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# RESPONSE [RESP] Indicators – How to achieve, challenges and solutions



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*NZ NEMA 2002-2023 (Retired)*



# Tsunami Ready Indicators



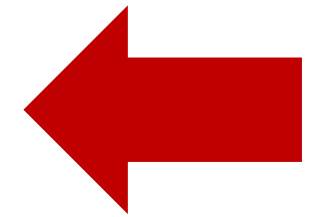
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## UNESCO IOC TSUNAMI READY INDICATORS

I ASSESSMENT (ASSESS)	
1	ASSESS-1. Tsunami hazard zones are mapped and designated
2	ASSESS-2. The number of people at risk in the tsunami hazard zone is estimated
3	ASSESS-3. Economic, infrastructural, political, and social resources are identified
II PREPAREDNESS (PREP)	
4	PREP-1. Easily understood tsunami evacuation maps are approved
5	PREP-2. Tsunami information is publicly displayed
6	PREP-3. Outreach and public awareness and education resources are available and distributed
7	PREP-4. Outreach or educational activities <u>are held at least three times a year</u>
8	PREP-5: A community tsunami exercise is conducted at least every two years
III RESPONSE (RESP)	
9	RESP-1. A community tsunami emergency response plan (ERP) is approved
10	RESP-2. The capacity to manage emergency response operations during a tsunami is in place
11	RESP-3. Redundant and reliable means to timely receive 24-hour official tsunami alerts are in place
12	RESP-4. Redundant and reliable means to timely disseminate 24-hour official tsunami alerts to the public are in place





# Response Indicators –



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**[RESP 1]**  
**Emergency Response Plan**  
**(National, Local, Community)**





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## **RESP-1:**

**A tsunami emergency response plan (TERP) is approved**

# Introduction

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The main purpose of the **TERP is to prepare for response** in order to saving and protecting the general public

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

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

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The TERP is a **details** what must be done by whom during tsunami emergency, how people and property are protected and how resources are used

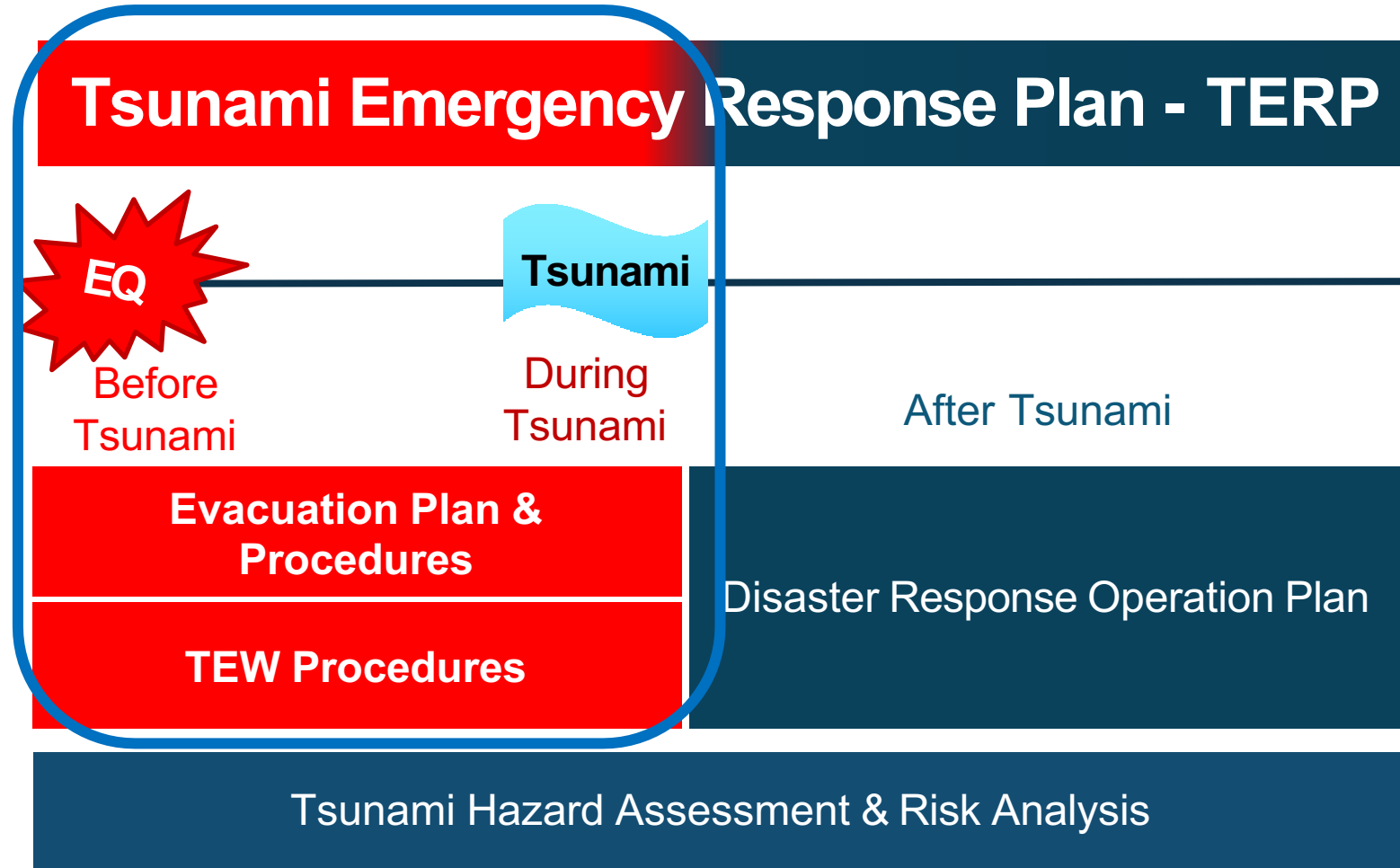
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A TERP is supported by agency-specific **SOPs** that will be activated on receipt of a tsunami warning or during a local source earthquake that may generate a tsunami

