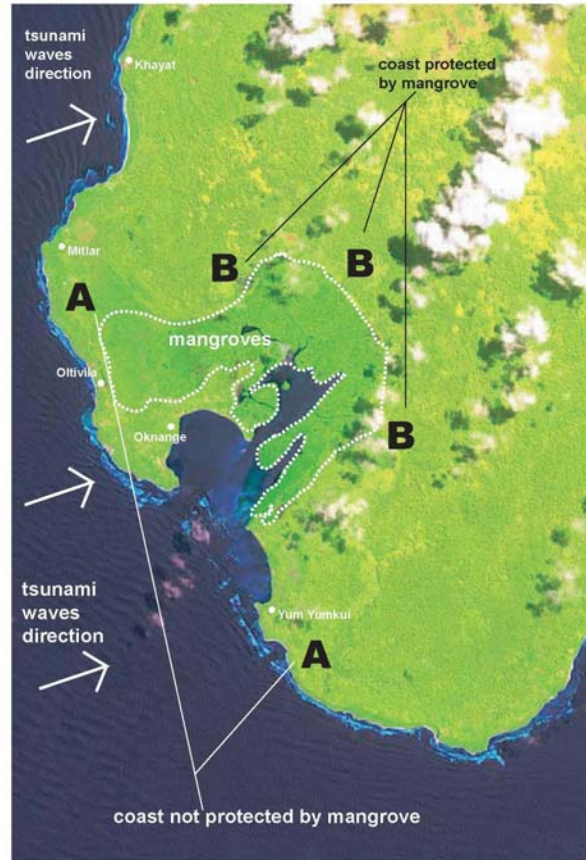
Letter for Science 7 Jan 2005

‘Asian Tsunami: Would Intact Mangroves Have Helped?’

KATCHALL ISLAND, NICOBARS, INDIA

BEFORE - 10 JULY 2004

AFTER - 28 DEC 2004



Images acquired and processed by CRISP, National University of Singapore © 2004 CNES (SPOT images)
(<http://modis.gsfc.nasa.gov>)

Analysis by:



Katchall Island in the Nicobar Islands - 50 km from the fault line - where over 2,500 people are thought to have died [Faizal Parish (Global Environment Centre) , et. al]

Elements of Innovation Based upon EqTAP

Innovation of disaster reduction study methodologies

1) From "product-focused" research to *"process-product linked"* research

2) *Multi-disciplinary* research efforts motivated by demands in the real world

3) Research truly focused on

