Synergized Standard Operating Procedures for Coastal Multi-Hazards Early Warning System

Your Key to Success!
Thanks to

• United Nations Economic and Social Commission for Asia and the Pacific’s Multi-Donor Trust Fund for Tsunami, Disaster and Climate Preparedness in Indian Ocean and South East Asia
• World Meteorological Organization
• Typhoon Committee
• Panel on Tropical Cyclones
• Working Group Chairs
• Original SSOP committee
• Asian Disaster Reduction Center
• United Nations Educational Scientific and Cultural Organization’s Intergovernmental Oceanographic Commission
Purpose

• Promote community resilience to coastal multi-hazards
• Improve policy and institutional arrangements at all levels from
  • National, to
  • Sub-national, to
  • Community
• Develop Synergized Standard Operating Procedures which, “enables governments from national to the local levels, as well as communities, to take appropriate actions to reduce the loss of lives and livelihoods in anticipation of disaster.” Olavo Rasquinho
The Complete SOP Solution

Plan/Design
Create
Manage
Review
Approve
Publish
Use!
Track
Update
Path to Readiness

- Create
- Manage
- Review
- Approve
- Publish
- Use!
- Track
- Update
- Plan/Design
SSOP Provides

• Flexibility
• Operational Guidance
• Recommendations based upon best practices

• Ideas on format
• Examples
• Checklist for reviewing your procedures
What’s needed?

- Collaboration
- Coordination
- Support
- Assistance
- Government (all levels)
- Citizens
- Broadcast and Print Media
The premise

• **Synergy**
  • To create SOPs through a cooperative development, review, analysis, and documentation process in a Multi-hazards and multi-agency way so the whole is greater than the sum of its parts.

• **Standard Operating Procedures (SOPs)**
  • To identify, coordinate, integrate and document, in a logical order or sequential, a standard set of steps to be followed to ensure tasks are performed in the same way and to the same standard each time.

• **Multi-hazards**
  • To identify and incorporate similarities of hazards into SSOPs.
The premise (continued)

• **Multi-Agency**
  • To coordinate and integrate different agencies’ inter-related roles and responsibilities into each other’s SOPs.

• **Sub-National**
  • Levels between the national level and the community level. This would include provinces, territories, states, regions, divisions, governorates, prefectures, districts, and planning areas.

• **Time-line Concept**
  • Tasks listed in chronological order of how they are to be performed.
Benefits

• Ensure tasks are preformed within the country’s documented Early Warning System (EWS)
• Describe and document EWS roles and responsibilities
• Incorporate concepts of synergy through multi-hazards, multi-agencies, and integration methods
• Consider vulnerable and special needs individuals
• Ensure tasks are integrated with other agencies and with all levels of government, especially local communities
• Follow an identified process for formulation, review, testing, and approval before commissioning and implementation
• Include a regular, robust, sustainable process for reviewing and updating after implementation
• Incorporate training and education programs at all levels for maximum effectiveness.
Benefits, continued

• Ensure tasks are performed in the same way and to the same standard each time
• Provide specific, approved direction
• Produce predictable, reproducible results
• Maintain high quality and consistent service in hazardous situations
• Develop and implement the most efficient and effective method to perform tasks before an emergency occurs
• Improve cooperation and integration of different tasks among agencies involved in EWS
• Reduce training time
Diverse levels of documentation (SSOPs)

• National, High level
  • Comprehensive and integrated
  • Encompasses all stages of disaster management
  • Define roles/responsibilities (from citizens to departments to private sector)
  • Who (responsible agency)
  • What (roles/responsibilities)
  • Why (of an EWS), sometimes

• Memorandums of Understanding (MOUs)
  • Understand roles of different agencies
  • Perform in an integrated manner as partners
  • Identifies parties involved
  • Defines subject matter and objectives
  • Establishes agreed upon roles and responsibilities
Diverse levels of documentation (SSOPs)

• Different Levels of Procedures
  • High – support national level policy (Modules 6 and 14)
    • Who
    • What
    • When
    • Where
    • Why, sometimes
    • How, high level only
  • Lower – internal operational directives, procedures or checklists
    • How to (specifics)
Diverse levels of documentation (SSOPs)

- **Different Levels of Procedures**
  - **High** – support national level policy (Modules 6 and 14)
    - Who
    - What
    - When
    - Where
    - Why, sometimes
    - How, high level only
  - **Lower** – internal operational directives, procedures or checklists
    - How to (specifics)