# Scope and Focus

**Tsunami Ready Focus** is **before and during tsunami event**, but all phases important

Identify **steps** or measures, assign **responsibilities**, chain of **authority** and **organization**, and identification of **resources**

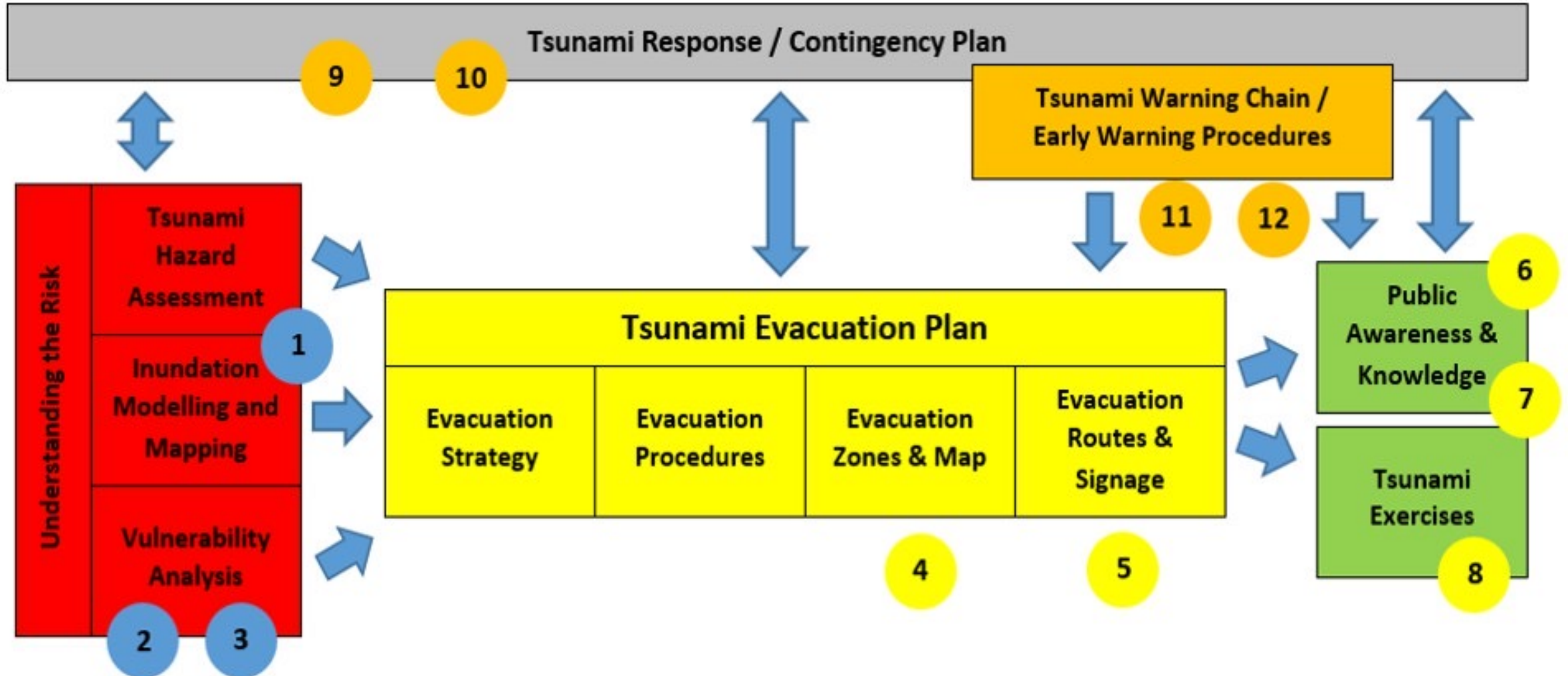


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# Scope and Focus

## Tsunami Emergency Response Plans and relationships with Indicators

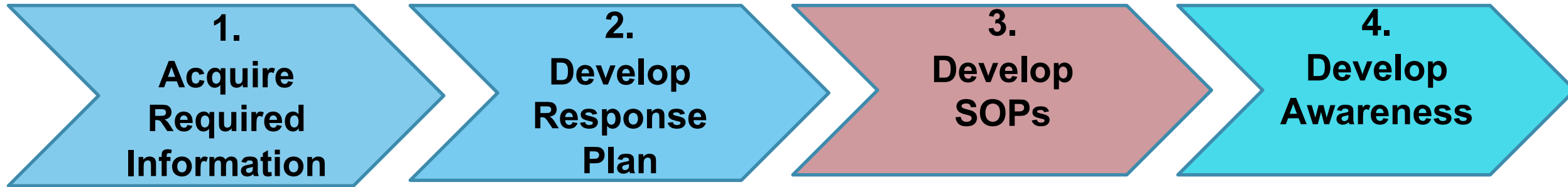


# Tsunami Emergency Response Planning Steps



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There are 4 basic sequential steps to develop a TERP:

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



# Step 1 - Acquire required information

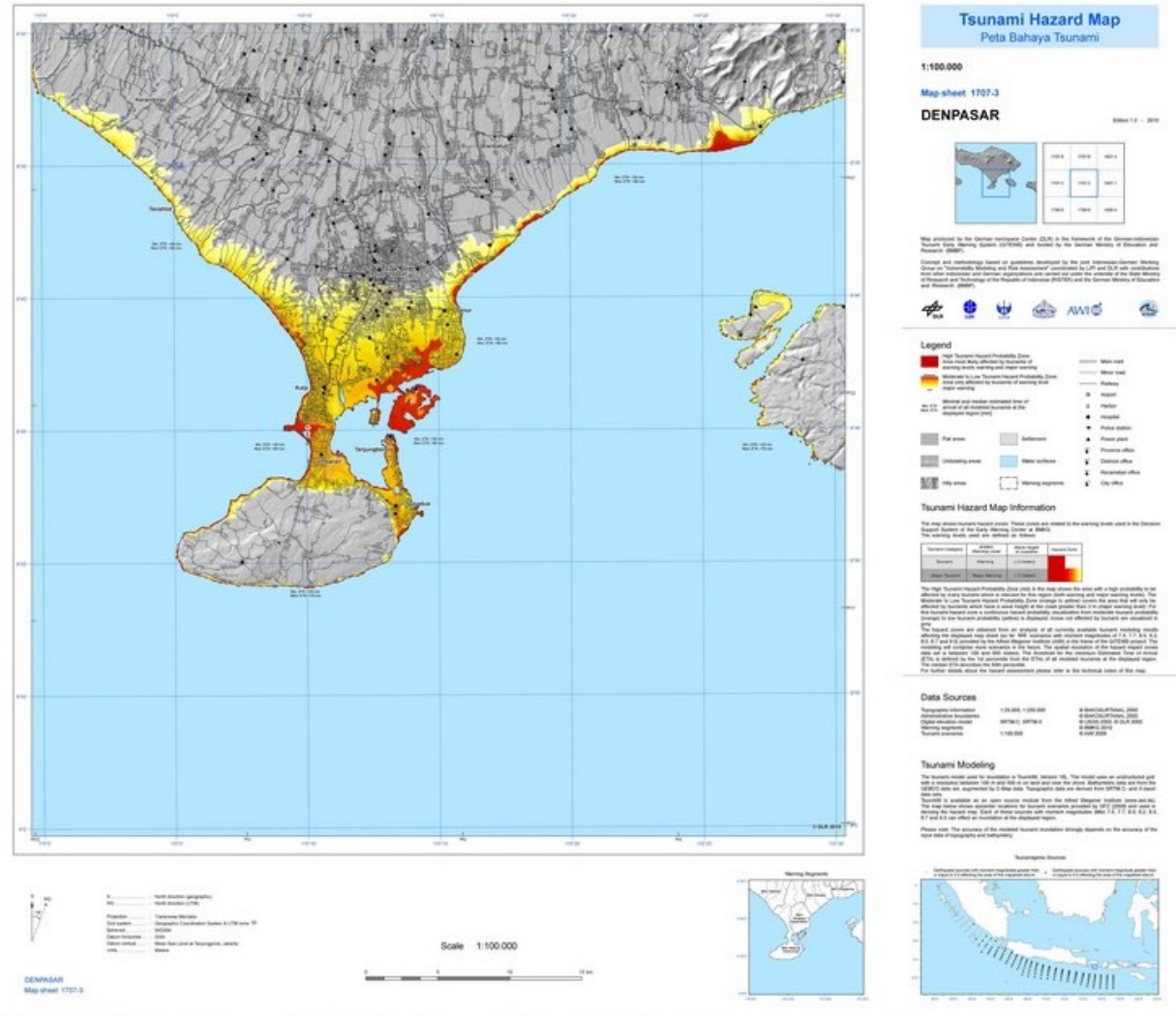


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## 1. Hazard and Risk Information

