## **UNESCAP TTF-29 Project:** Strengthening tsunami early warning in the North-West Indian Ocean region through regional cooperation

### **Rick Bailey**

Head of Secretariat for the UNESCO-IOC Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS)









# TTF-29 Project: Strengthening tsunami early warning in the North West Indian Ocean region through regional cooperation

Project Funder: UNESCAP Tsunami Trust Fund

Participating Member States: India, Iran, Pakistan & Oman, representatives from UAE

Target Groups: National Tsunami Warning Centres (NTWCs), Disaster Management Organisations (DMOs), Communities, Response Agencies, Media

Project Duration: 24 Months

**Outcomes:** 

1 Better understanding of the risk knowledge based on scientific research



Improvement of warning services at NTWC level and the organization of the national warning chains to assure timely warnings and rapid response with due emphasis on self-protection for near source events.



## **Background Information**

- 1. Countries that border the North-West Indian Ocean (NWIO) are at risk of being impacted by tsunami generated by the Makran undersea trench, which can rupture at any time.
- 2. In 1945 a tsunami generated by this trench caused the death of many people. The estimated death toll ranges from a few hundred to 4,000.
- 3. A tsunami generated in this area may arrive on the Makran coastline within 20 minutes.
- 4. A number of uncertainties existed about the tsunami hazard and associated risk for the NWIO.
- 5. NTWCs, DMOs, and the Broadcast Media are all key links in national tsunami warning chains that needed to be enhanced to deliver timely warnings to at-risk communities.

# Outcome 2: National Warning Services and Tsunami Warning Chains

- High-Level conference (Muscat, Sept 2019) resulted in agreed joint working process for improving national warning chains
- Development of National Working Groups (ongoing).
  - The National Working Groups with key stakeholders involved in the TEWS to improve the SOPs at NTWC and DMO levels.
- Contributes to work of ICG/IOTWMS NWIO-Working Group and ICG/IOTWMS Task Team Tsunami Preparedness for a Near-Field Tsunami Hazard

# Outcome 2: National Warning Services and Tsunami Warning Chains (cont)

- Workshop #1 on Standard Operating Procedures (SOPs) for Tsunami Early Warning (Karachi, Feb 2020).
  - National tsunami warning chains assessed and consolidated against actual time available during a near-field tsunami threat.
- Upstream warning chains tested during Exercise IOWave20 (Oct 2020)
- Regional Workshop on Harmonisation of NTWC warnings and products (online, Nov 2020): included thresholds, threat levels, warning colours, and consistency of messaging.





# Outcome 2: National Warning Services and Tsunami Warning Chains (cont)

- Series of virtual National Consultative Meetings with India, Iran, Oman, and Pakistan
- Regional Webinar on Engagement of the Broadcasting Media in the Tsunami Warning Chain (17 June 2021)
- Media SOP Workshop #1: NTWCs, DMOs, Media (7-9 Sept 2021)
- Workshop #2 on Standard Operating Procedures (SOPs) for Tsunami Early Warning: NTWCs, DMOs (11-14 Oct 2021)
- Media SOP Workshop #2: NTWCs, DMOs, Media (26-28 Oct 2021)

#### **National Level Local Level** Regional Level **High Level Meeting National Working Group** (Country Representatives) Ministry, NTWC, NDMO, LDMO, Ministry, NTWC, NDMO Other Stakeholder **Local Working Group** Reflection on national strategies for Revision of National Strategies and in Pilot Areas Early Warning, Warning Chain and Policies for Early Warning, Warning LDMO, Community, SCO, Community Preparedness to cope Chain and Community Preparedness Private Sectors, NGO and with near field tsunamis to cope with near field tsunamis Other Stakeholder · Local Roles and **SOP Workshop 1 National Working Group** Responsibilities NTWC NDMO LDMO · Local Requirements Ministry, NTWC, NDMO, LDMO, Implications of revised tsunami Regarding EWS Other Stakeholder warning chains on SOPs Local 24 / 7 service Revised National Tsunami Warning Local SOP Chain (end to end) **SOP Workshop 2** Warning dissemination to NTWC NDMO LDMO community at risk National Working Group Finalization of Revised SOP Ministry, NTWC, NDMO, LDMO, Other Stakeholder Media Workshop 1 **Revised SOP** NTWC-NDMO-LDMO-Media Strategies and Requirements to **National Working Group** involve media in the Warning Chain Ministry, NTWC, NDMO, LDMO, Other Stakeholder Media Workshop 2 Media SOP NTWC-NDMO-LDMO-Media Finalisation of Media role in Fwarning chain



### **Project Contribution**

High Level Meeting (Country Representatives) Ministry, NTWC, NDMO

Reflection on r

Strategies for Chain and

Ensuring participation of high level representatives at a regional meeting to discuss and reflect on national strategies for TEW, warning chains and community preparedness in the context of near-field tsunamis.

