



PREP-1

Introduction to Concepts and Approaches for Tsunami Evacuation Planning (TEP)

Harald Spahn

UNESCO-IOC – UNESCAP Project Consultant

Indian Ocean Tsunami Ready Workshop

Tanjung Bena, Bali - Indonesia

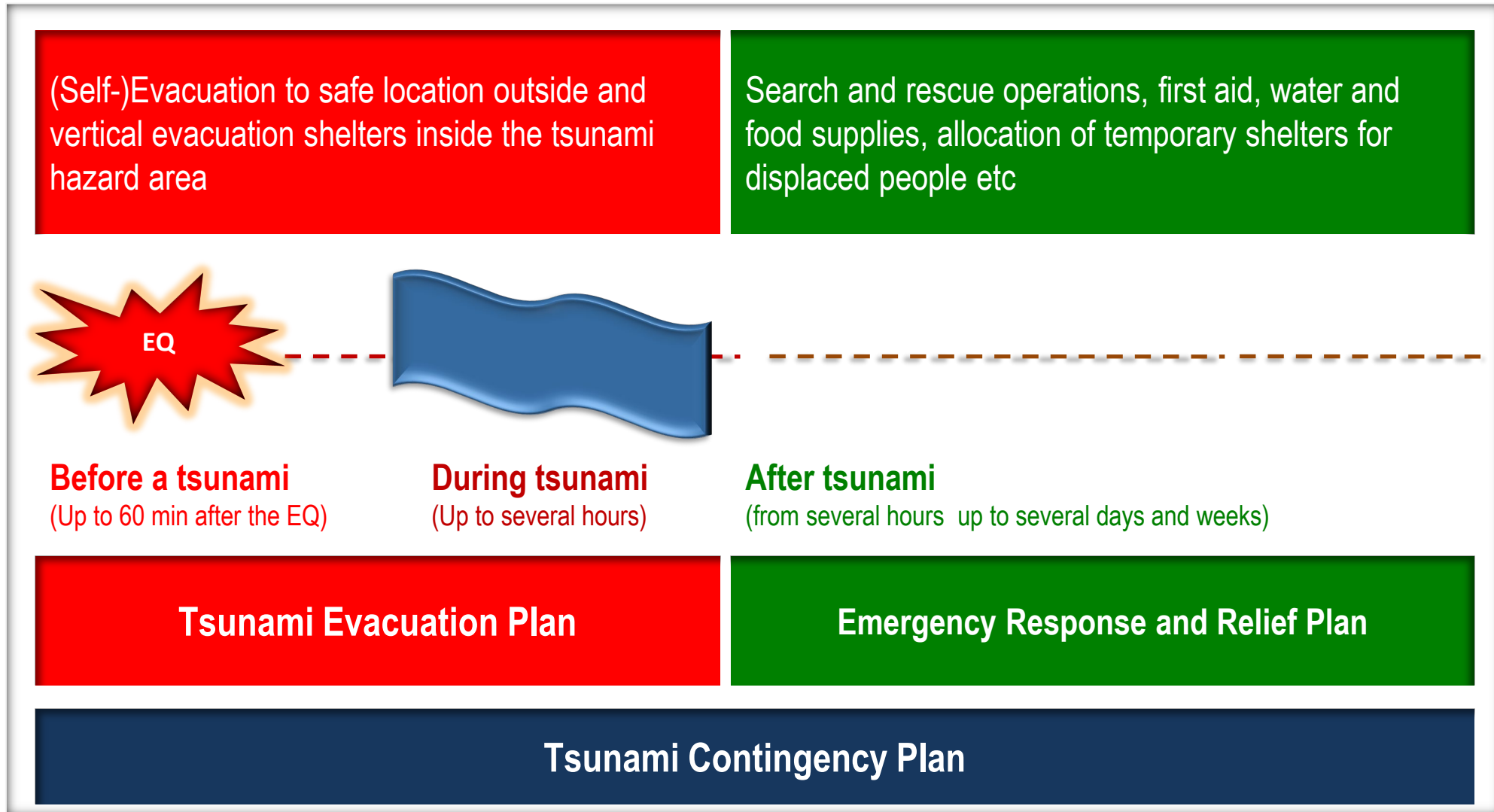
22-26 November 2022





"Surviving a tsunami is a matter of getting out of the reach of tsunami waves and inundating waters in time"

Tsunami evacuation covers the time span before and during a tsunami...