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



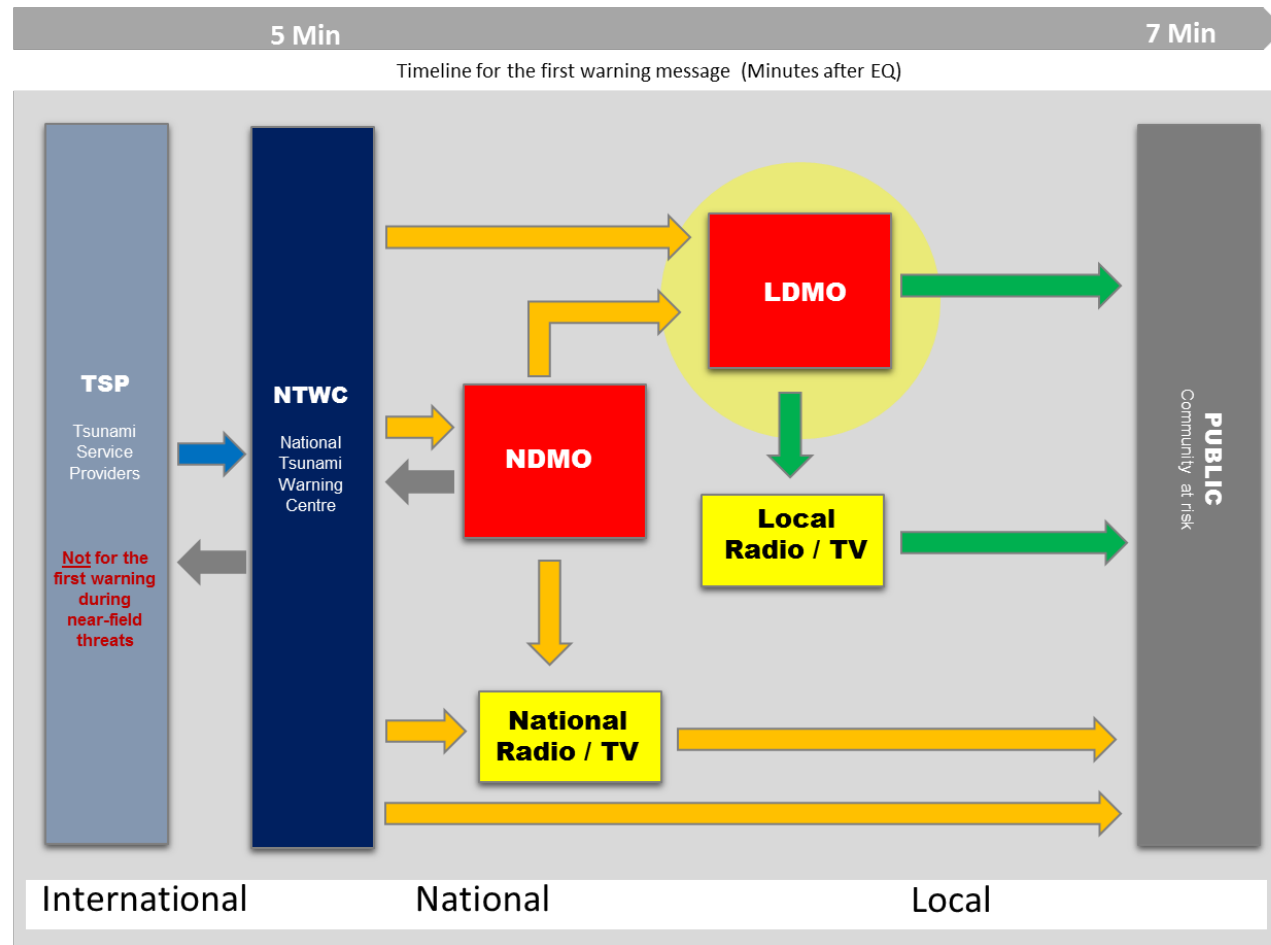
# Step 1 - Acquire required information



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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

