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Response Indicators
How to achieve, challenges, solution

7.1 Warning and Response Plans and Capacity (National, Local, Community)

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Introduction

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The main **purpose** of a Tsunami Emergency Response Plan (TERP) is to **prepare for effective response** in order to saving and protecting the general public

The TERP covers **arrangements for warnings and evacuations** and **public awareness of these arrangements**

Arrangements for **disaster response** (after the tsunami impact) are another important part of a TERP, but not explicitly addressed in the Tsunami Ready Programme.

The TERP is a **written set of instructions** detailing what must be done during a tsunami emergency, how people and property are protected and how resources are used

A TERP is supported by agency-specific **SOPs** that will be activated on the receipt of a tsunami warning or during a local source earthquake that may generate a tsunami

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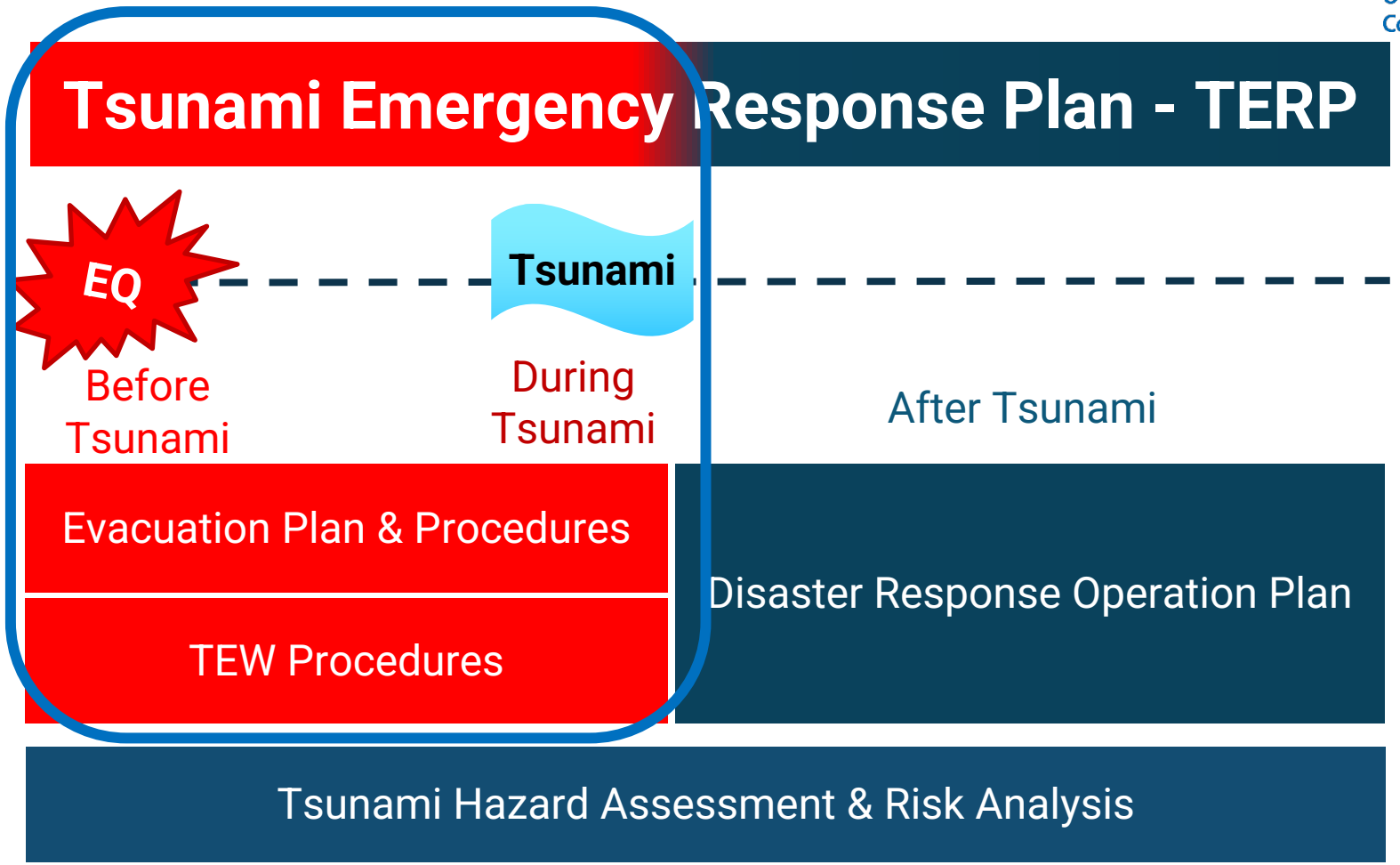
RESP-1:
A community tsunami emergency response plan is approved

Scope and Focus

The **Focus of TsunamiReady** is on before and during a tsunami event – but a TERP should of course consider all three phases

Identify **steps** or **measures** in each phase, assignment of **responsibilities**, chain of **authority** and **organization**, identification of **resources**



