



Barangay Mangin, Dagupan City: A Model Community for Disaster Risk Reduction and Management



**Lt.Col Vladimir Mata, MNSA,
Ph.D (Cand)
City Administrator
Executive Director- CDRRMC
Dagupan City, Philippines**

Dagupan City



**212 km North of
Manila, Philippines**

4,447 hectares

**Wet (June-Oct)
Dry (Nov-May)**

**155,352 Night time Pop
400-500,000 Daytime Pop**

**Aquaculture
Trade & Commerce
Eco-Tourism**



Dagupan City's Strategy



Social Contract

-“Our City, Our Shared Responsibility”

- Principle of Reciprocity (Karl Polanyi)
 - Social Obligation & Social Right
- Self-help
- Co-Help
- Public Help

Our Framework (Our City Our Shared Responsibility)

Dagupan City Strategy on Disaster Risk Reduction and Management



Dagupan City DRRM Initiatives

1. Institutionalized Competency/Capability of Personnel

2. Institutionalized Partnerships:

- With the community/barangays;**
- Private sector institutions (business sector, NGOs, Cause-Oriented Groups)**
- Initiated local and international partnerships/collaboration**



- Technical and logistical support: (ICLEI, USAID, Red Cross, ADPC, Philippine Navy, Philvocs, Office of Civil Defense, and PAGASA)

• 3. Institutionalized legal mechanisms (Republic Act No. 10121, Ordinances, Executive Orders))

• Crafted our Calamity Plan

Dagupan City DRRM Projects

Mitigation

- **Relocation of informal settlers**
- **Dredging and clean-up of the City's River System**
- **Repair and de-clogging of the City's drainage system**
- **Massive Mangrove re-vegetation and rehabilitation**
- **Disaster Drills/Simulation Exercises**
- **Economic Mitigation Programs/Projects**
- **Other Structural Mitigation Projects**
 - Upcoming Construction of Tsunami Hill



Dagupan City DRRM Programs

Preparedness

- **Capability Building**
 - **Training of Trainer's (TOT)**
 - **Benchmarking**
- **Capacity Building for Barangay Disaster Volunteers/Groups**
- **Regular conduct of Disaster Risk Reduction (DRR) command conference**
- **Development of Emergency Response Plans (ERP)**

City DRRM Programs

Preparedness

- **Strengthening the School Disaster Risk Reduction and Management Council (SDRRMC)**
- **Preparation and Finalization of Operations Manual for Multi-Hazard Events in the city and barangays;**
- **Purchase of emergency/disaster response equipment for multi-hazard response/rescue;**
- **Stockpiling of medicines, food and non-food items for emergencies/relief;**



Project Promise Timeline

Project PROMISE



USAID
FROM THE AMERICAN PEOPLE



Program for Hydro-Meteorological Disaster Mitigation in Secondary Cities in Asia (PROMISE)

- **July 19, 2005** -A team from the Center for Disaster Preparedness (CDP) went to the City inviting Dagupan to submit required documents to be one of the candidates for the implementation of USAID-funded project PROMISE
- A meeting to discuss details for project implementation was held on **October 10, 2005**.
- **March 7, 2006**-Project PROMISE was launched and the signing of MOU between (USAID, ADPC, Dagupan City Government, and CDP) was held in the City
- **March 27 to 31, 2006**. Technical Working Group attended a training on Community-Based Disaster Risk Management and Participatory Risk Assessment