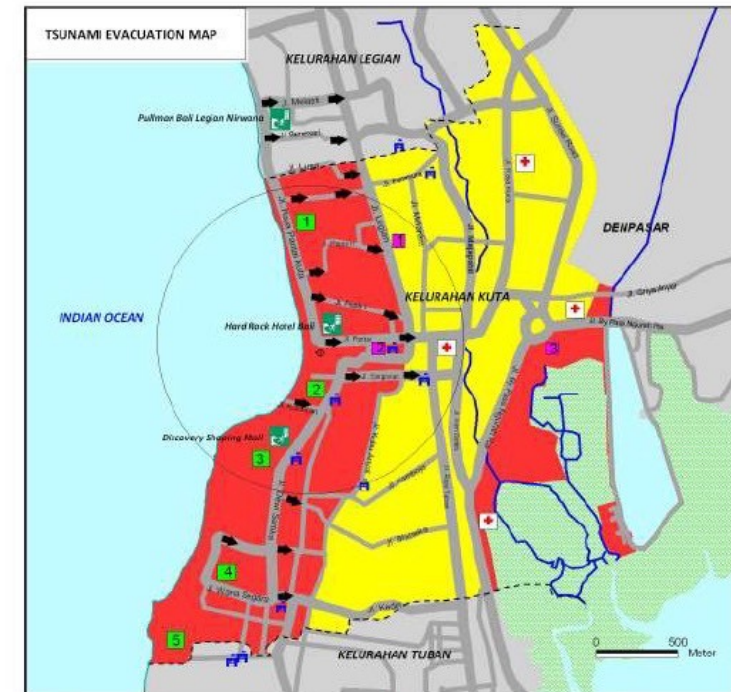
- Move away from the beach immediately as a precautionary measure!
- After strong and prolonged ground shaking, don't wait for an official warning. Leave the **RED ZONE** immediately!
- Listen to announcements from the local authorities and the radio for further information. Pay attention to the siren!

### 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

# 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 useful and allow revisions of particular sections without requirement to re-publish entire plan

### Progression

- Should have **logical sequence** and **avoid unnecessary duplication**

### Consistency

- Terms and concepts used consistently between different sections

### Adaptability

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

### Compatibility

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

# Step 2 – Develop Response Plan

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

**How is NTWC warning received** by the local emergency management agency (LDMO)?

**Who evaluates 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** are 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 **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