Scope and Focus

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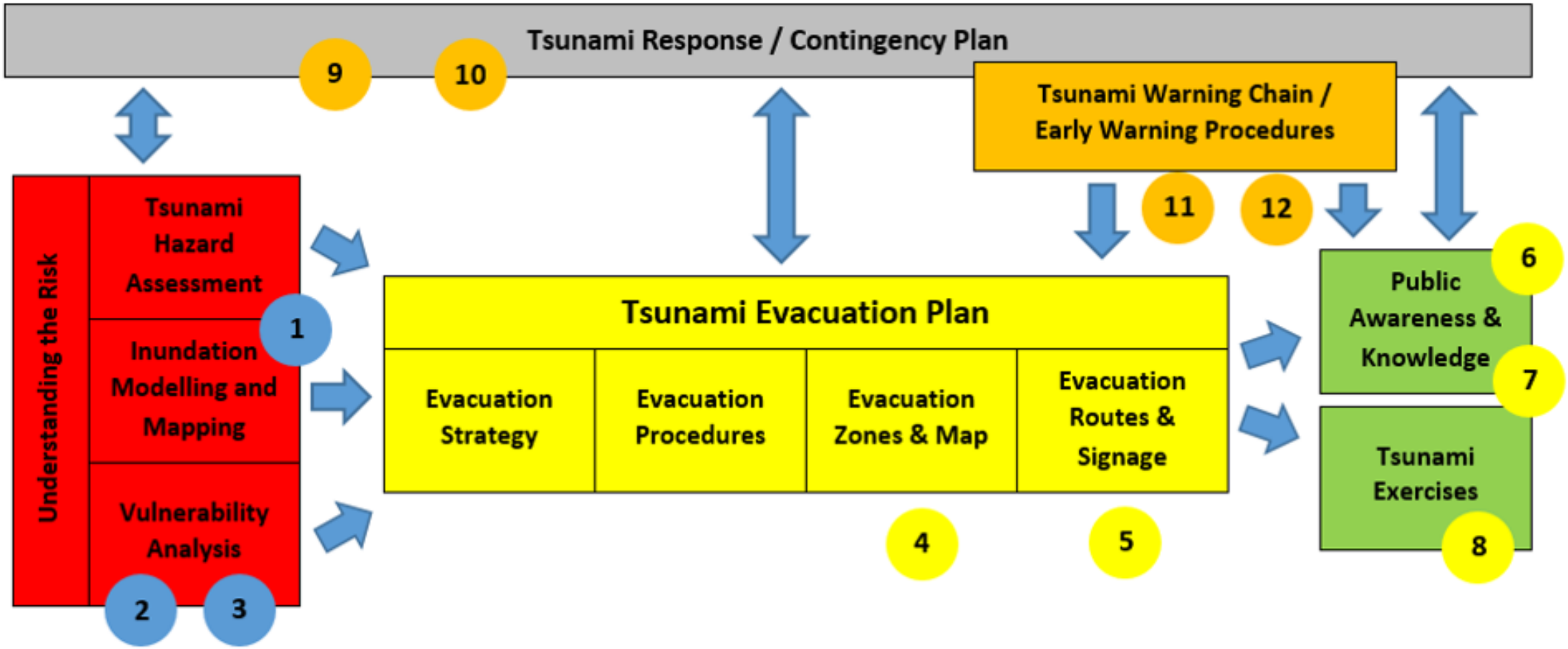
Tsunami Emergency Response Plans and their relationships with the Tsunami Ready Indicators



Steps for Tsunami Emergency Response Planning

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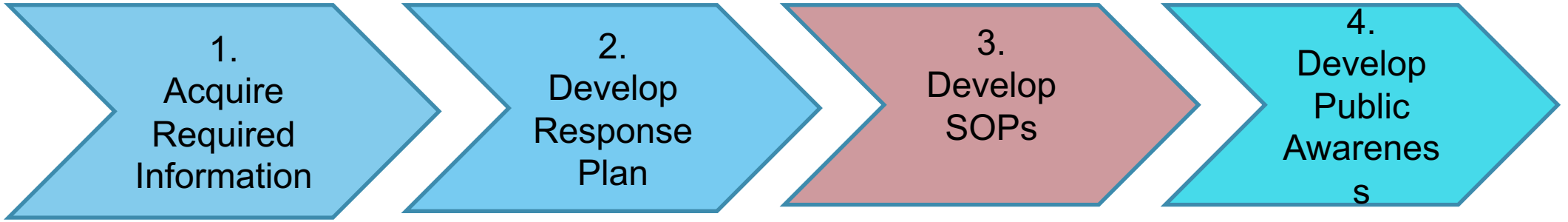