Barangay (Community) Profile

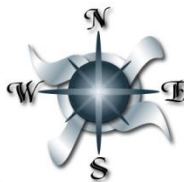
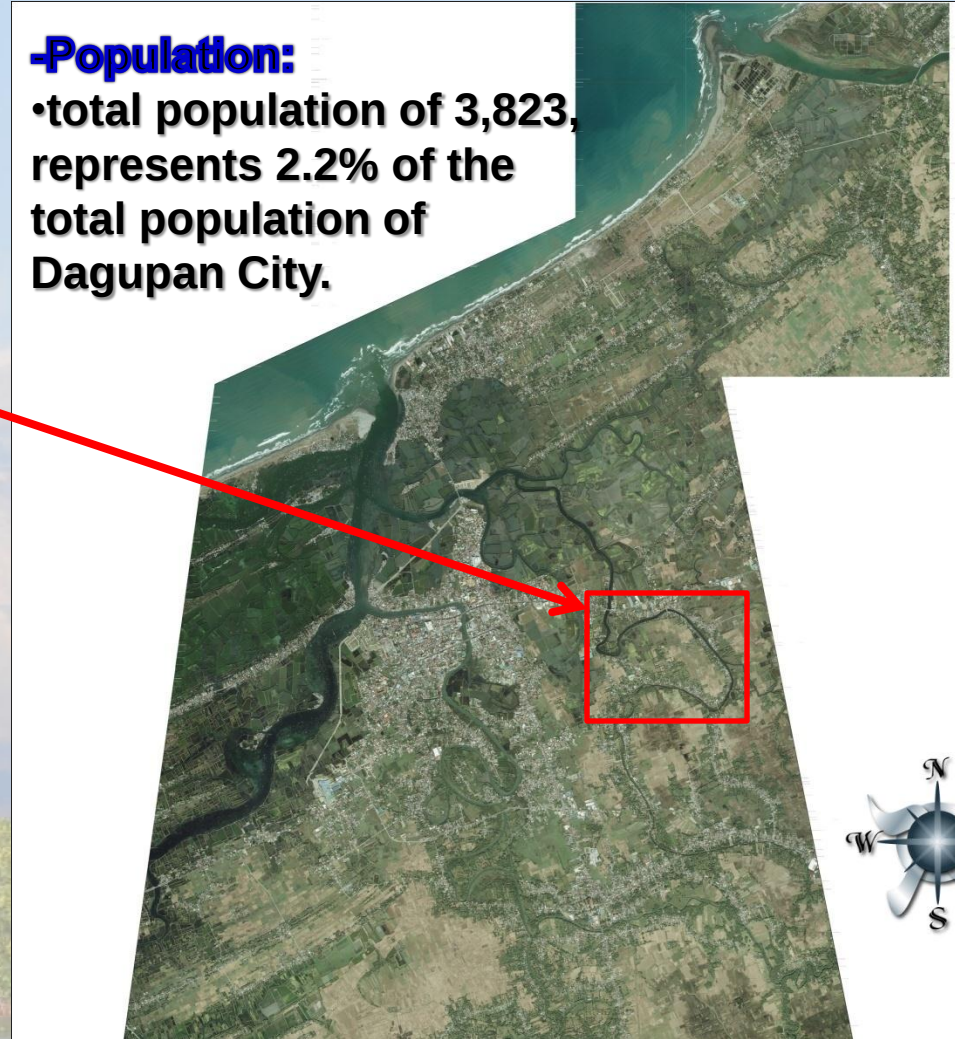
-Location:

- East of Dagupan City



-Population:

- total population of 3,823, represents 2.2% of the total population of Dagupan City.



-Area:

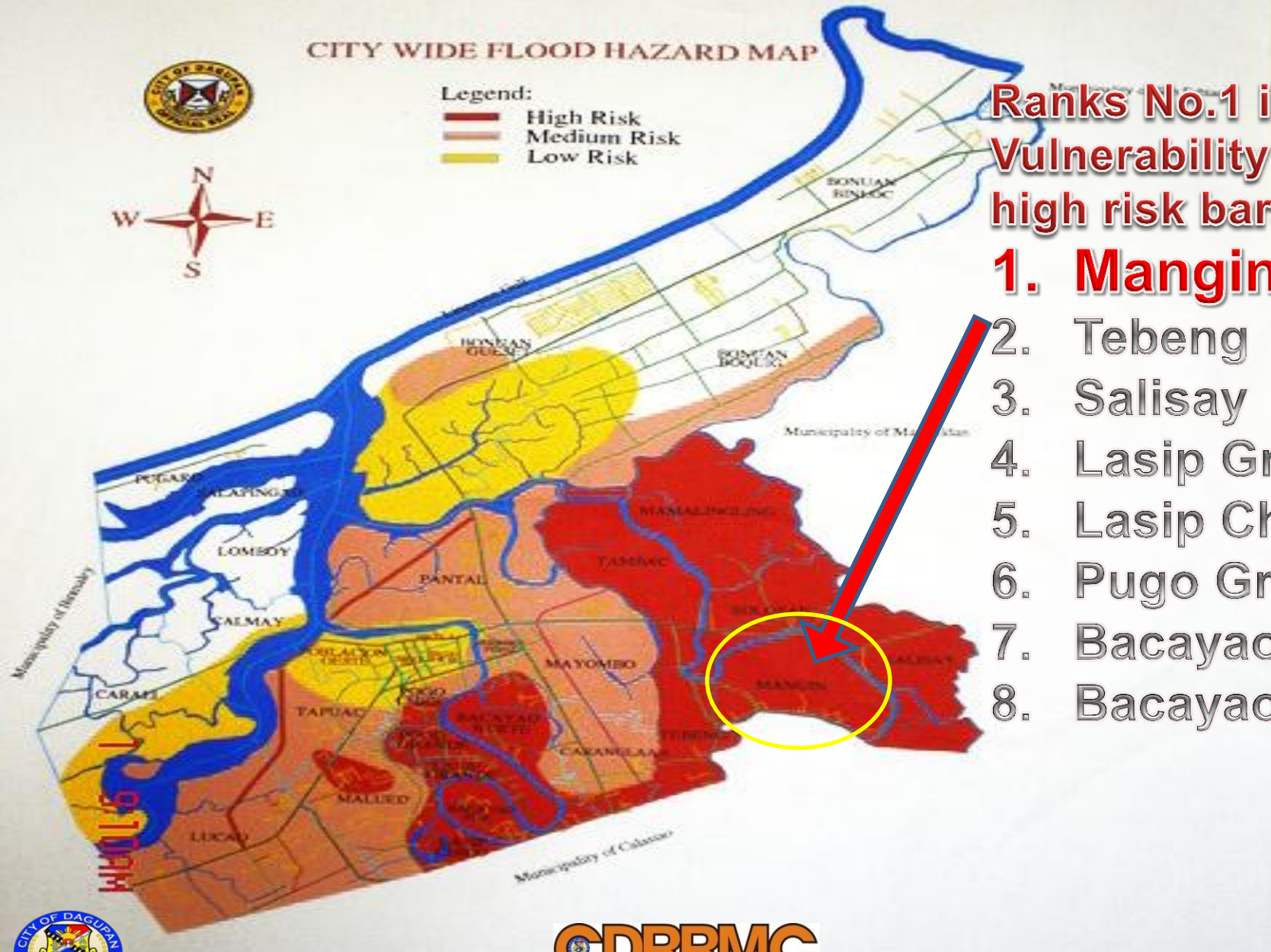
- 126. 80 hectares or about 2.8 % of the total land area of Dagupan City (4,446 hectares)

-Socio Economic Activities:

- *Construction Services
- *Fishing and fishpond operation
- *Farming



Vulnerability Profile



Ranks No.1 in flood Vulnerability among high risk barangays

1. Mangin

2. Tebeng

3. Salisay

4. Lasip Grande

5. Lasip Chico

6. Pugo Grande

7. Bacayao Sur

8. Bacayao Norte

Awards and Citations

Local Awards



**Region I Best Performing
Disaster Coordinating
Council 2007 & 2008
(Rural Barangay Category)**



**KALASAG Best Performing
BDRRMC for 2011:
-1st place Regional Level
-2nd Place National Level**



**Special Citation for being one of the
Best Performing Disaster
Coordinating Council during the
GAWAD KALASAG AWARDS
(Malacañang Palace on August 2007
& 2008)**

