"Disaster Reduction Hyperbase"
Project: International Framework for Development of
Disaster Reduction Technology List on Implementation Strategies

Asian Conference on Disaster Reduction
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What is "Disaster Reduction Hyperbase (DRH)" ?

(The name evolved from project discussions)

* A web-based facility disseminating disaster reduction technologies under *implementation strategies*
* Access to *appropriate technologies*
* Part of efforts for implementing *HFA 2005-2015* for: information/ knowledge sharing, networking and partnership

Why do we need DRH ?
II
Importance of Disaster Information Sharing

Example:
December 26, 2004 - Indian Ocean Tsunami Disaster

Issues raised =

a) Early warning: intergovernmental collaboration ***and***

b) Mitigation measures: more grass-root and integration efforts (Our concern)

A week after the event:

*An e-mail query for information on mangrove effects on tsunami disaster

*EqTAP project output - Greenbelt technology: already available

Greenbelt technology development (PARI & CDRC; EqTAP project)

+Needs for database & information mechanism for good technologies

*A Roadway to Disaster Reduction Hyperbase

EqTAP Project (April 1999-March 2004) (APEC initiative)
Implementation Strategies in R&D

↓

WCDR (January 2005)
HFA 2005-2015 / "Portfolios" proposed / "Pilot Project"

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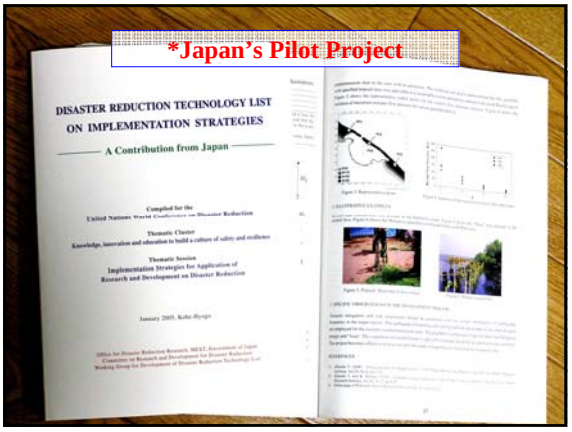
MEXT-NIED Project (2005FY)
International framework for DRH development

↓

Next Projects (2006FY～)
Production of DRH

•*UN World Conference on Disaster Reduction (Hyogo-Kobe, January 2005)*

* Hyogo Framework for Action (HFA) 2005-2015
* Japanese Government's Proposal: "Portfolios for Disaster Reduction" - sharing information, including "Disaster Reduction Technology List on Implementation Strategies"
* Thematic Session 3.6 "Implementation Strategies in R&D" / Japan's *pilot project* as a basis for internationalization



* **MEXT-NIED Project 2005 (April 2005-March 2006): "International Framework for Development of Disaster Reduction Technology List on Implementation Strategies" (Leader: Hiroyuki Kameda)**

* **Sponsor: MEXT (Ministry of Education, Culture, Sports, Science and Technology), Government of Japan**

* **Budget: ¥18million（$150,000）**

Purpose of the project 2005

(1) Establishment of international collaboration, mechanism of sustainability, and action plans

(2) Definition, system design, and prototype demonstration

* **Organizations in Charge:**
  + **NIED (National Research Institute for Earth Science and Disaster Prevention)**
  + **Kyoto University (DPRI, Sch Eng, Sch GES)**
  + **MEXT (Office for Disaster Reduction Research)**

* **Collaborating Organizations :**
+**ISDR (international coordination / link with ISDR's Global Information Platform development/ CMM1)**
+**NSET-Nepal (CMM2),**
+**CRID (coordination for Americas/ CMM3)**
+**European Commission / Joint Research Centre (EC/JRC)- (coordination and production for Europe / Africa)**
+ **ADRC (gateways to the Asian member countries)**
+**Many other international / national agencies & experts (researchers, practitioners, NGO's)**

Major Activities in 2005FY:
*Regional Core Member Meetings (CMM)
*International Workshop-Tsukuba (CMM-Final)

CMM1: August 2005, Geneva - ISDR = Europe / Africa
CMM2: November 2005, Kathmandu – NSET = Asia / Pacific
CMM3: January 2006, Costa Rica - CRID = Americas

CMM-Final: February 2006, Tsukuba - NIED = Wrap-up and action plans

(downloadable at http://www.edm.bosai.go.jp/M-N.htm)

Resolution *(CMM-Final, Tsukuba, 27-28 February 2006)*

Participants in the Workshop on International Framework for Development of Disaster Reduction Technology List on Implementation Strategies – "Disaster Reduction Hyperbase", Tsukuba, 27-28 February 2006, have agreed that

1. Development of the Disaster Reduction Hyperbase (DRH) is a significant contribution to *reducing vulnerabilities* and *enhancing integrated disaster risk management*.
2. DRH will be an open and interactive database of *implementation technologies*, will provide a *forum for facilitating* collation, testing, dissemination of mitigation models, and will *link with relevant initiatives*.
3. Within a scheme of coordination, development and information nodes, *participants will mobilize resources (organizational, fundraising, and in-kind)* for contributing to successful achievement of the DRH Mission.
4. DRH development activities contribute to the implementation of the *Hyogo Framework for Action 2005-2015* adopted in the UN-World Conference on Disaster Reduction, January 2005
5. We will *meet in 2007* to continue further development of DRH

Principles of Collaboration

1. Main actors: *League of champions* who share the value of the program - the only way for sustainability
2. Voluntary *resource mobilization or in-kind contributions* are essential
3. Begin with *small systems*: pursue *high quality* of contents
4. *International mechanism proposal* is designed to facilitate (MEXT budget proposal being peer reviewed):
   + as catalyst among individual efforts for DRH platforms
   + forum for communication (DRH homepage)
   + meetings for sharing procedures & guidelines
   + practice-based cultivation of the DRH contents
   + promotion of young researchers' activities
   + dissemination through ISDR platform and other regional mechanisms (e.g. EC, ASEAN+3)

Scheme of Activities - Could you fit in & how?