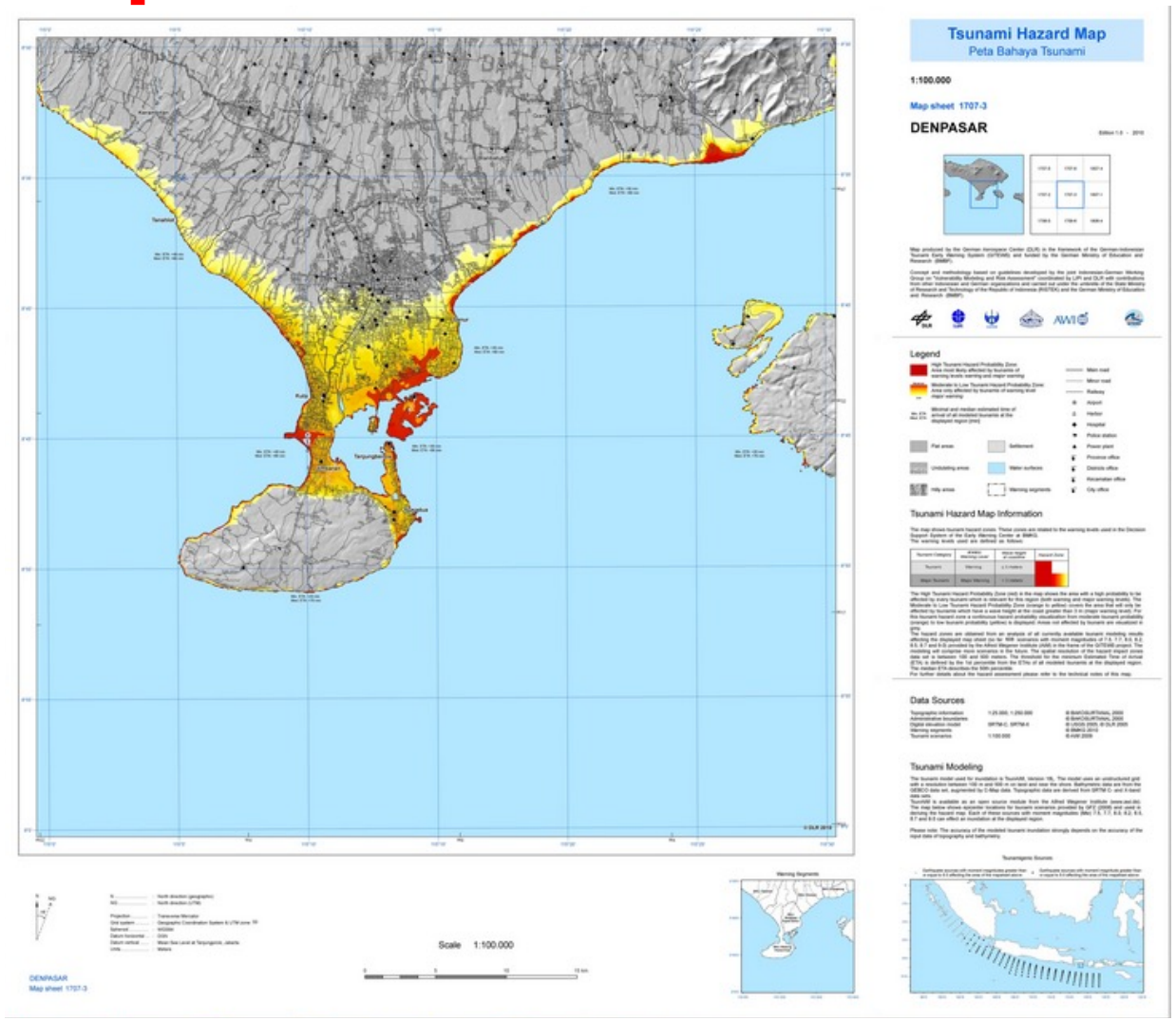
There are 4 basic sequential steps to develop a TERP:

- Steps 1 and 2 are concerned with developing the TERP based on the information that is specific to the community's circumstances as well as national references
- Step 3 relates to the development of Standard Operating Procedures (SOPs) for specific activities by agencies within the TERP
- Step 4 is vital to ensure that the community is aware of the TERP and understands what actions to take in the event the TERP is activated

Step 1 - Acquire required information

1. Hazard and Risk Information

- Source areas and mechanism of tsunamis which might affect the area
- Affected areas
- Good understanding of time line



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Step 1 - Acquire required information

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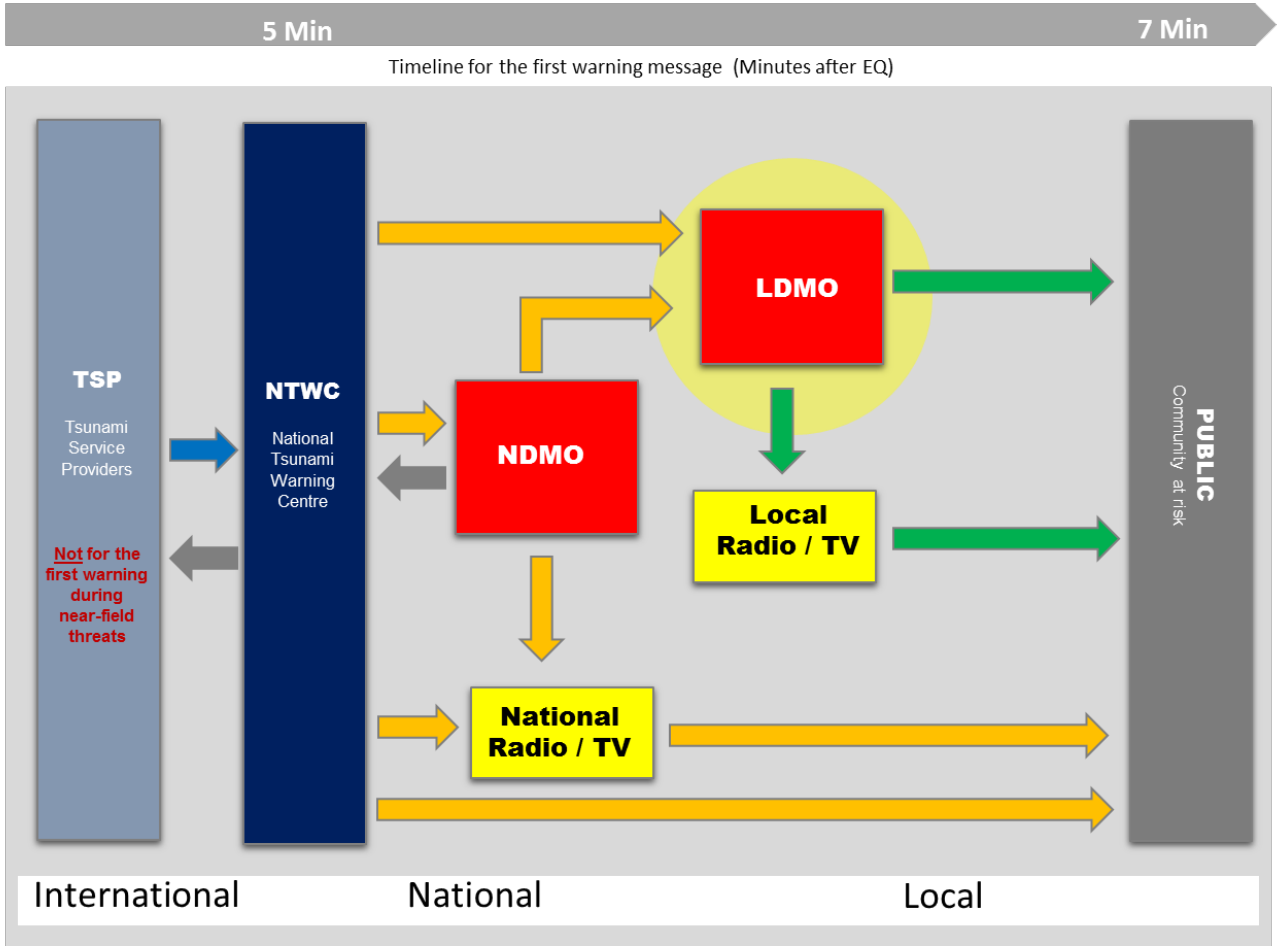
2. **End-to-end tsunami warning process** including clarification on roles & responsibilities