Finalization of Revised SOP

Media Workshop 1 NTWC-NDMO-LDMO-Media

Strategies and Requirements to involve media in the Warning Chain

Media Workshop 2 NTWC-NDMO-LDMO-Media Finalisation of Media role in Fwarning chain

### **Member States Contribution**

National Working Group
Ministry, NTWC, NDMO, LDMO,
Other Stakeholder
Revision of National Strategies and
Policies for Early Warning, Warning
Chain and Community Preparedness

to cope with near field tsunamis

National Working Group Ministry, NTWC, NDMO, LDMO, Other Stakeholder Revised national Tsunami Warning Chain (end to end)

National Working Group Ministry, NTWC, NDMO, LDMO, Other Stakeholder Revised SOP

National Working Group Ministry, NTWC, NDMO, LDMO, Other Stakeholder Media SOP Set-up and steering of National Working Groups to discuss and revise national strategies for TEW, warning chains and community preparedness in the context of near-field tsunamis as well as to adapt related SOPs with an end-to-end perspective including specific arrangements and SOPs for public media

Assign members from National Working Group to assist regional SOP workshop and assure feedback into the National Working Group

Establish working relations with relevant public media regarding tsunami warning dissemination and promote participation of selected representatives in the regional media workshop

Organize a working process between the National Working Group and public media representatives to agree on roles and responsibilities, arrangements and procedures for warning dissemination by the media



ve20

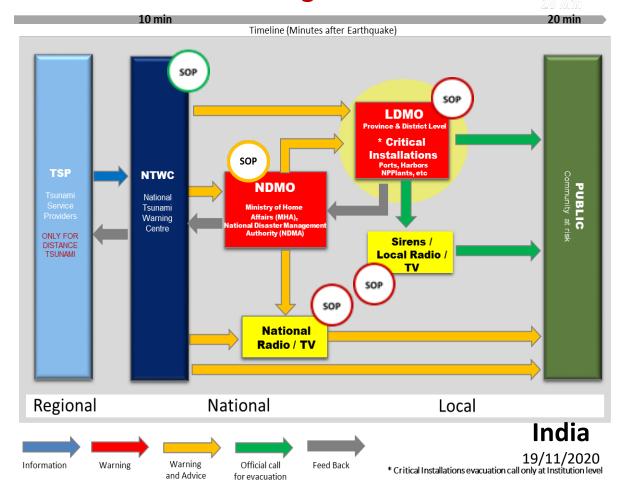
**IESCO** 

tion

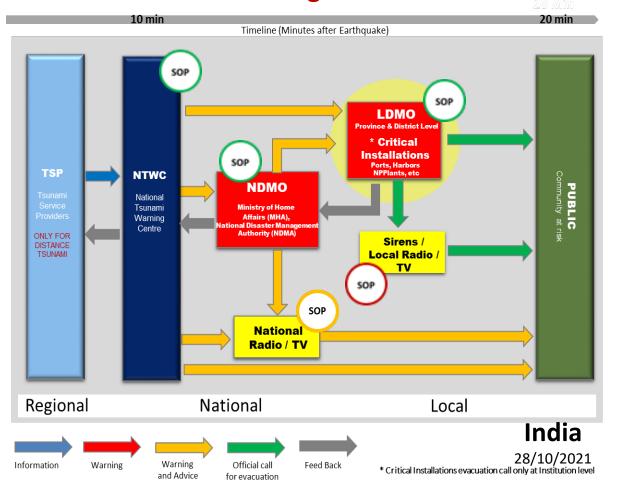


OE COL

## **Technical Meeting 19 November 2020**



## **Technical Meeting 28 October 2021**



Recommendation			Agree			
		ом	IR	PAK NTWC	PAK	
1.	Warning messages from NTWC should include advice and issued to communities at risk	Yes	Yes	Yes	No	
2.	The advice should be tied to warning levels	Yes	Yes	Yes	Yes	
3.	Integrate authorized evacuation calls into the NTWC warning messages	Yes	Yes	Yes	Yes	
4.	Assure one clear message to the communities	Yes	Yes	Yes	Yes	
5.	National and local media have a wide outreach and should be therefore considered as key actors in the warning chain	Yes	Yes	Yes	Yes	
6.	If sirens are operated or to be installed, a clear policy is required as to who is mandated to trigger them and what is actually the meaning of the siren sound(s)	Yes	Yes	Yes	Yes	
7.	Set maximum times not only for issuing warnings by NTWC, which is the common practice, but also for the reception of warning and guidance messages by the community at risk	Yes	Yes	Yes	Yes	
8.	No-threat information is just as important as a warning may be	Yes	Yes	Yes	Yes	
9.	Hazard and risk assessments need to be undertaken to educate communities and relevant authorities on the threat and potential impacts on coastal communities.	Yes	Yes	Yes	Yes	
10.	Communities at risk must have a high level of awareness and sufficient knowledge to react independently and properly during a tsunami threat. Self-evacuation is the key to surviving near-field tsunamis.	Yes	Yes	Yes	Yes	

	Implem	nented		
ом	IR	PAK NTWC	PAK	
Yes	Yes	Yes	No	
Yes	Yes	Partial	No	
Yes	No	Partial	No	
Yes	Yes	Yes	No	
No	Yes	Yes	Yes	
No	Yes	Partial	Yes	
No	Yes	No	No	
No	No	No	No	
Yes	Yes		Yes	
artial	Partial	Partial	No	

## TTF29 – Phase 2: Under Consideration

Participating Member States: India, Iran, Pakistan & Oman, representatives from UAE

Target Groups: NTWCs, DMOs, Communities, Response Agencies

**Project Duration: 18 Months** 

Proposed Budget: USD ~500K



Development of hazard and inundation maps by enhancing capacities on tsunami modelling



Development of evacuation plans in line with the requirement of near-field tsunamis.

# Thank you اشکر ک Danke जी शुक्रिया آپ کا شکریہ

- Rick Bailey, Head ICG/IOTWMS Secretariat, Australia
- Ardito M. Kodijat, Head of Indian Ocean Tsunami Information Center, Indonesia
- Harald Spahn, Independent Project Consultant, Germany
- Nora Gale, ICG/IOTWMS Secretariat, Australia

(Muscat, 2019)

(Karachi, 2020)

