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Response Indicators – How to achieve, challenges and solutions

6.5 Communications – Receive and Disseminate Alerts RESP 3 and 4

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Tsunami Ready Indicator

	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 including signage is publicly displayed.
6	**PREP-3**. Outreach and public awareness and education resources are available and distributed.
7	**PREP-4**. Outreach or educational activities are held at least 3 times a year.
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 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.

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 are in place

Introduction

The community must be able to **receive official tsunami alerts** from the authorized agency

The community must be able to **disseminate tsunami alerts to all** its members

The means of **dissemination** will **depend** on the **size of the community** and the **options that are already available** to it, for example if it has a cyclone warning system

Need to consider and plan for disseminating alerts to target groups such as **schools, hospitals, business** premises and the **public** at large

There should be arrangements in place to disseminate alerts on a 24x7 basis, particularly in **highly vulnerable communities**

Issuing alerts to community members in the event of a **local tsunami can be very challenging** due to the possibility of **damage to infrastructure** and the short time between tsunami generation and the arrival of the first wave.

Recognition of **natural warning signs and preparedness to self-evacuate** is important in such at-risk communities

Early Warning Arrangements

Communities should have the means to **ensure tsunami warnings can be received and disseminated on a 24x7 basis** by designated community officials. May include activation of Emergency Operation Centre (EOC)

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** EOC for tsunami incidents (if applicable)

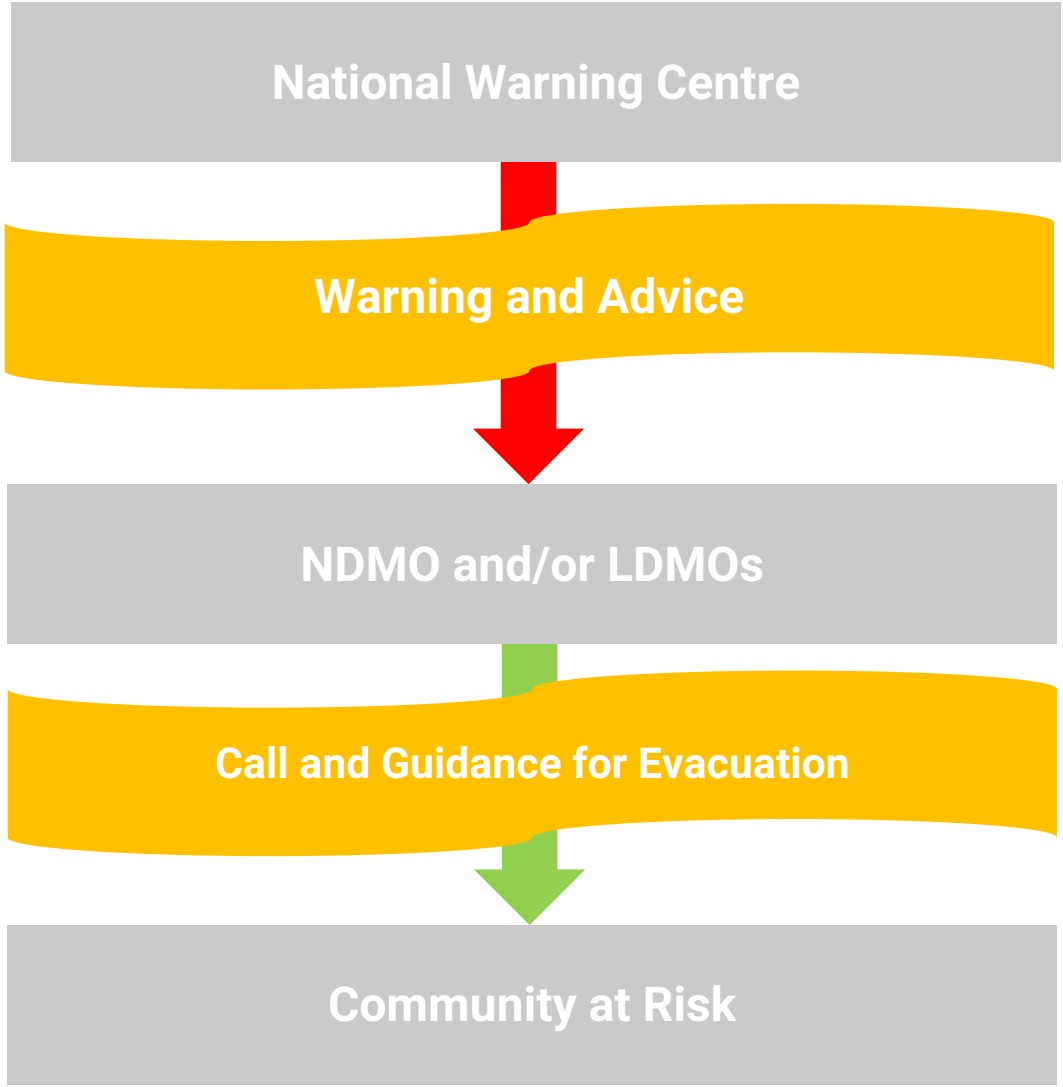
Warning chain to the community

Must operate 24x7

Need to use SOPs synchronised at national, provincial, district and municipal levels