We will focus here
Concepts to incorporate into SSOPs

- All Hazards/Multi-hazards
  - Tsunamis
    - Local
    - Distant
  - Tropical Cyclones
    - Heavy rain
    - Strong winds
    - Storm surge
  - Strong Winds
  - High Waves

- All Hazards/Multi-hazards
  - Thunderstorms
    - Heavy rain
    - Strong winds
    - Hail
    - Waterspout
    - Tornado
  - Very Heavy Rain
    - Flooding
    - Landslides
    - Debris flows
Concepts to incorporate into SSOPs

• Comprehensive and Integrated
  • Prevention
  • Preparedness
  • Mitigation
  • Response
  • Recovery
• A Prepared Community
  • Alert
  • Informed
  • Active
  • Adequately Prepared

• All Agencies/Multi-agencies
  • Foster partnerships
  • Good relationships
  • Transmission, reception, and sharing of information among agencies at all levels (MOUs)
  • Designated person(s) for release of official information
  • Preventing conflicting information from being disseminated
  • Dealing with the Media
Cross-cutting Guiding Principles

• Integrate all agencies with EWS responsibilities
• Aim for synergy across levels: community, sub-national, national and regional/global
• Insist on multi-hazards EWS
• Include full vulnerability and hazards
• Accommodate multiple timescales
• Account for evolving risk and rising uncertainty
• Require redundancy in indicators and communication channels
• Target and reach disadvantaged and vulnerable groups
• Build partnership and individual engagement
Community Level Guiding Principles

• Risk knowledge
  • K-1: All early warning systems must be founded on risk knowledge
  • K-2: Ensure local community’s priorities are accepted

• Monitoring
  • M-1: Passive receiver of information do not save lives
  • M-2: Some communities will need to drive their EWS
  • M-3: Public display of monitoring can motivate communities
  • M-4: As hazards evolve, so must their monitoring
Community Level Guiding Principles continued

• Response capability
  • R-1: People respond to warnings, not to disasters
  • R-2: Organize strong response actions which will not have negative impacts when followed
  • R-3: Include response options in annually updating contingency plans
  • R-4: Practice, exercises, and drills increase the chances that procedures will work for actual emergencies

• Warning communication
  • C-1: Clearly identify roles and responsibilities for issuing warnings, calling for evacuations and other EWS actions
  • C-2: Do not totally depend on high technological warning and dissemination systems, because they may fail
  • C-3: Use staged warnings (levels and colors) in dissemination
Figure 2.3 Interactions of Four Elements of EWS Along With Use of Checklists and/or SSOPs (Based Upon a Diagram Provided by Lao PDR)
Memorandums of Understanding (MOUs)

- Understand roles of different agencies
- Perform in an integrated manner as partners
- Identifies parties involved
- Formalizes relationships
- Defines subject matter and objectives
- Establishes agreed upon roles and responsibilities
- Identifies the benefits
- Summarizes the essential terms
MOUs continued

• For NMHSs, it is recommended that they have a MOU between themselves and:
  • Other warning agencies (e.g., Tsunami Warning Center, Ocean Services, and Hurricane Center)
  • DMO/DRR agencies
  • Important media outlets

• Also advantageous to have MOUs between different levels of government
  • ensures a smooth transition of the required information and warnings from national to local levels
To indicate risk, consider using color or number scales

- Better to communicate and understand
- Increased effectiveness of training

- 1 through 5
- Green, Orange, Yellow, Red, Black
- Gray, Blue, Yellow, Orange, Red
- Blue, Yellow, Orange, Red
- Yellow, Orange, Red
- Green, Yellow, Orange, Red, Purple
Well written SSOPs

• Ensure various aspects of EWS tasks are performed in the same way and to the same high standard each time
• Provide specific, approved tasks to produce predictable, reproducible results
• Discuss, determine, and approve the most efficient and effective method to perform assigned tasks before an emergency occurs
• Improve cooperation and integration of different tasks and communications among agencies involved in EWS
• Maintain high quality and consistent service and products to provide accurate, timely information to save lives and protect property in hazard situations
• Reduce training time
Approach

• Emphasis on impact-based warnings and alerts
• Bottom-Up Approach
• Good, trusting partnerships and relationships
When modifying an SSOP consider

• What is the specific task to be accomplished and what is the expected outcome?
• Who will be using the SSOP?
• In what ways will the SSOP be used?
• Who should be involved in the development of the SSOP?
• Will vulnerable and disabled persons be affected and how?
• What type of synergy can be incorporated into the SSOP?
Rewrite SSOPs when