Step 1 - Acquire required information

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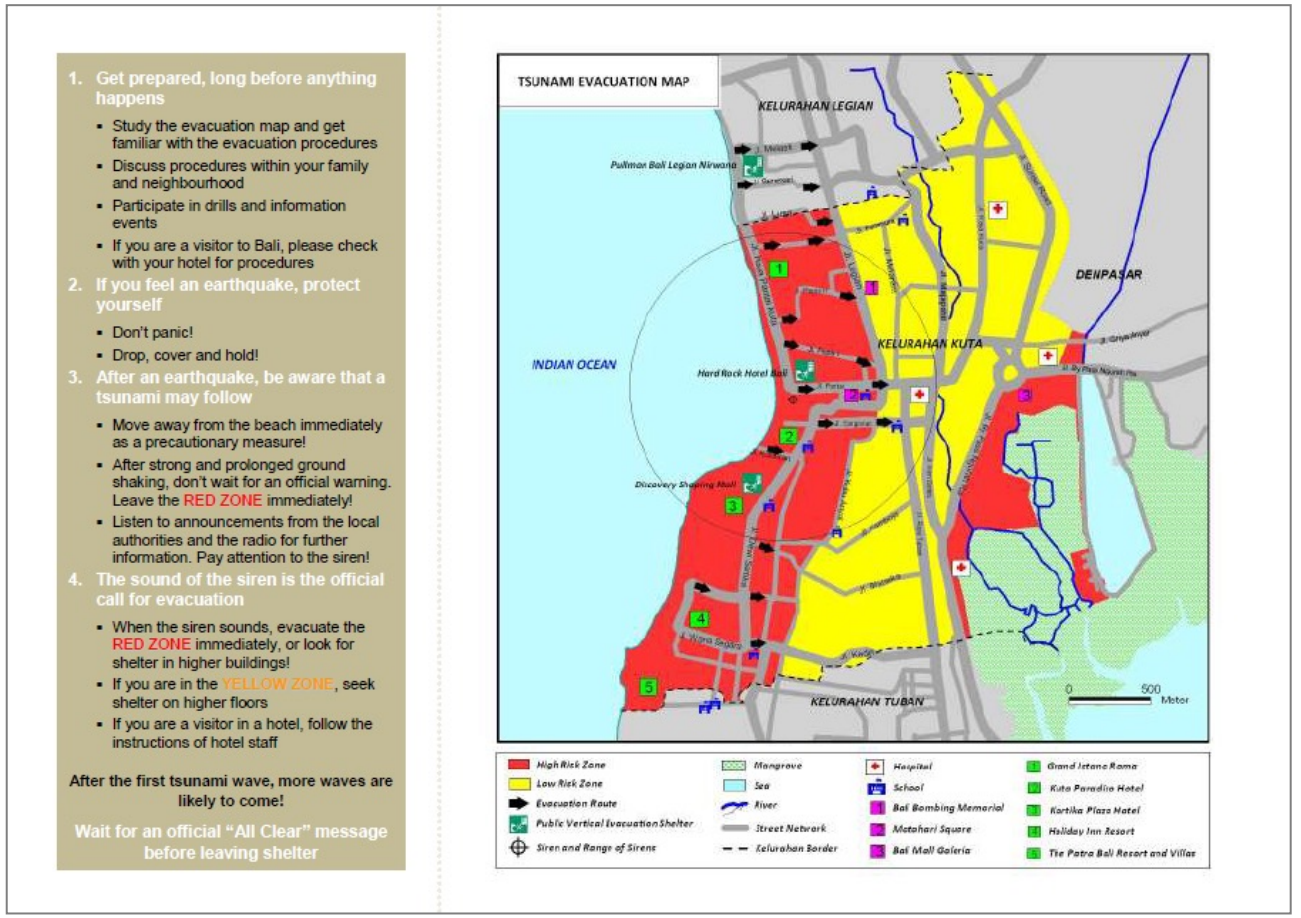
3. Local Evacuation Plan and Maps

- Evacuation strategy and zones concept
- Evacuation trigger (what and who triggers)
- Public procedures
- Vulnerability profile (demographic and geographic realities inside the evacuation zones, critical infrastructure)