Important framework conditions for TEP in the case of near-field tsunamis

- **Several countries around the Indian Ocean face the threat of near-field tsunamis.** In such cases, tsunami evacuation planning must take into account the very short warning and evacuation times and need to set a strong focus on self-evacuation after the occurrence of a strongly felt earthquake.
- The infrequent occurrence of tsunamis and the short warning times require **simple and robust evacuation procedures and plans** which can be easily remembered and applied even if much time has passed since the last exercise.

What is a Tsunami Evacuation Plan?



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

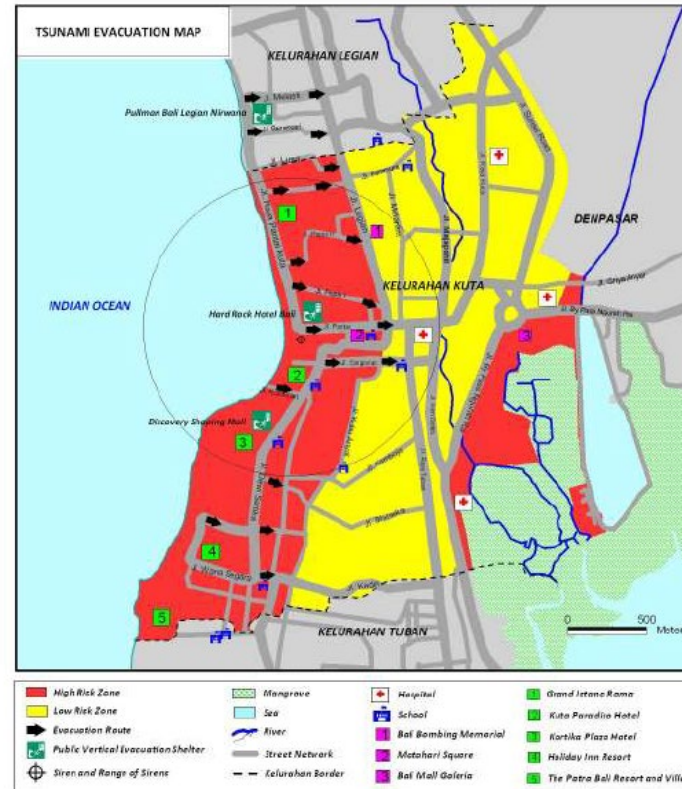
- Move away from the beach immediately as a precautionary measure!
- After strong and prolonged ground shaking, don't wait for an official warning. Leave the **RED ZONE** immediately!
- Listen to announcements from the local authorities and the radio for further information. Pay attention to the siren!

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



Tsunami Evacuation Plan for Sanur, Bali

A Documentation of the Process and Results of Tsunami Evacuation Planning

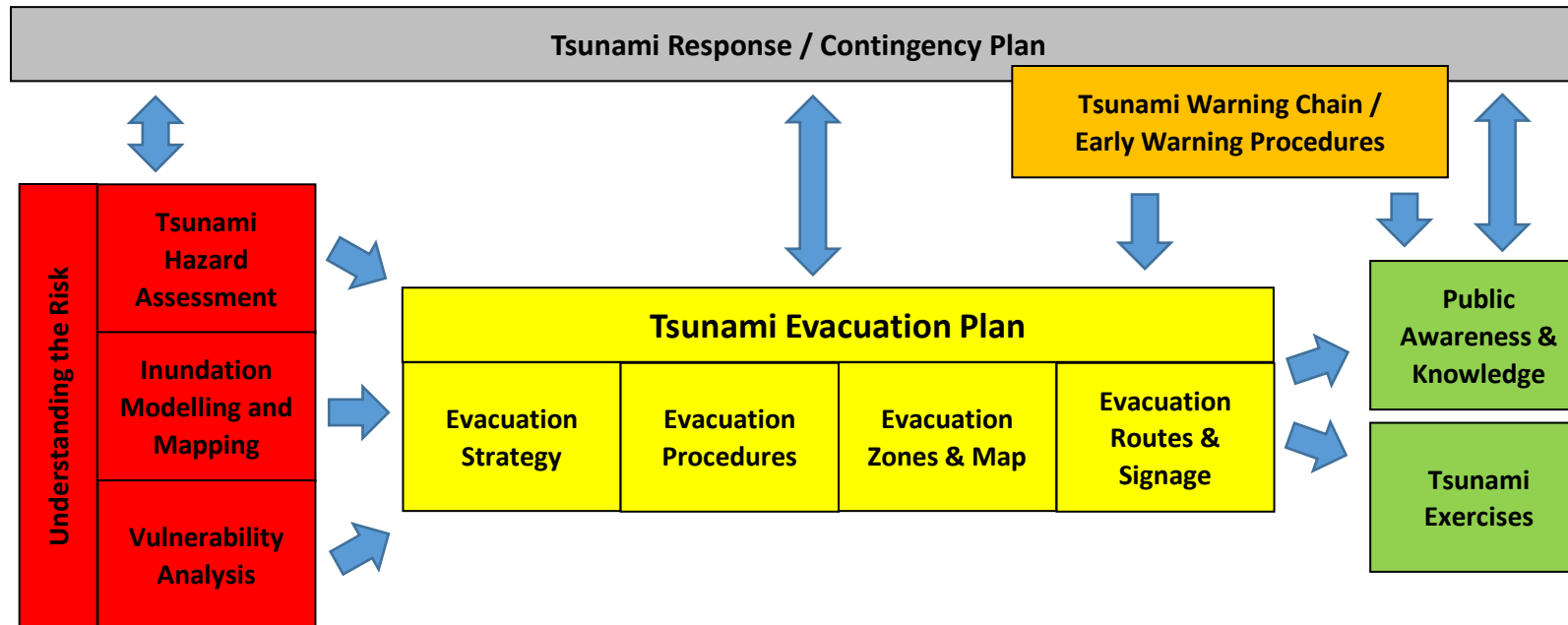
developed by
Evacuation Planning Working Group of Sanur Denpasar