• No SSOPs are currently available for specified tasks
• New information suggests there is a way to improve performance
• Workers’ evaluations identify required changes in existing SSOPs
• An incident occurs that indicates limitations in effectiveness or efficiency
• New equipment, processes, or responsibilities create new work situations
• When SSOPs need to be revised, it is suggested that the group(s) or individual(s) who originally prepared and reviewed them be requested to revise them
Who should write and review SSOPs

• A knowledgeable person should be identified or designated to lead the development effort
• A team of people from different areas with different knowledge and experience should be involved in the development process
• Your agency and other agencies if there are interrelated tasks to be performed to incorporate multi-agency aspects
• Persons not involved in the SSOP development process should review and test the SSOP to ensure accuracy
Benefits of using a team to write an SSOP

• Ensure that knowledge acquired from different perspectives is included
• Create “buy-in,” by the people involved and increases the likelihood that the SSOPs will be implemented
• Trained people who can train others, because SSOP writers know the information and are more likely to be effective trainers (coaches) themselves
• People involved from diverse parts of the operations, which helps when new and modified processes are implemented and SSOPs must be updated
• Encourage employees to follow the SSOP and listen to supervisors because the employees understand and appreciate the invested time and effort of the writing team on behalf of employees
Evaluation of Service

• Service assessment – formal
  • Identify and share best practices in operations and procedures
  • Identify and recommend service enhancements
  • Identify and address service deficiencies
  • Identify SSOPs which need to be modified, added, or coordinated
  • Identify any limitations
  • Identify operational issues

• After-Action Reviews – less formal
  • What happened? Consider the entire event from the initial outlook through support to recovery efforts;
  • Significant events and decision points in timeline
  • What went well? Start with the positives. Pick several things that you thought went well
  • What can we improve? Identify those SSOPs or other things that could be improved
  • Address key areas such as communications, resource management, equipment, meteorological knowledge, and operations of the equipment
Document the changes

• Update the revision history table associated with the SSOP each time an SSOP is updated and approved
  • Each approved revision should have an identification number such Revision 1.0 or Revision 2.0
• Include in the revision history table (and in the SSOP Table of Contents if appropriate)
  • Revision number
  • Approval date
  • Description of the changes
  • Author of each set of changes
  • Effective date
• The revision number and date of the change should be inserted in the header of each page of the SSOP to ensure the users know they are using the most current information.
Involvement of Local Communities: Required for an effective EWS

- Local community involvement is not easy
- Local community involvement is time consuming
- Must include indigenous knowledge
- This is a bottom-up approach supported by top-down elements
- Channels of communication – another means disseminating warnings
- Builds awareness
- Data collection
- Identify people/segments of the population at higher risk
Where NMHSs play a critical role

• Building partnerships and involvement of stakeholders
  • Other government agencies involved in the protection of life and property, such as other warning agencies; national, sub-national or local DMO/DRR agencies; first responders; and infrastructure (bridges, dams, canals, road network and transportation systems) managers
  • Broadcast and print media
  • Non-Governmental Organizations (NGOs)
  • Emergency relief and humanitarian organizations, such as the International Federation of Red Cross and Red Crescent Society (IFRC)
  • Colleges and schools specializing in technical areas, as well as sociology, economics, human interactions, etc.
  • Trained volunteers (cooperative observers, storm spotters, amateur radio operators, etc.)
  • Meteorological and hydrological societies and other professional associations in risk management disciplines
• Private sector
• Utilities, telecommunications, operation critical or weather-sensitive businesses
• Public who will be the recipients of the information
Where NMHSs play a critical role, continued

- Benefits of partnerships
  - Agreement on warning standards, procedures and systems
  - Ways of getting vulnerable populations to take effective action
  - Sharing of experience, knowledge, and lessons-learned from a wide range of people
  - Accomplishment of tasks that cannot be done by a single agency or organization
  - Better use of financial resources through a commitment by all to a common goal
  - Sharing costs and people for research, awareness, preparedness, safety measures, etc.
  - Ensuring consistent warning and education information from multiple credible sources
  - Wider distribution of messages through multiple outlets and receiving multiple feedbacks
Synergy and Continuity Opportunities

• Defined Criteria
• Different Stages and Levels
• Frequency of Warnings/Updates
• Warnings Numbering and Time Issued
• Information/Data for Hazard Monitoring, Analysis, and Warning Generation
• Broadcast Media Interactions
• Social Media Use
• Information or Decisions on Sources of Reliable Information
• Dissemination and Backup Methods
• Updating Information
• Community Participation
• SSOP Reviews and Revisions
• Lessons Learned
Thank You

Let’s Get Started