

Community Based Disaster Management

One component of having a Disaster Resilient Community



Post Tsunami Sustainable Coastal Livelihoods Program



Ranong Province, Thailand
Modeled on five rural coastal communities



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A Disaster Resilient Community

- Understands the risk of natural and man made disasters
- Prepared as best as possible for known disasters
- Responds to disaster in a logical manner
- Recovers more quickly after disaster
- Learns from disaster and plans for next disaster



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Disaster Resilient Community

- 1) Economy= Diversified Livelihoods at individual, household and community level
- 2) Governance= Critical Infrastructure: roads, electrical, water systems, medical facilities out of high-risk areas, warning system in place
- 3) Disaster Preparedness



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USAID Projects Elements

- **Consensus Building**
Donor and Government coordination, community involvement, outreach
- **Sustainable Diversified Livelihoods**
Aquaculture, Agriculture, Villages Revolving Funds, Small Business Development
- **Community Based Disaster Risk Management**
- **Learning Center**
- **Capacity Building**
Resource Co-management, NP/ JoMPA, TAO planning



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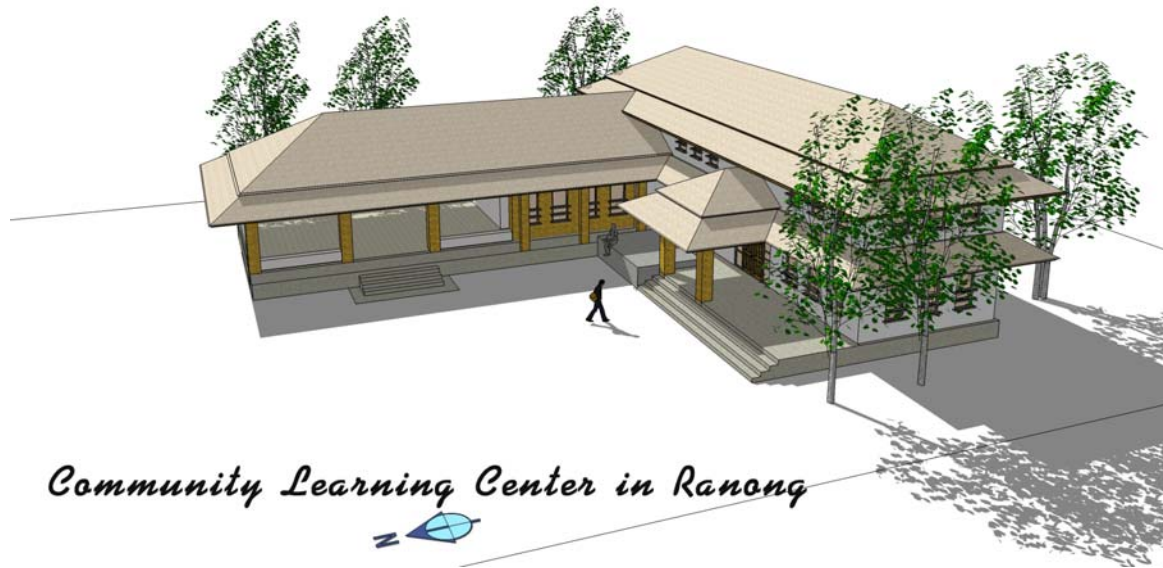
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Infrastructure Kamphuan Community Learning Center



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Alternative Livelihoods

- Revolving Fund
- Low-Impact Aquaculture
- Catfish Hatchery
- Duck-Fish Farming
- Muslim Head Scarf
- Coffee Shop/Fruit Juice
- Recycling Shop
- Yellow Ginger



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Duck Fish Vegetable Farming



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Rebuild and Diversify Sustainable Livelihoods

- Small-scale tourism
- Low-impact aquaculture
- Boat and gear replacement
- Small business development
- Community revolving-funds
- Fisheries co-management
- Cash-for-Work

Assess Impact, Facilitate Consensus and Create a Unified Vision for Action

- Participatory processes
- Community empowerment
- Village and TAO coordination
- Rehabilitation coordination
- Priority setting

Disaster-Resilient Communities

Enhance Capacity

- ICM approaches
- Regional learning workshops
- Training in fisheries co-management
- Disaster management education
- Micro enterprise training
- Good fishing practices