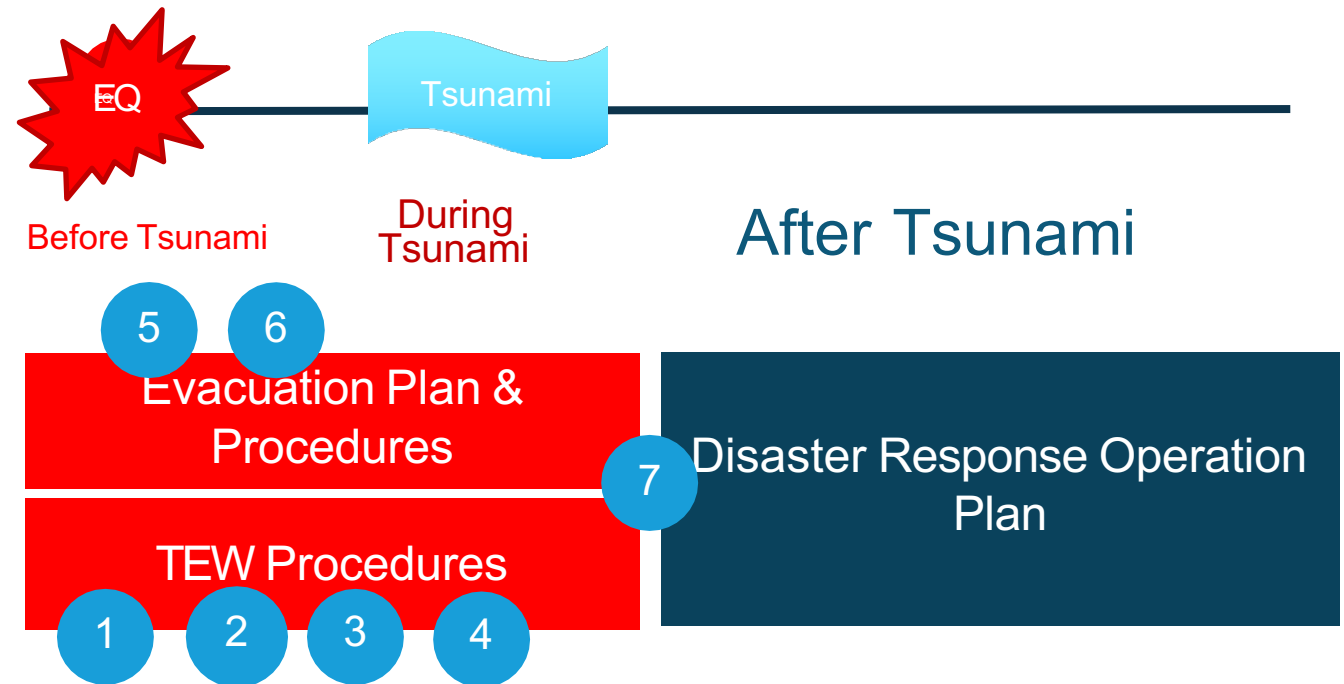


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At local level, SOPs for

1. Receipt of warnings and cancellation messages from NTWC
2. Evacuation decision making
3. Public alerting
4. Media arrangements
5. Support and manage evacuations
6. Traffic management
7. All clear and safe return