1. Get prepared, long before anything happens
   - Study the evacuation map and get familiar with the evacuation procedures
   - Discuss procedures within your family and neighbourhood
   - Participate in drills and information events
   - If you are a visitor to Bali, please check with your hotel for procedures
2. If you feel an earthquake, protect yourself
   - Don't panic!
   - Drop, cover and hold!
3. After an earthquake, be aware that a tsunami may follow
   - Move away from the beach immediately as a precautionary measure!
   - After strong and prolonged ground shaking, don't wait for an official warning. Leave the RED ZONE immediately!
   - Listen to announcements from the local authorities and the radio for further information. Pay attention to the siren!
4. The sound of the siren is the official call for evacuation
   - When the siren sounds, evacuate the RED ZONE immediately, or look for shelter in higher buildings!
   - If you are in the YELLOW ZONE, seek shelter on higher floors
   - If you are a visitor in a hotel, follow the instructions of hotel staff

After the first tsunami wave, more waves are likely to come!

Wait for an official "All Clear" message before leaving shelter

Step 2 – Develop Response Plan

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Establish the writing team

- The local DMO should take the lead but will require contributions from key stakeholders including Emergency Services, relevant government agencies, critical infrastructure, selected NGOs and members of civil society

Format and design

- A TERP is effective when emergency managers understand it and are easily able to locate information.
- A template for a TERP is provided in MG82 and is available *here*.

Step 2 – Develop Response Plan

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Format and Design of a TERP

Organisation

- Should be structured so that it is easy for users to find information. Separate sub-divisions are useful and allow revisions of particular sections without requirement to re-publish entire plan

Progression

- Should have a logical sequence and avoid unnecessary duplication

Consistency

- Terms and concepts should be used consistently between different sections

Adaptability

- Emergency managers should be able to adapt as an event evolves and the TERP should facilitate this

Compatibility

- The TERP should align with other plans so that it will not hinder coordination among different stakeholders

Step 2 – Develop Response Plan

A TERP should incorporate the public warning arrangements and procedures that apply. The emergency management agency should evaluate the tsunami information received from the NTWC and decide on appropriate actions. A significant challenge associated with tsunami warnings is the decision-making about evacuations

How is the NTWC warning received by the local emergency management agency (LDMO)?
Who evaluates the NTWC warning information and takes decision on appropriate action? Who decides on evacuation?
Who will process and disseminate official warnings to the local communities?
Warning templates need to be developed to allow for quick dissemination
Who will receive warning messages from the local LDMO?
What kind of communications systems area already in place and will be used?
Who can hear or read the alert?
How are people who cannot hear or read the alert notified?

Step 3 – Develop SOPs

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- A SOP is a written document that describes the **actions to be taken in a system** or **process**.
- A SOP describes each individual activity in a sequence of activities, documenting **who does what, when, where, and how** for each activity.