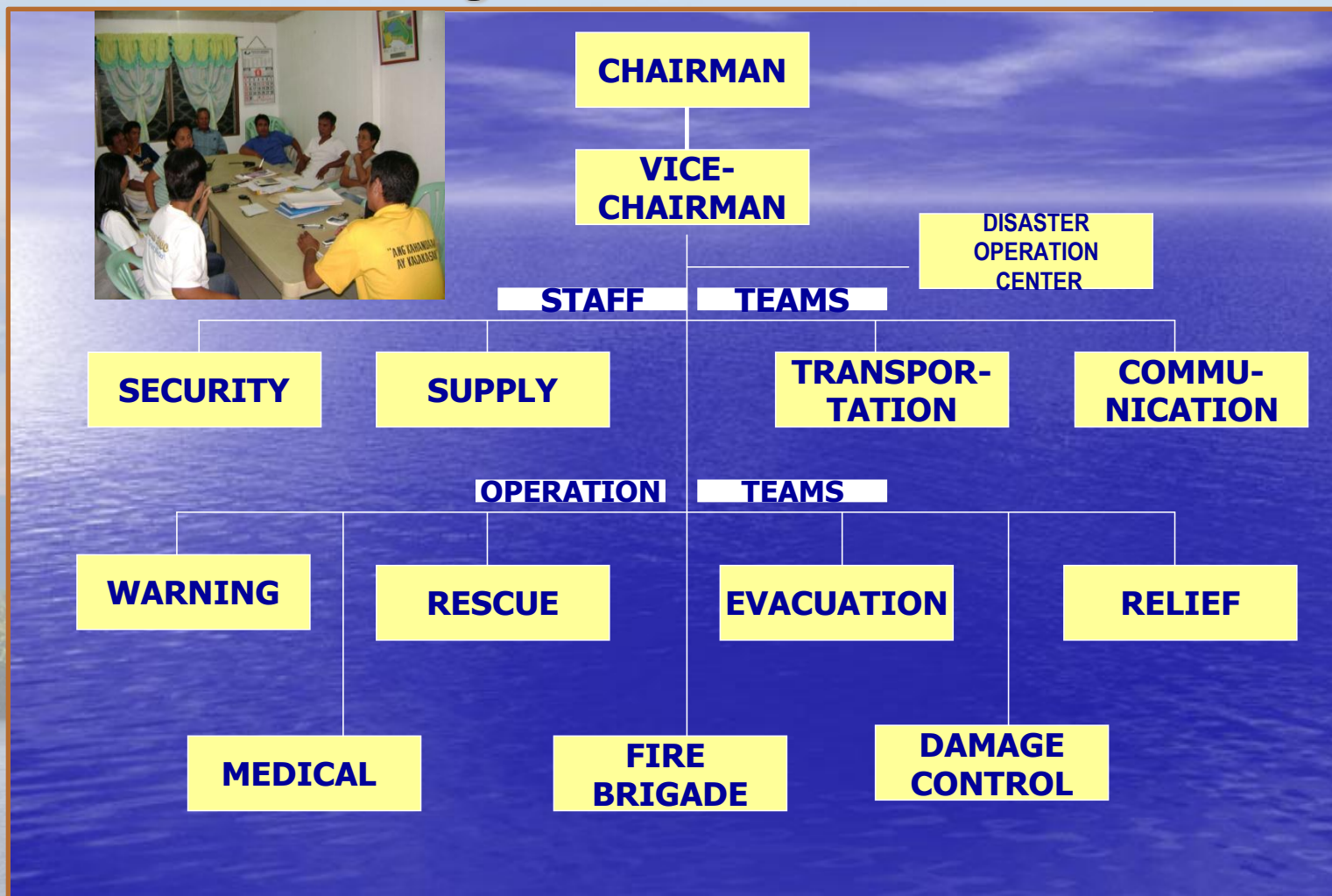
International Citations

1. **SAFER CITIES No. 16 and 20 (ADPC)**
2. **Climate Resilient Cities (UNISDR, World Bank, and Global Facility for Disaster Reduction and Recovery)**
3. **Indigenous Knowledge for Disaster Reduction (UNISDR, Kyoto University, and European Union)**
4. **Disaster Management News (ADPC)**



Community Initiatives

Composition of Barangay Mangin Disaster Risk Reduction and Management Council



Barangay Mangin Disaster Risk Reduction and Management Operations Center



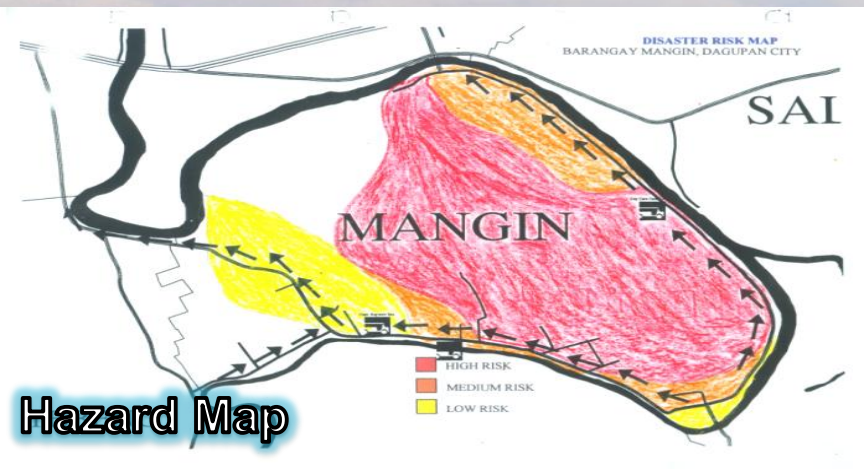
Establishment of Early Warning System for flood



Flood Water Gauge (River)



Water Gauge (Land-based)



Hazard Map



Kanongkong (Indigenous Warning Instrument)



Evacuation Areas



The Dagupan City Water District at Barangay Tambac, Dagupan City
(One of the institutional partners.)