with support from
District Government of Denpasar
BPBD Denpasar
Bali Hotel Association (BHA)
The Indonesian Red Cross, Denpasar Chapter
Kelurahan and villages authorities
Sanur Development Foundation

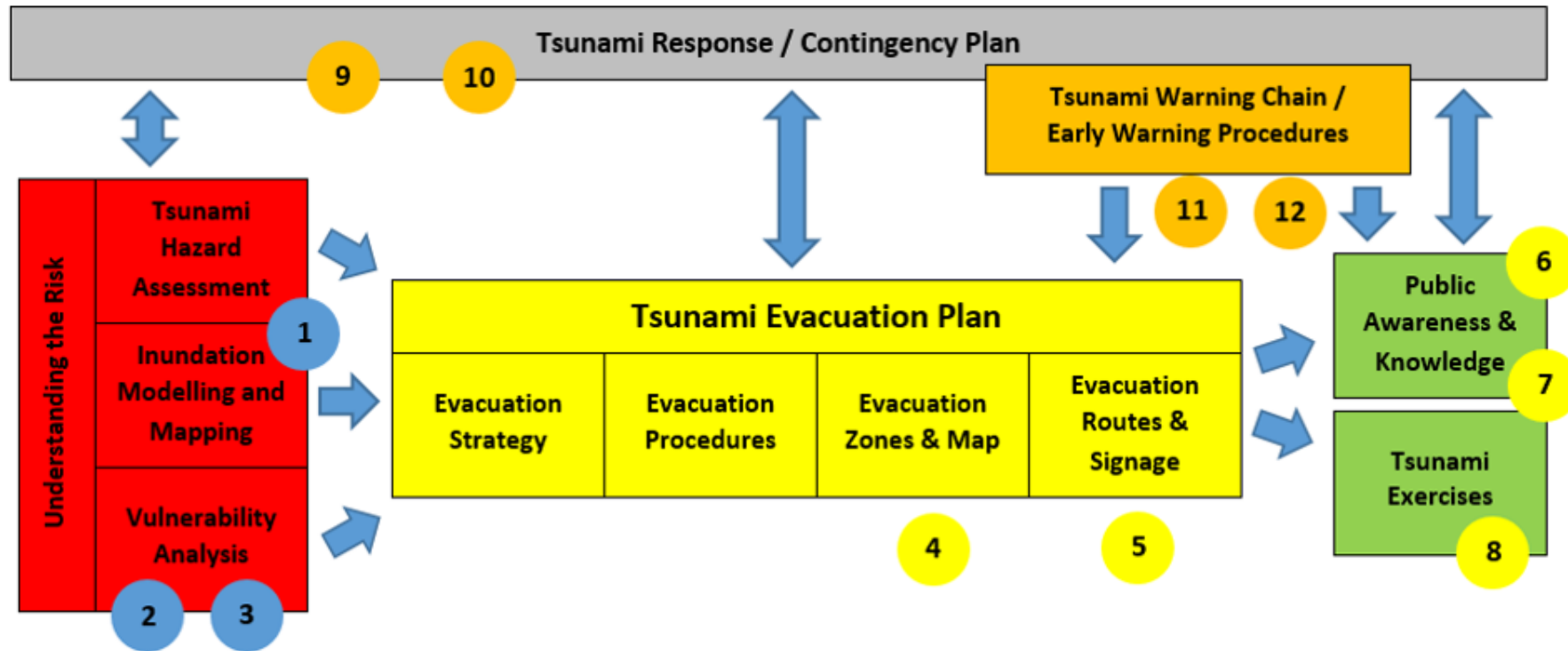
Facilitation and technical advisory by
GTZ IS - GITEWS