Coastal Public Infrastructure and Disaster Management Preparedness

- Infrastructure co-financing
- Disaster management planning
- Environmental impact assessment
- Computer and internet technologies
- Tsunami resilient building design
- Hazard mapping



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Commitment of Community to Become a

Disaster Resilient Community

1) Economy

2) Governance

3) Disaster Preparedness



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Asian Disaster Preparation Center ADPC

- Contracted to Conduct three four-day training programs on CDBM
 - ♦ Risk Assessment
 - ♦ Disaster Planning and Response-
 - ♦ Community Meetings Community Feedback



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Multi-Risk Approach

Natural Disaster

Tsunami- the reason why we are here but look at all disasters

- Forest Fire
- Landslide
- Flood-Drought
- Earthquake
- Volcano

Human Induced- electrical, environmental contamination, vehicular accidents, animal risks



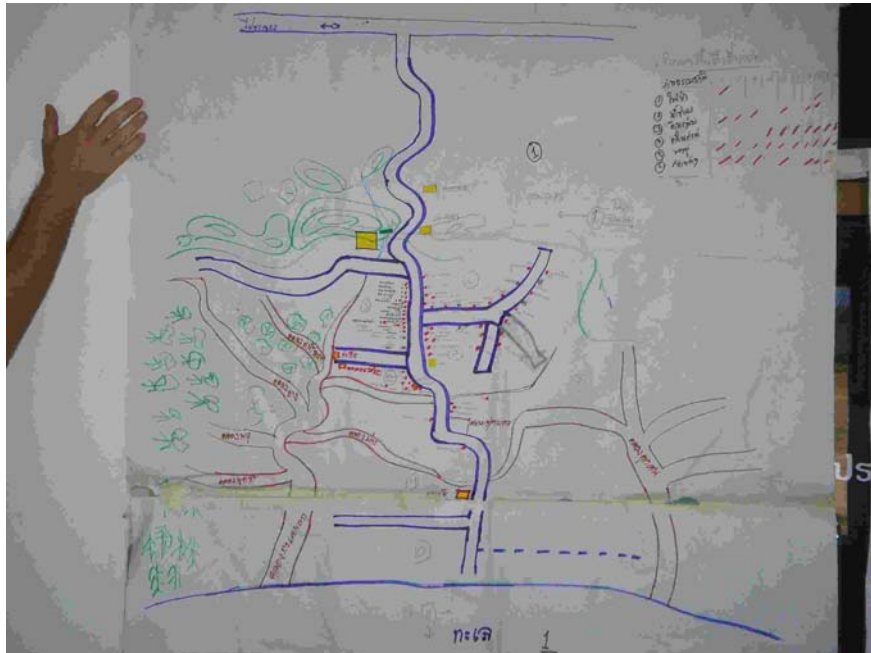
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Risk Awareness Training Hazard Mapping

- Identify Risk- Natural or Man made
- Rank Risk
- Identify mitigation strategies



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Ban Talay Nok Study Case- Community Walk-Thru

- Walk thru villages to identify potential risks
- Make recommendations for mediation
- Practice Evacuation Route in each village to know evacuation time

20 minutes

**Question: How much warning
do we get?**



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Risk Ranking-example

Ban Talay Nok

- Standing deadwood trees a major hazard for Medical center Village
- Mitigation - cut trees
- Move Center- poor planning (lessons learned)



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Football Field- good use of inundation area!



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Hat Prapat Village

Walk Thru/Evacuation
Route

15 minutes for fastest
25 for slower people

Question: How much
warning will we get??



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Village Representative Training of Trainers

- Get Village members to conduct Village meetings



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Ban Taley Nok Community Risk Map



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Village Meetings for Community Awareness

- For village feedback to Maps and Plans
- Trainer Practice



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Disaster Planning Workshop

- Village Maps
- Disaster Plans
 - ♦ 7 Committees



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Hat Prapat Disaster Preparation Map



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Risk Assessment Matrix Tool- Participatory Rural Assessment Method

ภัย	เดือน												ความถี่ครั้ง ของภัย		ความรุนแรง ภัย		ความเสียหาย ทรัพย์สิน		การฟื้นฟู	ความเสียหาย ต่อสภาพภูมิประเทศ	กิจกรรมที่เสี่ยงภัย										
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Ban Taley Nok Village Community Disaster Preparation Map