Barangay Hall



Host Family Residences



Mangin Day Care Annex



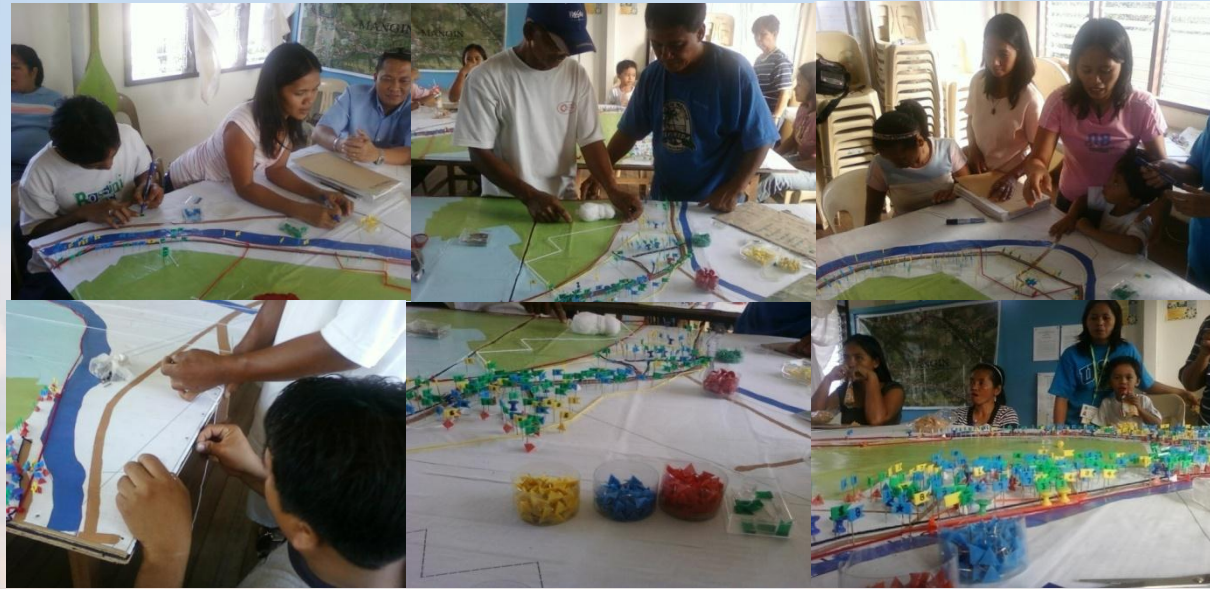
Alert Level	Actions to Be Taken
- Alert Level – White or NORMAL - Level of Measurement: 0-1ft. (flood markers) - Situation – High Tide - Warning Signal – Kanongkong sound	- ACTION TO BE TAKEN - Household: Radio/News Monitoring - Initial meeting of BDRRMC - Inventory of Equipment - Check-up of transportation/facilities
- Alert Level – YELLOW or ALERT PHASE - Level of Measurement: > 1-2ft. (flood markers) - Situation – Continuous Rainfall - Warning Signal – Five Strikes of Kanongkong per 20 minutes	- ACTION TO BE TAKEN - Households: Check all appliances & electrical connections ,elevate appliances/furniture, etc. to safer places, stockpile food, wait for BDRRMC warning, radio/ news monitoring, prepare candles, flashlights & medicine - Convene of BDRRMC - Report Updates on situations (typhoon, floods) - Coordinate w/ CDRRMC
- Alert Level – ORANGE Preparatory PHASE 1 Evacuation - Level of Measurement: > 2-4ft. (flood markers) - Situation – Continuous Rainfall, strong brown water current, typhoon present ,dam release (initial), high tide - Warning Signal – 10 Strikes of Kanongkong for 20 minutes	- ACTION TO BE TAKEN - Households: Transfer animals, vehicles to safer places, install fine mesh nets in fishponds, harvest marketable milkfish (Bangus), prepare things needed for evacuation. Prioritize children, elderly & PWDs - Activate Transport & Security Teams - Rescue Teams (standby) - Report Updates on situations (typhoon ,floods) - Coordinate w/ CDRRMC
- Alert Level – RED FULL EVACUATION - Level of Measurement: > 4-6 ft. (flood markers) - Situation – Typhoon present, strong brown water current, continuous dam release, high tide - Warning Signal – 15 Strikes of Kanongkong -10 minutes interval	- ACTION TO BE TAKEN - Households: Assign family members in securing or taking care of the house, register to BDRRMC if evacuation exists. - BDRRMC : Monitor or register all evacuees, Identify affected families/households - Security Teams deployed to evacuation centers - Rescue Teams (standby) - Report Updates on situations (typhoon ,floods) - Coordinate w/ CDRRMC
- Alert Level – GREEN FORCE EVACUATION - Level of Measurement: > 6 ft. (flood markers) - Situation – Typhoon present, strong brown water current, continuous dam release (large volume), high tide - Warning Signal – 20 Strikes of Kanongkong -5 minutes interval	- ACTION TO BE TAKEN - Households: Cooperate with the BDRRMC in the evacuation areas, Assign committee to manage the evacuation center, do not go out in the area without permission. - BDRRMC : Activate all committees needed in the force rescue evacuation, Identify affected families/households especially sick evacuees. - Rescue Teams deployed - Report Updates on situations (typhoon ,floods) - Coordinate w/ CDRRMC & others