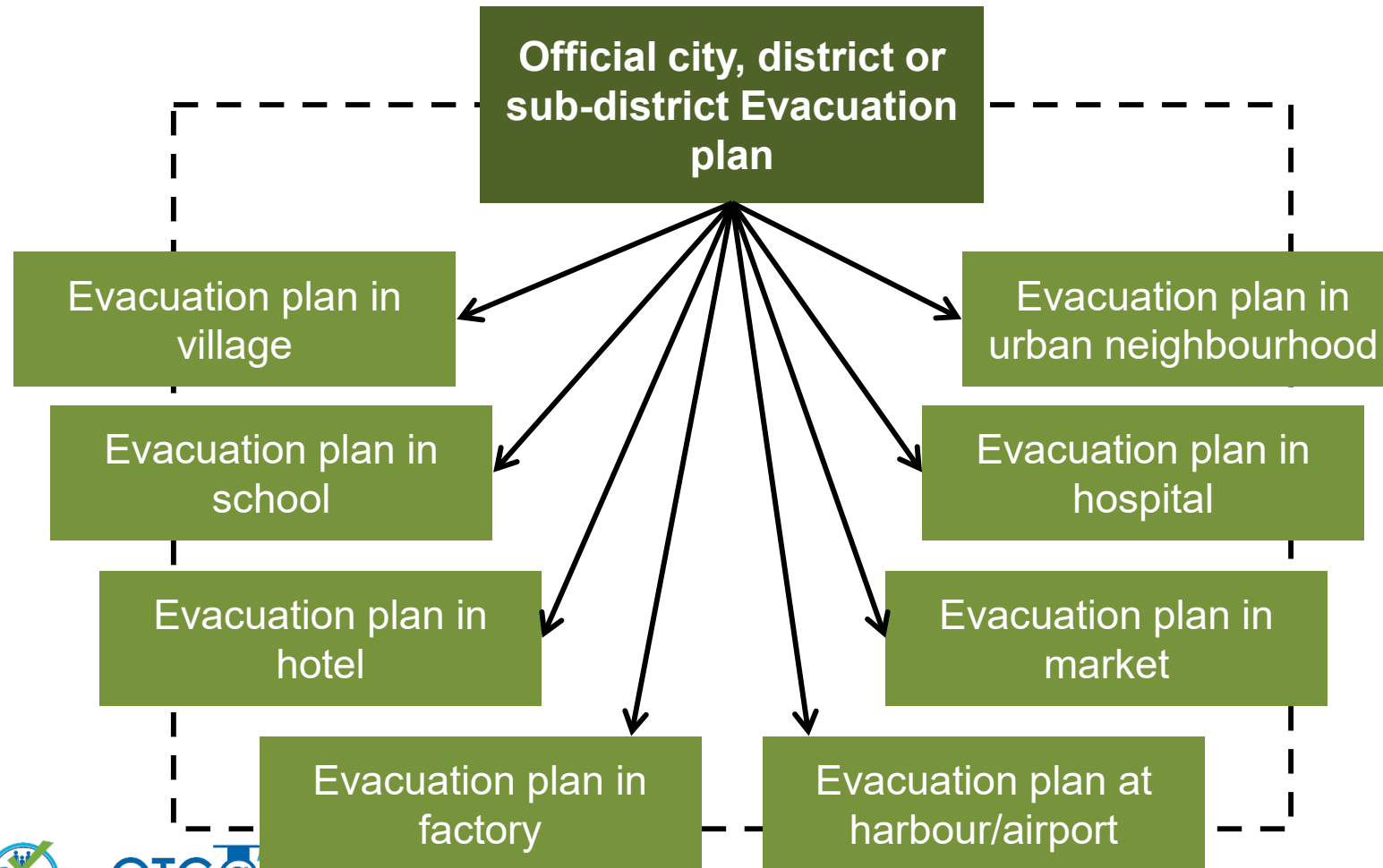
Elements to consider in a Tsunami Evacuation Plan



Key elements of tsunami evacuation planning and their relationships with the Tsunami Ready Indicators



Official evacuation plans provide credible and binding references for lower levels & institutions



Stakeholder for Evacuation Planning



Who has to be involved in the planning?