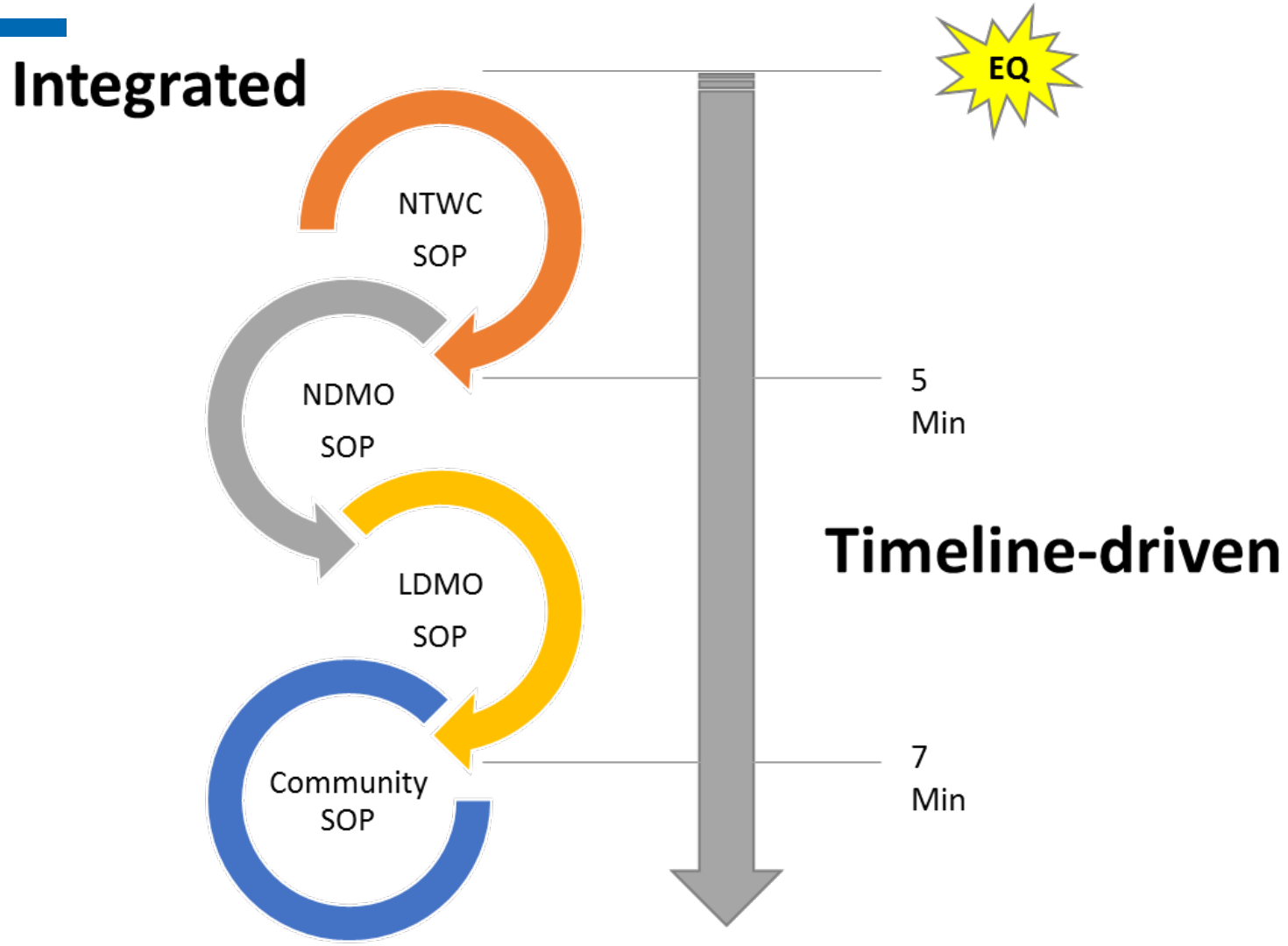
Source: IOC Manuals and Guides, 76

"A description and procedure on agreed steps by institutions/agencies/groups/teams used in coordinating who, what, when, where and how for tsunami early warning and response"*

*From Indonesian Local SOP Workshops: Capacity Building for Development of Local SOPs for Tsunami Early Warning and Response. 2006-2007

- All warning and response systems require SOPs. In case of tsunamis the rapid evaluation, warning, and response is essential to save lives.
- SOPs are "living documents" and should be developed, practiced and modified as necessary