Requires official delegation of authority

Cooperation and coordination between national, provincial, district and municipality agencies is essential in the delivery of timely tsunami early warning and guidance



3Rs Required for Tsunami Warning

- **Robust** - capable of **performing without failure under a wide range of conditions** *(Miriam-Webster)*; persistence of a system's characteristic behavior under perturbations or unusual or conditions of uncertainty *(Wikipedia)*

- **Reliable** – giving the **same result on successive trials, dependable** *(Miriam-Webster)*; ability of a system to perform and maintain its functions in routine circumstances, as well as hostile or unexpected circumstances *(Wikipedia)*

- **Redundant** - serving as **duplicate for preventing failure of an entire system** upon failure of single component *(Miriam-Webster)*; duplication of critical components or functions of system with intention of increasing reliability of system, usually as backup or fail-safe *(Wikipedia)*

Warning Communications Are:

- Focused on the people at risk
- Ubiquitous - same message everywhere
- Reaches all people irrespective of what they are doing & where they are
- Easy to access and use
- Do not create added risk
- Reliable
- Issued with appropriate lead time
- Authenticated, authoritative

An Effective Warning Message Is:

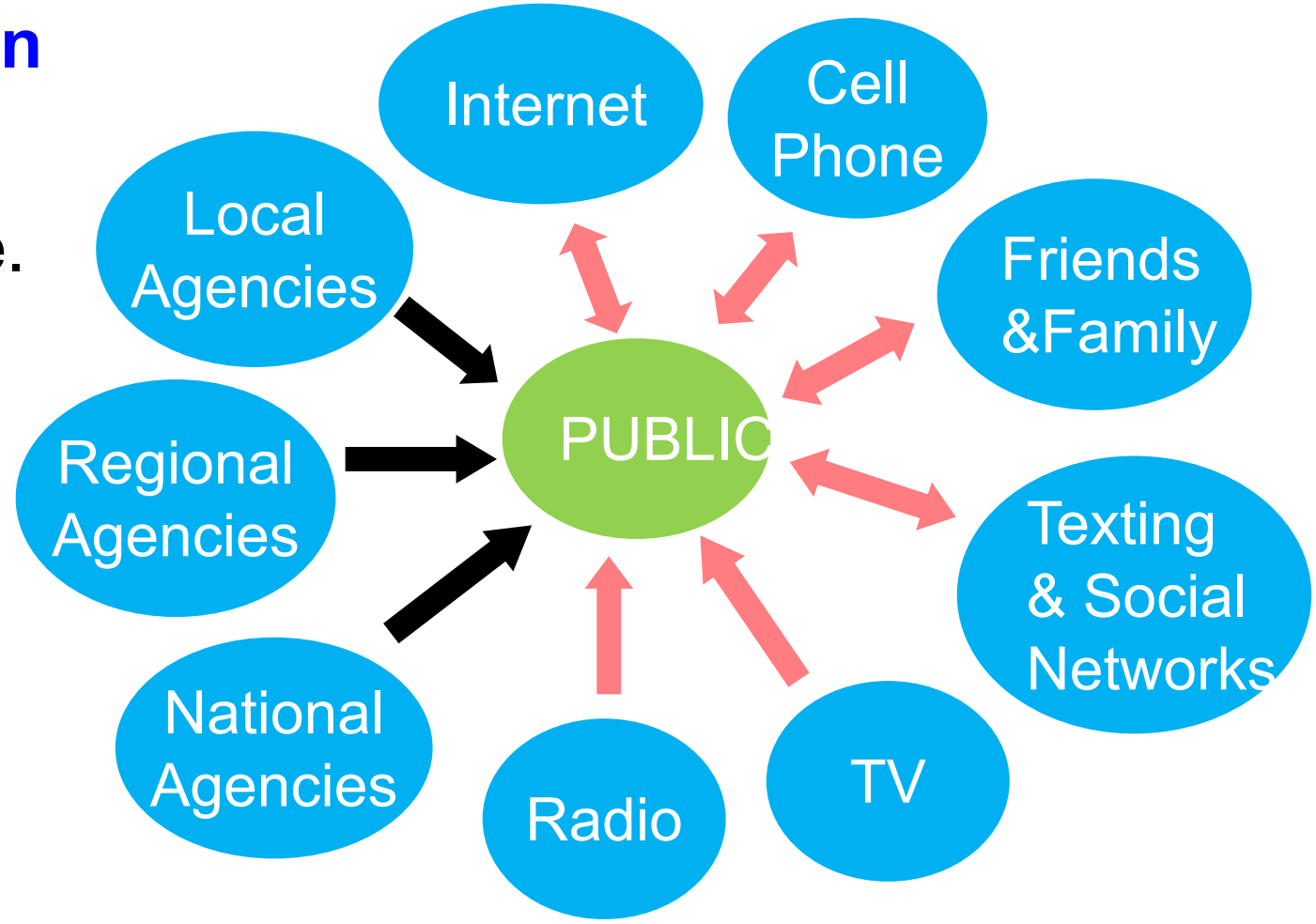
- Clear & understandable
- Accurate
- Frequent
- Credible
- Specific to the situation
- Gives Action - specific advice