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Integration of Community Maps to GIS

- University of Rhode Island will add data from village produced maps
- Map for Municipalities for local planning



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Community Disaster Prevention and Mitigation Plan

Before, During and After Disaster

- 1. Disaster Warning Committee
- 2. Evacuation Committee
- 3. Rescue Committee
- 4. Safety Committee
- 5. Medical Committee
- 6. Recovery Committee
- 7. Public Relations Committee



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Still have to Do:

- Develop committee skills
 - ♦ First Aid Training, Search and Rescue Training
- Half-Scale Tsunami Warning Drill
- Full-Scale Tsunami Warning Drill
- Plan Development from drill feedback
- Final GIS Maps with input from village committees
- Bathymetric Survey for Inundation Model



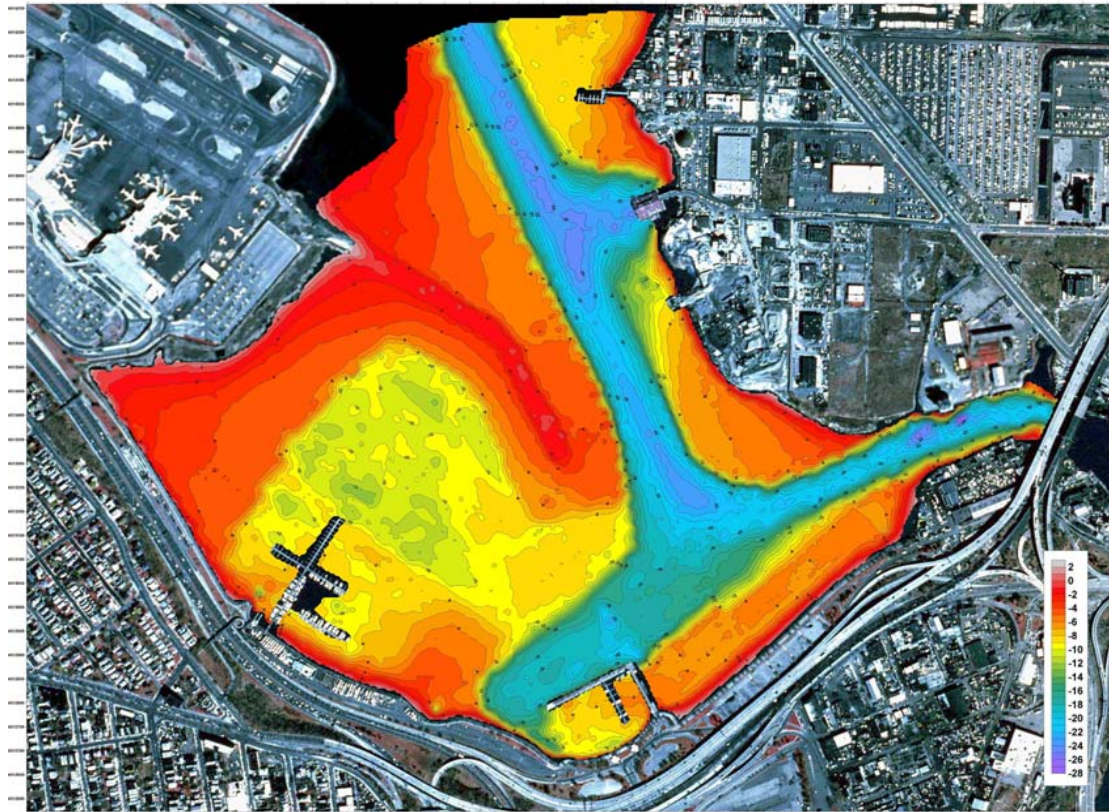
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Bathymetric Survey for Inundation Model

FIGURE 1A
BATHYMETRIC CONTOUR MAP
FLUSHING BAY, FLUSHING, NEW YORK
1.5-FOOT CONTOUR INTERVAL, NAVD83 ELEVATIONS



NOTES:
1. Data provided by US Environmental Protection Agency, New York State Department of Environmental Conservation
2. Data provided by US Environmental Protection Agency, New York State Department of Environmental Conservation
3. Data provided by US Environmental Protection Agency, New York State Department of Environmental Conservation
4. Data provided by US Environmental Protection Agency, New York State Department of Environmental Conservation
5. Data provided by US Environmental Protection Agency, New York State Department of Environmental Conservation
6. Data provided by US Environmental Protection Agency, New York State Department of Environmental Conservation