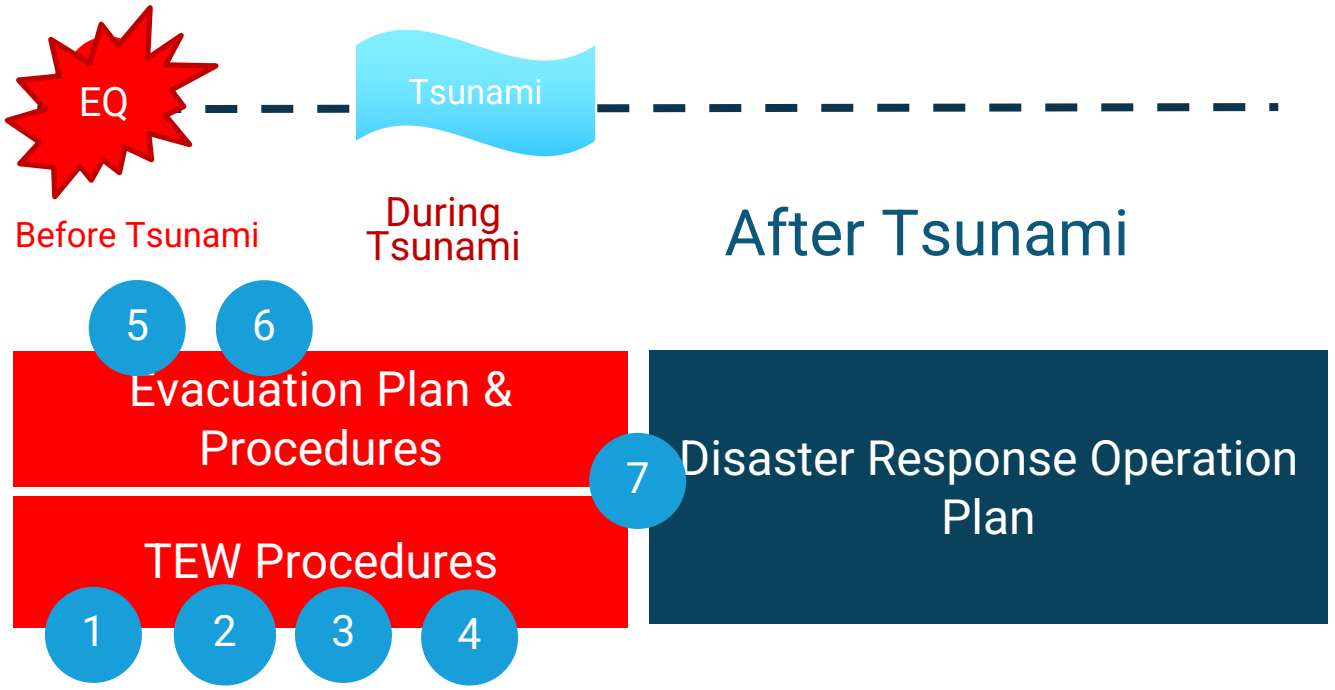
Step 3 – Develop SOPs



Step 3 – Develop SOPs

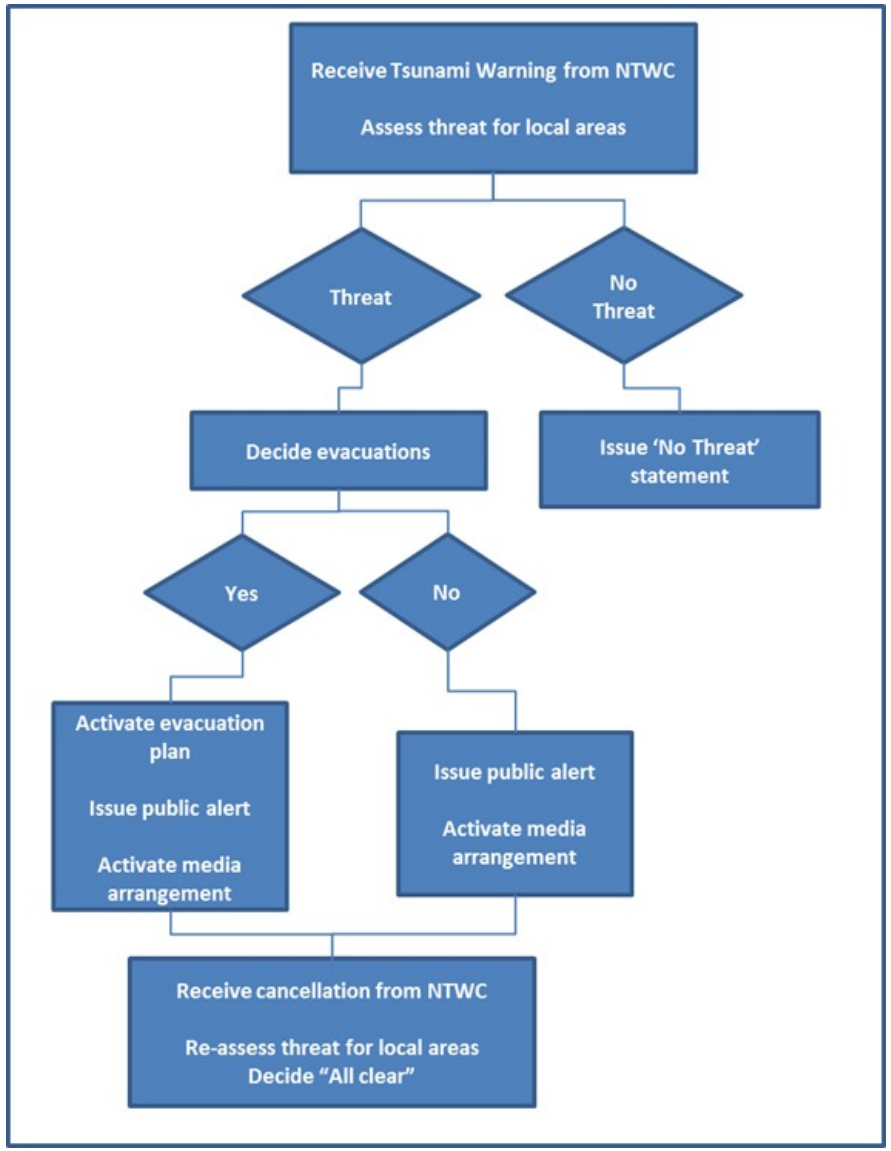
SOPs related to the TERP at local level

1. SOPs for receipt of warnings and cancellation messages from the NTWC
2. SOPs for decision making on evacuations
3. SOPs for public alerting
4. SOPs for media arrangements
5. SOPs for support and manage evacuations
6. SOP for traffic management
7. SOP for all clear and safe return



Step 3 – Develop SOPs

Example of simplified flow chart for tsunami response at local level



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Step 4 – Develop Public Awareness

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Local or traditional knowledge

- A powerful tool to support scientific knowledge in community preparedness, but will not be enough to ensure an effective response

Community needs

- Awareness activities and material should be tailored to the country or area-specific community needs. Geography, demography, language, culture, religion will influence the awareness approach

Coordination and collaboration

- Essential that different agencies work together

Public policy

- A formal tsunami education and awareness programme able to sustain itself over political cycles can be highly effective

A multi-faceted approach

- Awareness programme should use a variety of formal and informal education and awareness-building and preparedness activities such as exercises and drills

Step 4 – Develop Public Awareness

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Basic information about tsunami hazards, with specific reference to the country or area. This should be supported by information on historical tsunami events and their impacts, including local and/or traditional knowledge of past events.

The country's tsunami warning system – where will warnings come from, how and when will they be communicated and what information will they contain

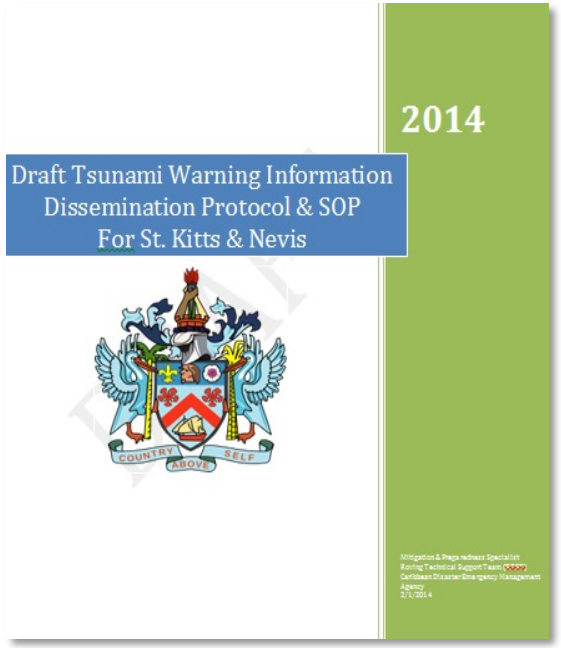
Tsunami evacuation arrangements – what the evacuation zones and routes are, how the instruction to evacuate will be issued, what to take, where the assembly sites are, and where to listen or look for the all-clear

Understanding natural warning signs and how to respond to them (self-evacuations).

Tsunami safety rules (for people on land, in the water and in small boats)

Examples

Cedeno, Honduras
Emergency Response Plan, 2017



Draft Tsunami Warning Information Dissemination Protocol and Standard Operating Procedures (SOP) for St. Kitts and Nevis which satisfies RESP–1

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RESP-2:
The capacity to manage emergency response operations during a tsunami is in place

Introduction

In addition to having an Emergency Operations Plan for tsunamis, communities should have the means to ensure that community officials can execute tsunami warning functions (public notifications) and response functions based on predetermined SOPs related to tsunami warning information and/or tsunami incidents. This may involve the use of an Emergency Operations Centre (EOC).