+Coordination nodes
- *international networking (league of champions)
- *project meeting organization
- *workshops/seminars organization
- *activity facilitation
- *dissemination efforts
- etc.

+Development nodes
- *DRH system design & development
- *DRH contents management
- *mirror site implementation
- *ISDR Platform - DRH linking
- etc.

+Information nodes
- *national/regional gateway: contents collection and dissemination
- *Identification of contents
- *field survey
- *documentation
- etc.

Type of technologies we target for DRH

(1) Implementation Oriented Technologies
+ Outputs from modern R&D that are:
  < Practiced under a clear implementation strategies
  < International perspective
  < Not a one-sided show case of "research for research."
+ Look at both
  i) Product technologies and
  ii) Process technologies

(2) Transferable Indigenous Knowledge
+ Art of disaster reduction that are:
  < Indigenous to specific regions but having a universal nature to be applied to other regions
  < Not outputs from modern R&D, but having time-tested reliability

Criteria for: Implementation Oriented Technologies

(EqTAP experience)

1) ***Researchers' creativity*** remains essential.
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 characteristics*** should be properly incorporated in terms of local context including available materials, cost and workmanship.
5) Most ***advanced research methodologies*** should be 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***.

- No intention to exclude high-techs like remote sensing, base isolation, structural control, etc.
- But we should not forget non-high-tech, but useful technologies and knowledge

Such as ----------

(Example 1/ implementation oriented technology)

+ Reduction of tsunami flow pressure in greenbelt- (mangrove, waru, etc.)

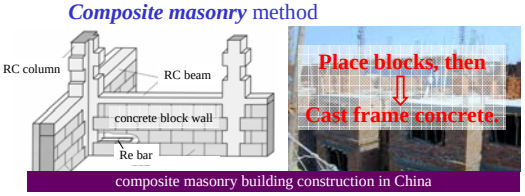
(EqTAP Project: PARI, Japan and CDRC, Indonesia)

Project in Sulawesi Island, Indonesia

*Can not stop tsunamis but can reduce their effects.
*Inexpensive, no "high-tech" required
*Design guideline developed through lab tests and numerical simulation
*Being implemented in Sulawesi Island, and other 14 sites in Indonesia.

Laboratory test

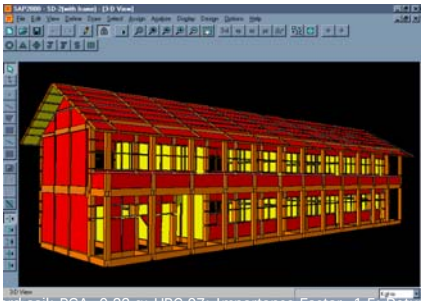
(Example 2/ implementation oriented technology)
+ Seismic enhancement of masonry buildings
Composite masonry method



composite masonry building construction in China

- Masonry buildings = A major killer in earthquake disasters (Tangshan, 1976; Bam, 2003; Kashmir, 2005; many other E.Q.'s)
- Cannot avoid using local materials (brick, blocks, adobe)
- Enhancement of design and practice (EqTAP Project; Tohoku Univ., Japan and Dalian Univ. Tech, China)

(Example 3) Two Stories School Building with Confined Walls (Indonesia)



(by Krishna S.Pribadi - Teddy Boen: CMM2)

(Example 4)
End of Test - Collapse of Ordinary Model & Damage in Improved Model

Retrofitting Increases Seismic Resistance

(by Sharma: CMM2) **(India)**

(Example 5/ implementation oriented technology)
+ Disaster reduction planning scheme
- focusing on stakeholder involvement

1) A "process technology"
*Series of coordinated workshops
(#1: Problem identification, #2: Risk assessment & goal setting, #3: Planning, #4: Implementation, #5: Resource assessment and priority evaluation)

2) Core "implementation strategies"
*Local gov. and/or community leaders: Generation, compilation, and integration of ideas
*Researchers: Consistently being facilitators

(e.g., EqTAP Project; EDM-NIED, and City of Marikina, Philippines)


Workshops at Marikina City, Philippines

(Example 6) Community Based Disaster Preparedness Programs **(Nepal)**

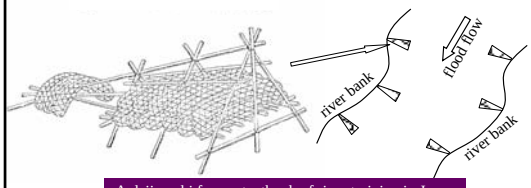
Kathmandu Valley Earthquake Preparedness Initiative (KVEPI)

(by Dixit: CMM2) **Joint effort of NSET and NRCS**

(Example 7)
INDIGENOUS TECHNOLOGIES FOR FLOOD MITIGATION
(Homestead Raising & Plantation) (Bangladesh)

(by Moloy Chaki: CMM2)

(Example 8/ tarnsferable indigenous knowledge) **(Japan)**



A daijo-ushi from a textbook of river training in Japan

- flood flow control to prevent bank erosion
- Using local materials (timber, metal net, rubbles)
- Established in 18th century

NIED EqDM Earthquake Disaster Mitigation

We welcome your active participation !

NIED EqDM Earthquake Disaster Mitigation