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Video of Survivors Stories- Local Community Education



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Stories for Video Kiosks at Kamphuan Community Learning Center



Community Learning Center in Ranong



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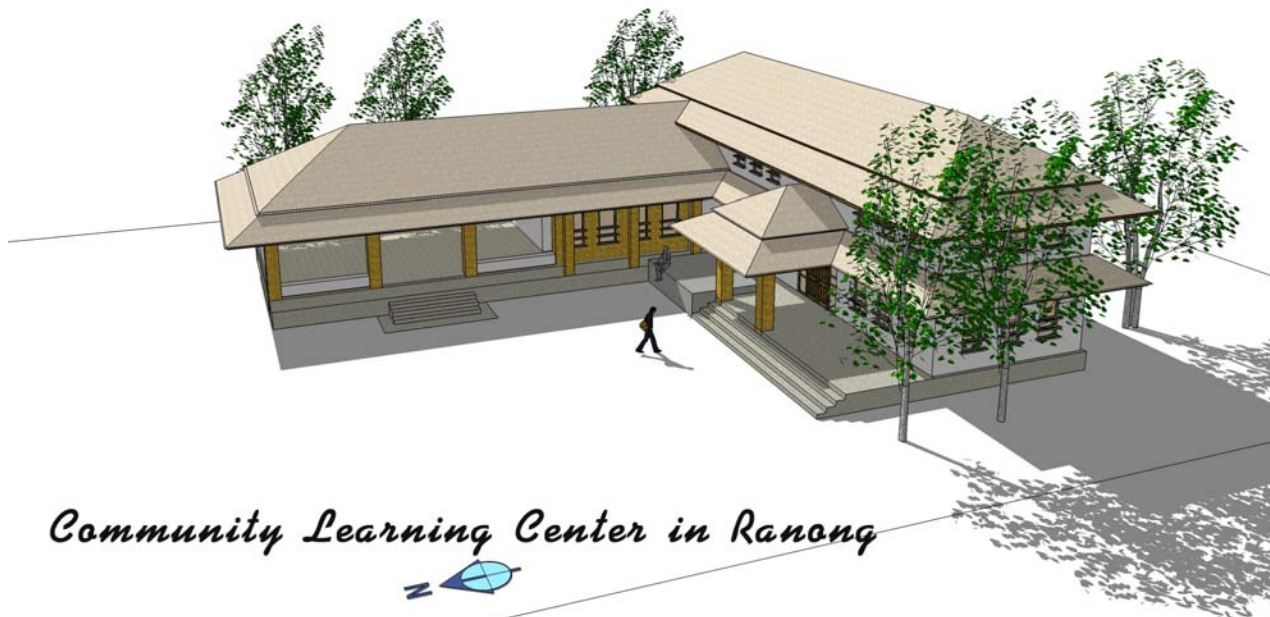
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Multi-purpose Learning and Community Center Disaster Educational Materials, Educational Team and Tsunami Museum



Community Learning Center in Ranong



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80% Finished! – Opening Ceremony December 18



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End-to-End- We are the Village End

**Links with Indian Ocean Tsunami Warning System (IOTWS)
Tsunami Alert Rapid Notification System (TARNS) and
International Tsunami Training Institute (ITTI)**

- Project provides on the ground reality check to IOTWS, Tarns and ITTI
- Develop this approach to use as a MODEL for CDBM in the region
- Bring our Lessons Learned to other countries in the region



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Lesson Learned:

- Training materials need to be geared to appropriate level!
 - ♦ School Curriculum, Community Materials, Government
 - ♦ Plenty of motivation but need usable materials, consider the users time constraints and area of focus
- Community Representative selection
 - ♦ well connected, well known, motivated, women's issues
- Outreach and extension should be in local language of participants
- **Need to link CBDRM to National and Regional IO Networks (we are doing this today!!)**
 - ♦ National Disaster Warning Center
 - ♦ DDPM
- Input and Feedback from All Levels from Village to International
- Unified system of CBDM
- Share experience and lessons learned in CBDRM with region
- A plan is only good if it is understood by the users



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