Three-dimensional (3D) Map

- Orientation on 3D Mapping
January 14, 2009
- 3D Experts from UP



Dr. JC Gaillard –French Professor,
U.P. College of Geography



Strengths of Participatory 3D Mapping:

- P3DM is cost-effective and fosters the use of local materials
- easy to set up and to reproduce
- can facilitate the participation of all sectors of the community, even those often marginalized (children, women, and elderly)



3D Map



Contents of the 3D Map:

- No. of resident per household
- Type of materials used per house
- Vulnerable resident/s per household (small children, pregnant women, resident with ailment, elderly, and disabled)
- Evacuation Route
- Evacuation centers
- Host families
- Electric lines
- Stores
- Water pumping stations



Capacity Building



Barangay Disaster Risk Management Workshop and Participatory Risk Planning
(Mangin Elementary School)



Participatory Risk Assessment Planning Workshop

Capacity Building



Early Warning ,Evacuation Route and Plan Preparation Workshop



Writeshop of Barangay and City Disaster Management Plan

Capacity Building



Training on Basic Life Support and First Aid in the Community



Earthquake and Fire Drill

Capacity Building

City-wide Rescue and Evacuation Simulation Exercises



Success Indicators

Quantifiable:

•0% Casualty

•100% compliance to evacuation efforts

•100% community participation for disaster preparedness concerns

•100% efficiency of the Early Warning System (EWS)

NON-QUANTIFIABLE:

- MINIMAL DEPENDENCE TO CDRRMC ASSISTANCE
- INCREASED DISASTER RESPONSE CAPACITY
- INCREASED ABILITY TO SUSTAIN THE BARANGAY DISASTER RISK REDUCTION PROGRAM
- FAST AND EFFICIENT FLOW OF COMMUNICATION DURING EVACUATION



Where to from here?

1. Undertake Continuous training and capability –building
2. Conduct conscientization efforts until such time that disaster preparedness/security consciousness becomes second-nature to our people.
 - Intensification of our disaster information and education campaign initiatives, specifically toward our children & young people.
3. Deconstruct old and stubborn mind-set/disposition amongst our people that “disaster will not happen to me.”
4. Instill a stakeholder ownership perspective and positive response to efforts
5. PUT Premium on RESEARCH/DATA. ESTABLISH a CREDIBLE, RELIABLE AND UP-TO-DATE technical inputs/maps



Food for Thought:

That climate... causing erratic ecological disaster phenomenon is

Inevitable and need action

That, in a community of people, it is...

**not enough to be inward looking but more
expansive/long-term/outward and integrated**

That we put in our hearts our deep commitment to...

-go back to our social contract

that...**Our City...Our Community...Our nation, is Our
shared responsibility.**



Thank you very much for your attention!

Our City, Our Shared Responsibility



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