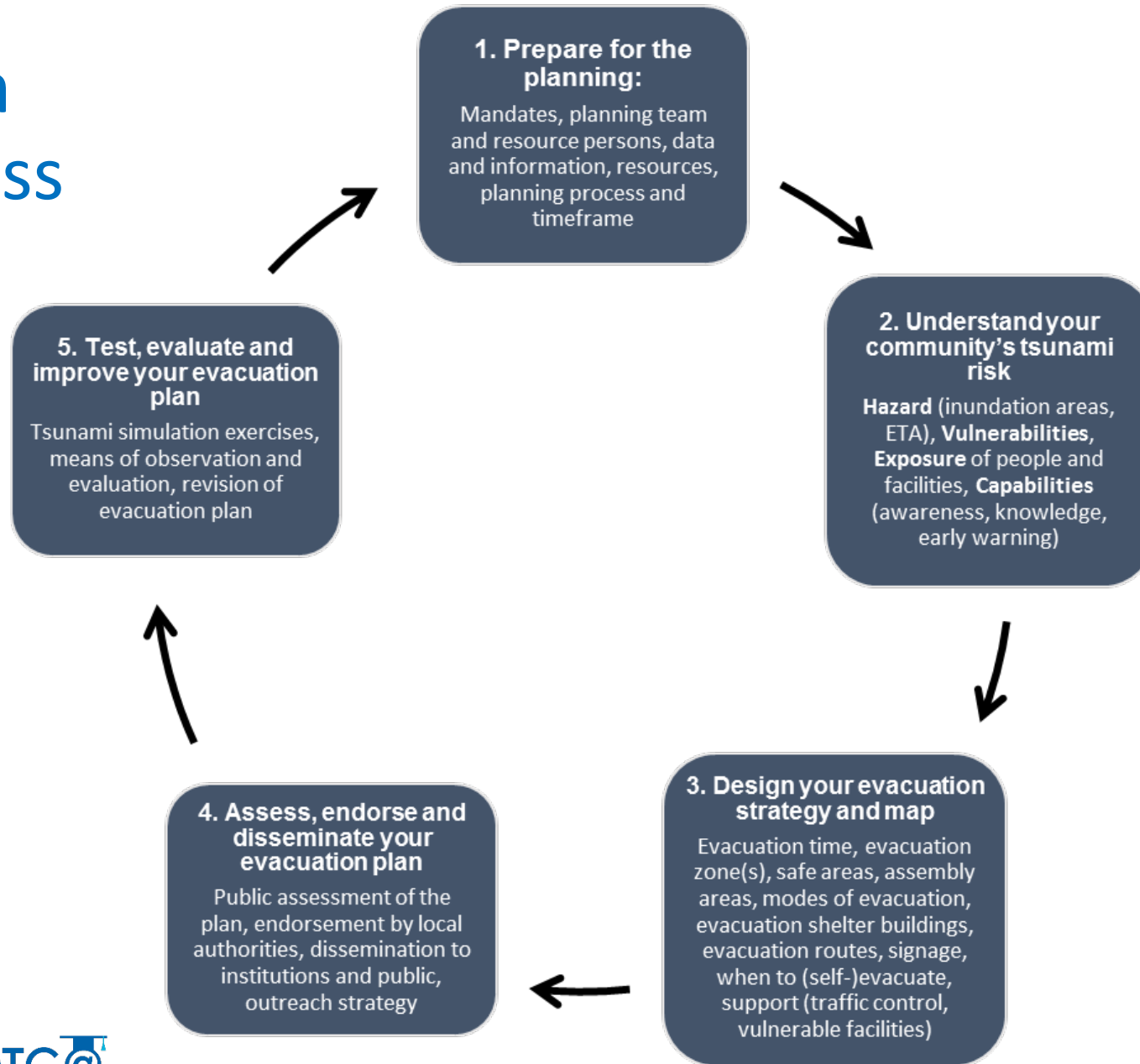
All relevant stakeholders from local government, universities, NGOs, ...

Who should be aware of the evacuation plan?

Everyone in the community



The Evacuation Planning Process



Clarification on Important Terms and Concepts

- The Term **Evacuation Zone** is used and understood in different ways. Most of the examples from international practice use the term “evacuation zone” as an equivalent to “hazard zone” and hence the area to be evacuated.
- **Self-evacuation** means that the vulnerable population decides on its own to leave the area at risk upon natural warning signs or a tsunami alert without waiting for an official evacuation call. This approach should always be strongly encouraged as an essential part of the evacuation strategy in the case of near-field tsunamis. Tsunami evacuation maps and plans should guide people in this process.