The Role of Exercises and Drills in Tsunami Education, Awareness and Preparedness

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Outline

- Why, What, How?
- Exercises Types
- Exercise Planning
Why Exercise?

- **Goals**
  - Improve overall readiness
  - **Identify, evaluate, improve** organizational weaknesses / gaps in Plans, Policies, Standard Operating Procedures (SOPs), Communications, Interagency Coordination

- **Purpose**
  - Evaluate **ability of agency or system to respond** to local, regional, ocean-wide tsunami.
  - **Test** communications, review SOPs, promote Emergency Preparedness.
  - Exercises carried out in **agency, amongst several agencies**, or by all stakeholders.
What to Exercise?

- **TWC:**
  - “Upstream” process
  - Coordination and information flow (type, content, timeline) with NDMO
  - Iterative process (warning, update, cancellation)

- **TER:**
  - NDMO/EOC receipt, interpret, decide, notify
  - Notify Responders, Decision-makers, Public
  - Recommend Public Safety Action
  - Implement / coordinate Action
  - Inform on ‘All-Clear’ for safe return
  - Initiate Search-and-Rescue, etc.
Exercise Philosophy

- Exercises need to be part of a Master Plan for Readiness
  - Overall strategy (national /agency)
  - Established policies, laws, regulations
  - Supported by training

Analyse Need → Design Exercise → Conduct Exercise → Evaluate Exercise
Exercise Planning & Frequency

- Pre-exercise planning and coordination and post-exercise evaluation are as important as the actual conduct of the exercise.

- Regular exercises essential to maintain readiness / efficiency for real event. This is especially important for tsunami response because tsunamis are infrequent.
HOW TO PLAN, CONDUCT AND EVALUATE TSUNAMI EXERCISES
Types of Exercise

- Type #1: “Orientation” Workshop
- Type #2: “Tabletop Exercise”
- Type #3: “Drill”
- Type #4: “Functional Exercise”
- Type #5: “Full-Scale Exercise”
Type #1: “Orientation” Workshop

- Simple Orientation Workshop lays foundation for comprehensive exercise programme.
- Provides overview of authorities, strategies, plans, policies, procedure, protocols, resources and ideas.
- Brings together organizations in developing emergency response planning, problem solving, SOP’s, and resource integration.
- Good starting point for organizations that are developing or making major changes to their plans and procedures.
Type #2: “Tabletop Exercise”

- Involves senior staff members of govt / non-govt organizations in large room. Informal, slow-paced.
- Assess plans, policies, procedures.
- Exercise Controller (moderator) introduces tsunami scenario via written message, telephone or radio call, or other means. Exercise problems and activities (injects) further introduced.
- Participants examine / resolve problems, and discuss their actions based on their SOPs.
- Participants conduct discussions, resolution agreed upon, then summarized by group.
Table Top Exercises

2008-2010, UNESCAP - IOC/ITIC
Strengthening TWC and TER SOP Project
East Africa Training, Tanzania
Regional IOTWS, SE Asia
Country - Pakistan, Vietnam, Philippines, Indonesia

IOTWS SOP Workshop
Tabletop Exercise
Jakarta, 27 September 2013
Type #3: “Drill”

- Drills involve emergency response of single organizations, facilities, or agencies.
- Drills involve review and testing of single operation or function in single agency (i.e. internal communications and/or field activities).
- Performance is in isolation and subset of full-scale.
- Limited public may or may not be conducted.
Schools Drills

- Annual – Every school in evacuation zone
- Drill is Evacuation only
- Coordinated by Ministry of Education, in cooperation with Emergency Management Agency
Type #4: “Functional Exercise”

- Designed to test individual functions, multiple activities within a function, or interdependent groups of functions among various agencies.

- Organizations test their SOP’s using real time simulation tsunami bulletins.

- Tests command and control activities at locations such as emergency command centres, command posts, master communications centres, etc.

- Test SOP’s and internal / external communications with other organizations.
Type #5: “Full-Scale Exercise”

- Climax of progressive exercise programme.
- Involves multiple layers of government (national, provincial, local).
- Involves actual field mobilization and deployment of response personnel.
- All local command centres activated.
- Tests all aspects of emergency response.
- Demonstrates interagency cooperation.
- Largest, costliest, most complex type.
- May or may not include public evacuations.
Exercise - Thailand, 2007

- NDWC alerts (SMS, sirens)
- 6 provinces, 24 schools. 30,000 persons evacuate in 20 minutes
- Observers, Media
Tsunami Exercise in Indonesia

- **National Drill ➔ Full Scale exercises**
  - End to End exercises
  - Mass / public evacuation

- **Specific Drills**
  - Schools
  - Communities

  \[ \text{SOP ➔ Table Top Evacuation Drill} \]
Tsunami Exercises – Indonesia, 2006-09
Exercise Evaluation

- Goal is to **improve response times, procedures, and processes.**
- Capture **SOP strengths and weaknesses**
- Identify **corrective action and improvements**
Exercise Evaluation

- **Key evaluation points:**
  - Does staff have written SOP to follow?
  - Does staff have templates/pre-scripted communication to speed / standardize comms?
  - Were stakeholders educated on their roles, expectations, and required/expected actions?

- **Evaluation through debriefing**
Exercise Evaluation - Debriefing

- **Hot debrief** – immediately after
  - Initial feedback – Exercise Director, Participants, Evaluators

- **Cold debrief (w/in 4 weeks after)**
  - What happened?
  - What went well? What needs improvement?
  - What plans/procedures/training need amendment? What follow-up required?
  - Was exercise realistic?
  - How could exercise be improved?
Exercises – Planning, Complexity

Planning & Preparation

Time & Resources

Complexity

Orientation | Tabletop | Drill | Functional | Full-Scale

Training Value

Discussion/Presentation

Field/Operations
Designing an Exercise

- Determine **Scope**
- Establish exercise **Planning Teams**
- Establish **Timelines and Meetings**
- Define exercise **Aim and Objectives** *(SMART)*
- Define **Key Performance Indicators**
- Define **Evaluation procedures**
- Develop **Scenario**
- Develop **Master Scenario Events List (MSEL)**
Assess Target Site

Simulation of Potential Tsunami 8.5 Mw. East of Gorontalo affecting Olalo Village and Tamboo Village.

Images: Lapan 2008

• Vulnerability;
• Areas in danger (evacuation notice);
• Capacity of Local Resources;
Training – Outreach

- National Alert / Emergency Agencies
- Local Emergency Committees
- Government Official
- Schools
- Communities
- Other Orgs: Red Cross, Fire, Police, Broadcasters, etc.

- To measure level of preparation
- To identify available resources
- To increase / improve capacities
Table Top Exercise

- To reinforce capacities participants, institutions personnel
- To identify roles / responsibilities of every participant
- To reinforce coordination between institutions and between personnel
Media campaign

- **Take advantage of Media**
  - Involve Media as part of Exercise (real or simulated).
  - Exercise Public Information SOP
  - Use Exercise to increase tsunami awareness

- **Ensure local media is aware of exercise well before start date**
Preparation of Evacuation Sites, Signs and Directions

- To assure accessibility,
- All must know routes, points of assembly, etc.
- To reduce problems during exercise
Exercises in DRR Context

- Tsunami exercises and drills should be part of awareness and education – cannot be in isolation.

- At the national level, tsunami exercises and drills should form part of Disaster Risk Reduction policy – for sustainability.

→ Mainstream into Development Planning/School Curriculum.
Thank You

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