Effective warnings should reach 95% of the at-risk population

How public gets warning: Reality

Need to Manage Information

- Information flows from many sources at same time.
- Some are official. Many are unofficial
- Need to actively work to minimize confusion and convey consistent information



Key questions to consider

1. What is the **content** of the local warning messages/guidance/advice?
2. Who are the **target** groups?
3. Which **communication system** should be used to reach each of the target groups?
4. What kind of **agreements need to be established** (e.g. with local media)?

Educate Public Before

- What communication systems/media will be used to issue warnings?
- Who will issue the warnings?
- How will the warnings be issued?
- When will the warnings be issued?
- What will the warning messages say?

What Public Needs to Know

- ☐ Official sources of tsunami information
- ☐ Evacuation maps & routes
- ☐ Local / Distant tsunami response differences
- ☐ Natural Warning signs
- ☐ Warning systems for your community
- ☐ What sirens sound like and verbal message (regular testing)
- ☐ How to respond to siren sounding
- ☐ Community support network / orgs

Indicator requirement

For the purposes of this indicator, the 24 hour warning point and/or the EOC (if activated) must be able to receive and disseminate tsunami alerts through at least three methods, such as:

- Country Emergency Alert System (EAS) message initiation and broadcast
- Broadcast/Cable television audio/video overrides
- Local flood warning systems ideally with no single point of failure
- Plan for siren/megaphone notification on emergency vehicles
- Outdoor warning sirens
- Other local alert broadcast system
- Local pager/texting system
- Amateur radio operator network
- Telephone mass notification system
- Call out tree
- Coordinated jurisdiction-wide radio network
- Social media usage (Twitter, Facebook, WhatsApp, etc.)
- Lifeguards on beaches and on patrol

Means to disseminate the alerts to the public

Over-and-above Natural Warnings!

Local Disaster Management Organizations

SMS

Radio

Television

Social Media

Mobile Apps

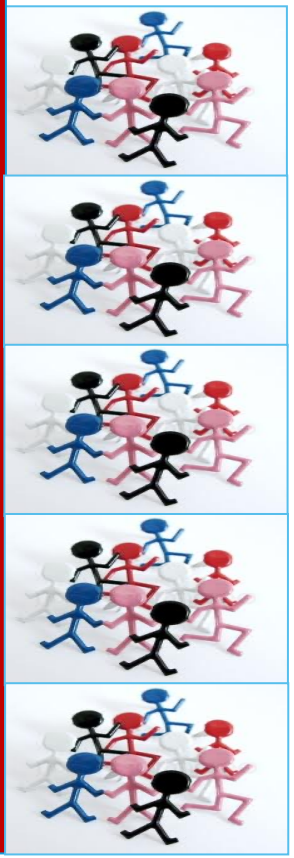
Sirens

Public Alert System

VHF/ Mega phone

Tom-tom (traditional methods)

Public at Risk



Door-to-door

Police

Village volunteers

Lifeguards on beaches

Any other modes

Summary

- ✓ Getting tsunami alerts to the community **requires cooperation and coordination** between national, provincial, district and municipality agencies and the **synchronisation of SOPs at each level of the warning chain.**
- ✓ There should be **arrangements** in place to receive and disseminate alerts on a 24x7 basis, particularly in **highly vulnerable communities.**
- ✓ There are many media channels through which alerts can be **received and disseminated** and **a minimum of three are required** to achieve this indicator. Examples are sirens, local texting system, social media, television/radio interrupts, telephone mass notification system, amateur radio networks, and local traditional methods such as tom-tom drums.
- ✓ The community must be able to **disseminate tsunami alerts to all its members and sectors**. The means of transmission will depend on the size of the community and the options already available to it.

Summary (continued)

- ✓ Need to consider and plan for **disseminating alerts to target groups** such as schools, hospitals, business premises and the public at large
- ✓ Issuing alerts to community members in the event of a local tsunami can be very **challenging due to the possibility of damage to infrastructure and the short time** between tsunami generation and the arrival of the first wave. Recognition of **natural warning signs and preparedness to self-evacuate** is important in such at-risk communities

Thank you
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