Emergency Operations Centre, Kos, Greece

National EOC, Oficina Nacional de Emergencia del Ministerio del Interior (ONEMI), Chile (Courtesy of ITIC)

St. Kitts Emergency Operations Center

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Capacities needed to manage emergency response operations during a tsunami

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1. People who will carry out the emergency response operation
   - SOP
   - Knowledge
   - Skill
2. Facilities and Infrastructures to implement the emergency response operations
   - Tools
   - Equipment
   - Logistics

Arrangements needed to manage emergency response operations during a tsunami

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Communities should have the means to ensure that tsunami warning and response functions can be executed by the designated community officials. This may include the activation of an Emergency Response Centre (ERC)

1. Has 24-hour operations or plan to activate ERC for tsunami incidents
2. Has warning reception and dissemination capability
3. Has ability and authority to activate the public alert system
4. Maintains the ability to communicate within and across jurisdictions
5. Maintains communications links with NTWC and/or DMO
6. Has capacity to manage evacuations and respond to the consequences of a tsunami

Arrangements needed to manage emergency response operations during a tsunami

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✓The ERC roles that must be fulfilled are:

- Control: a local controller should be in charge and coordinates response activities
- Operations: the appropriate and relevant agencies and organisations should be activated
- Planning and Intelligence: to conduct threat analysis and to identify gaps and shortfalls
- Finance and Administration: to keep track of costs and ensure continuity of operations

Capacities needed to manage emergency response operations during a tsunami

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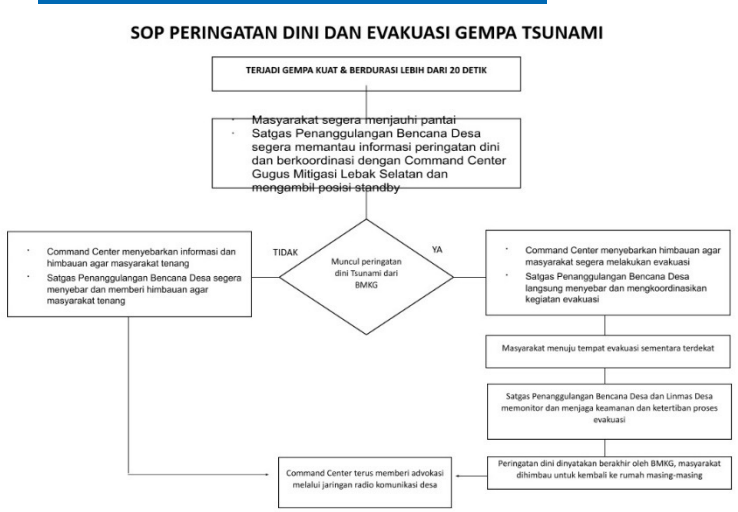
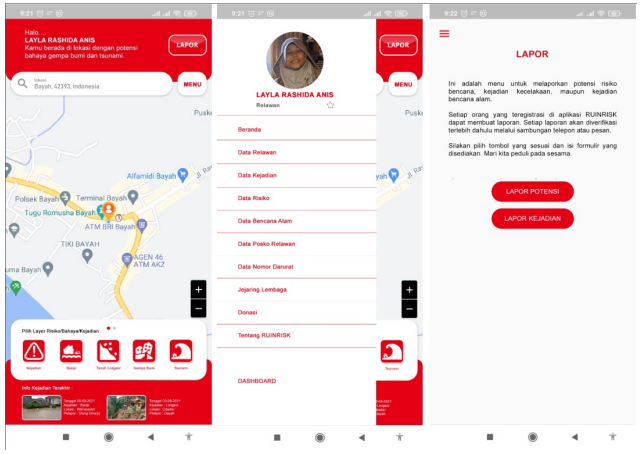


Continuous capacity building, training, and exercises



Capacities needed to manage emergency response operations during a tsunami

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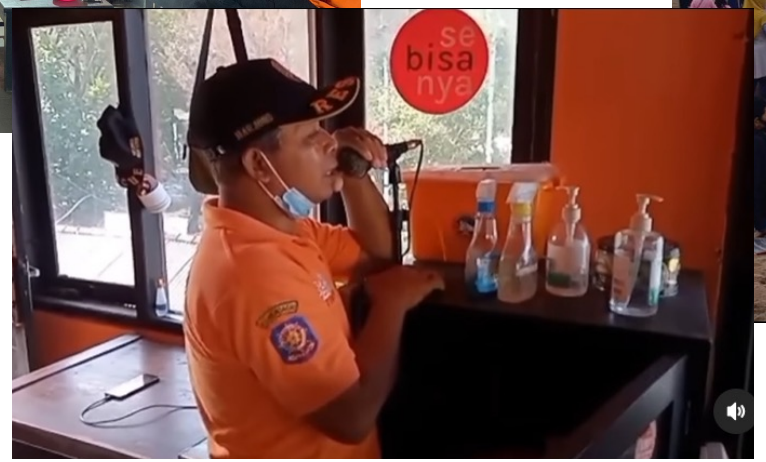
Emergency Operation Team 24/7



Capacities needed to manage emergency response operations during a tsunami

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Pangandaran Village Alert Car

Smart Poles at four locations

Command Centre

FKDM Personnel Training with BPBD and BASARNAS

TAGANA Pangandaran Disaster Preparedness Equipment

Vinaka
Vaka Levu

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