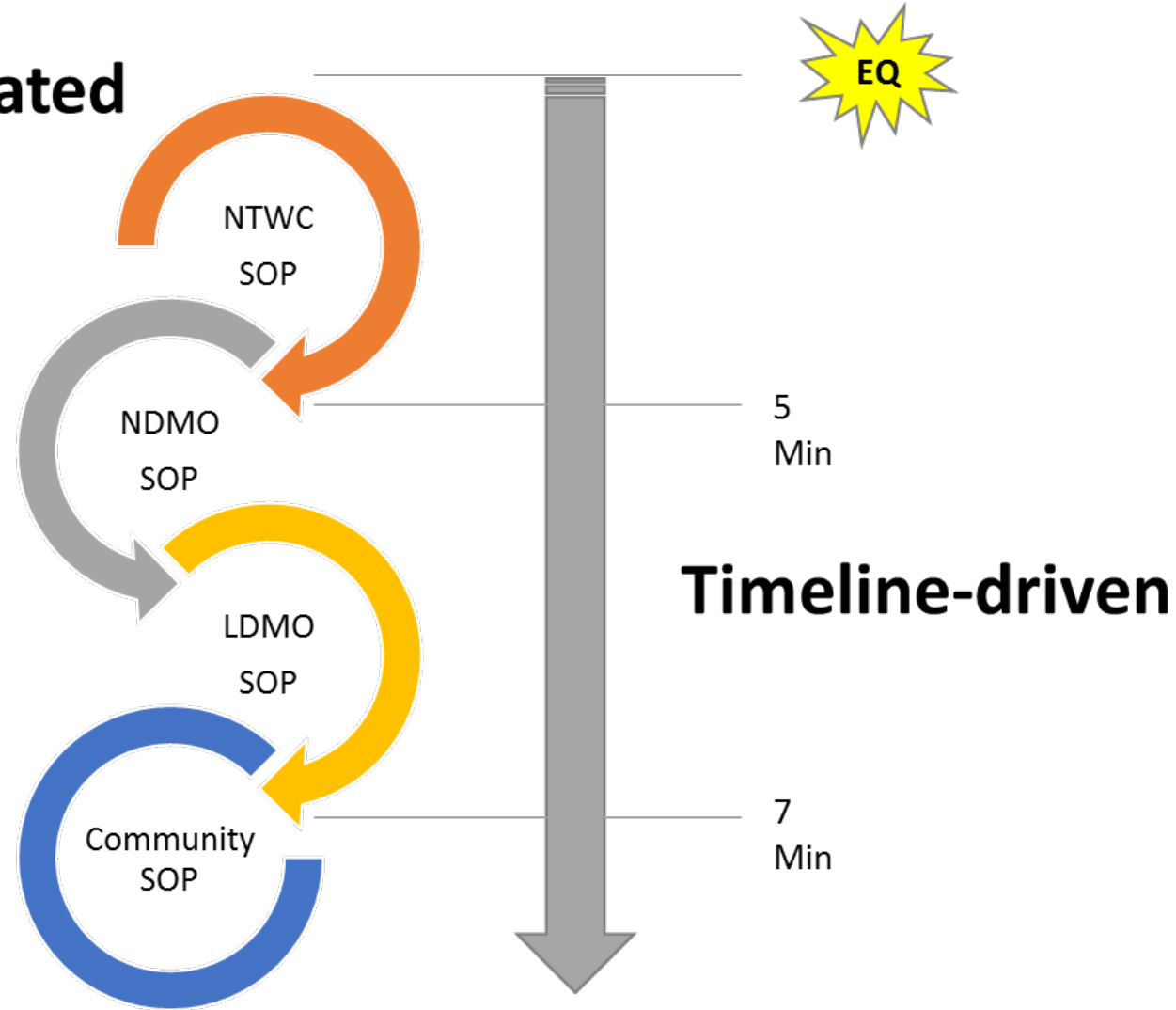
# Step 3 – Develop SOPs



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## Response Indicators –

**[RESP 2]:  
Capacity (National, Local,  
Community)**



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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, **communities** should have **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. May involve use of **Emergency Operations Centre (EOC)**.



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*Emergency Operations  
Centre, Kos, Greece*



*St. Kitts Emergency  
Operations Center*



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



# Capacities needed to manage emergency response operations during a tsunami



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## 1. People **who will carry out** emergency response operation

- SOPs
- Knowledge
- Skill

## 2. Facilities and Infrastructure **to implement emergency response operations i.e. EOC**

- Tools
- Equipment
- Logistics

# Arrangements needed to manage emergency response operations during a tsunami



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✓ The EOC roles that must be fulfilled are:

- **Control:** a local controller should be in charge and coordinates response activities
- **Operations:** relevant agencies and organisations should be activated and coordinated
- **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

# Step 4 – Training/Awareness

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## Local or traditional knowledge

- **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 country or area-specific community needs**. Geography, demography, language, culture, religion will influence the awareness approach

## Coordination and collaboration

- Essential that all stakeholders work together

## Public policy

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

## Multi-faceted approach

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



# Example Capacity activities

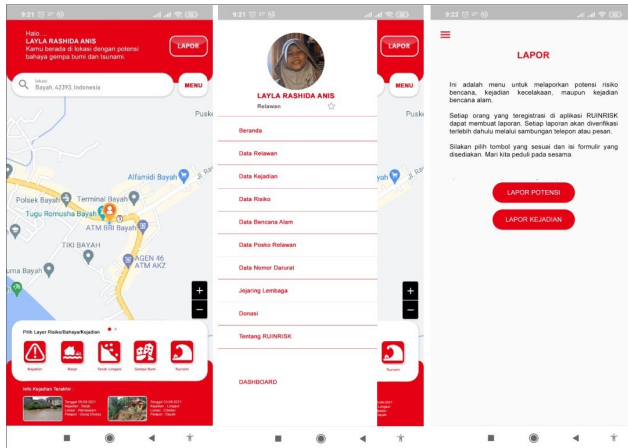
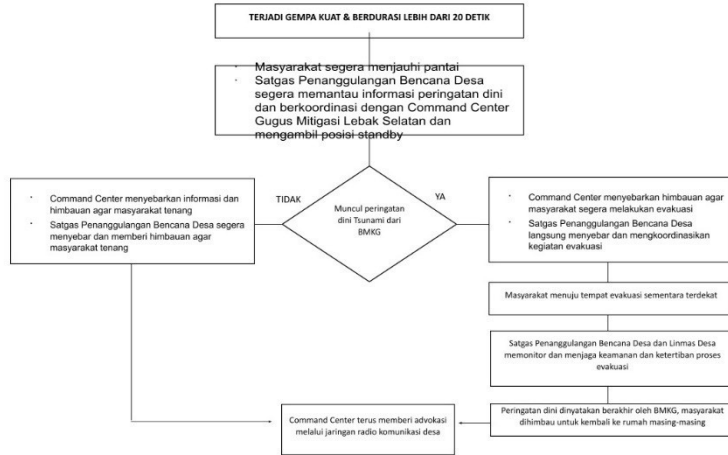


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Continuous capacity  
building, training, and  
exercises

## SOP PERINGATAN DINI DAN EVAKUASI GEMPA TSUNAMI





# Example Capacity activities



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## Emergency Operation Team 24/7





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## Response Indicators –

**[RESP 3] & [RESP 4]:  
Receiving & Disseminating  
Warnings**

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## RESP-3:

Redundant and reliable means to timely **receive** 24-hour official tsunami alerts are in place.

## RESP-4:

Redundant and reliable means to timely **disseminate** 24-hour official tsunami alerts to the public are in place.

# Arrangements needed to receive & disseminate warnings



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Communities should have means to **ensure tsunami warnings can be received and disseminated** by designated community officials. May include activation of Emergency Resp Centre (ERC)

1. Has **24 -hour warning reception and dissemination** capability
2. Has **process, ability and authority** to activate the public alert system
3. Maintains ability to **communicate within and across jurisdictions**
4. Maintains **communications links with NTWC and/or DMO**
5. Has **24-hour capacity to activate** ERC for tsunami incidents (if applicable)

# **Redundant and Reliable means to receive & disseminate...**



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## **(Over-and-above Natural Warnings!)**

**Multiple channels/tools, e.g:**

- 1. Public Alert Radio Systems / Radio Networks**
- 2. Direct comms from NTWC/NDMO**
- 3. Local flood warning systems**
- 4. Local radio**
- 5. Call-tree system / automatic dialling**
- 6. Instant messaging via Internet: Facebook WhatsApp, etc**
- 7. Third party providers (e.g. cell phone networks, Coast Guard)**



# Examples -

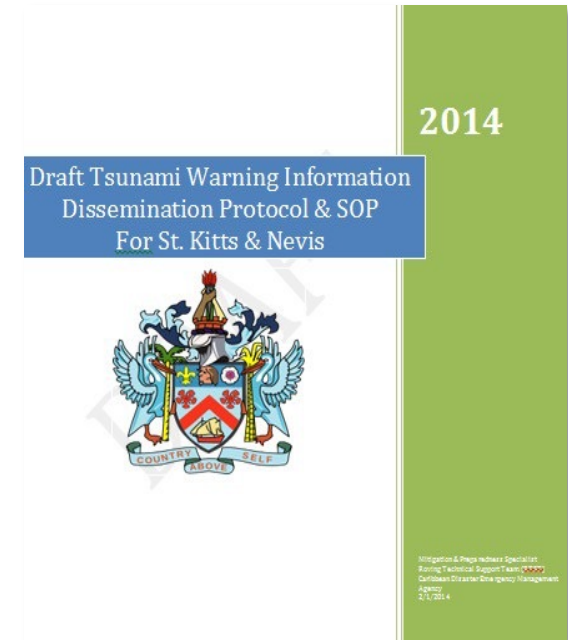
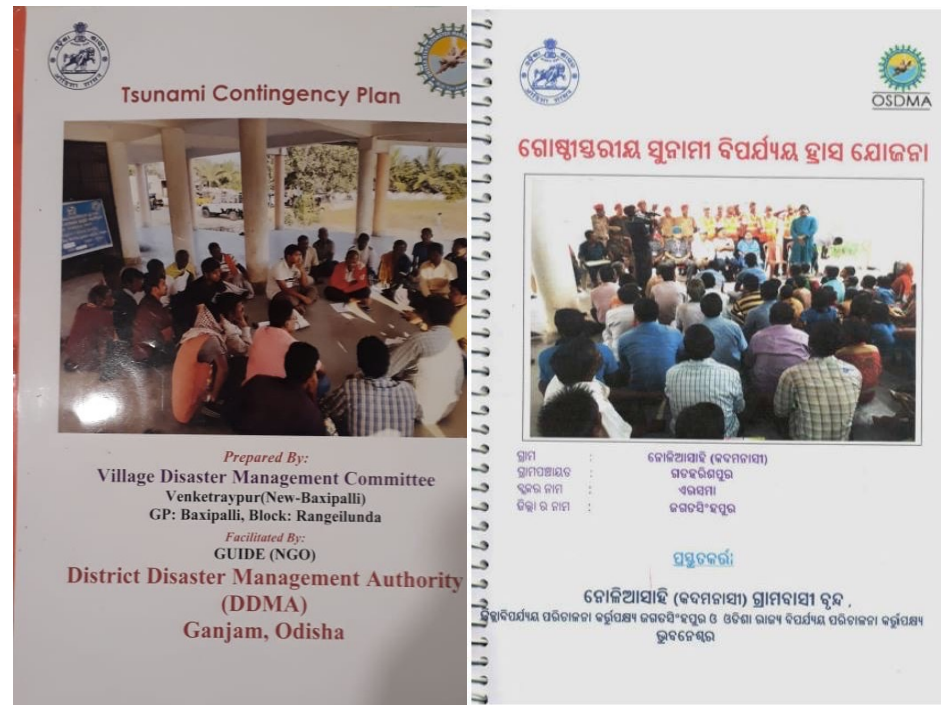


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*Cedeno, Honduras  
Emergency Response Plan, 2017*



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



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2022 - 2026

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