



## Report

# REGIONAL STANDARD OPERATING PROCEDURE WORKSHOP FOR BROADCASTING MEDIA IN THE TSUNAMI WARNING CHAIN

## **UNESCAP Project on Strengthening Tsunami Warning in the North West Indian Ocean through Regional Cooperation**

*7 - 9 September 2021*

### BACKGROUND

The magnitude 8.1 earthquake and tsunami of 28 November 1945 in the eastern segment of the Makran subduction zone resulted in reported casualties of a few hundred to 4,000 in India and Pakistan, with damage also being reported in Iran and Oman (according to different sources of information). The more recent magnitude 7.8 earthquake and tsunami of 24 September 2013 is a reminder of the potential near-field tsunami threat to vulnerable coastal communities in the region. A powerful earthquake in the Makran region could generate destructive tsunami waves capable of inundating coastlines within 20 minutes, thus making it imperative for the Member States in the region to be well prepared to respond.

This UNESCAP funded project, coordinated by the Intergovernmental Oceanographic Commission (IOC) of UNESCO, is supporting NWIO countries to improve warning services at the National Tsunami Warning Centre (NTWC) level, as well as the organisation of the national warning chains involving the National/Local Disaster Management Organisations (N/LDMO). Countries involved in the project include India, Iran, Oman, Pakistan, and the United Arab Emirates (UAE). The aim is to ensure timely warnings get to vulnerable communities to enable rapid and effective response, with due emphasis also on self-protection for near source events when the tsunami may arrive in minutes and before warnings can even be issued. The project provides expert technical assistance to adapt the national warning chains and associated Standard Operating Procedures (SOPs), through national consultative activities and regional SOP training workshops.

Recognizing the importance of broadcasting media in the national tsunami warning chains to disseminate warnings to the communities at risk, the project also supports and facilitates the development of specific arrangements and SOPs for broadcasters to assure an effective timely channel for warning dissemination to communities at risk.

To strengthen the involvement of media broadcasters in the tsunami early warning processes in the Makran region, a workshop was organised between 07th and 09th September 2021 to clarify the role of broadcasting media in the tsunami early warning chains. Requirements for the respective SOPs of all the links in the national tsunami warning chains were discussed to ensure timely and effective warnings.

## OBJECTIVES OF THE WEBINAR

Strengthen the engagement of the media in the tsunami early warning processes in the Makran region through:

- Strengthening relationships between broadcasting Media, NTCs, and DMOs
- Understanding the national tsunami warning chains and the NTC and DMO procedures
- Clarification on the role of media in the national tsunami warning chain
- Discussions on the requirements for Media SOPs to facilitate timely and accurate dissemination of advice from the authorities.

## SUMMARY OF THE SESSIONS

### Day 1

#### Session 1: Opening

After welcome remarks by Mr. Rick Bailey (Head of the Secretariat for the UNESCO/IOC Indian Ocean Tsunami Warning & Mitigation System (IOTWMS)), some background information regarding the challenges and the role of media in responding to a tsunami threat in tsunami in the region was provided. Ms Nora Gale (IOTWMS Secretariat) then gave an introduction to the TTF-29 Project “Strengthening tsunami early warning in the North West Indian Ocean region through regional cooperation”, which is funded by the UNESCAP Tsunami Trust Fund. Next, Mr. Harald Spahn (consultant) summarized the objectives of Media SOP-Workshop and explained the workshop agenda and procedures for the three day event.

#### Session 2: Tsunami Hazard and Risk in the Makran Region

In a joint presentation Mr. Rick Bailey and Dr. Mohammad Mokhtari (an earthquake and tsunami hazard expert from Iran) elaborated on general features of the tsunami hazard and risk, as well as the specific tsunami threat in the Makran Region. They highlighted a tsunami of 4-16m height may arrive on the shores of the countries bordering the North-West Indian Ocean (NWIO) in as little as 10-20 minutes if generated by an earthquake from the nearby Makran region. Tsunamis generated by earthquakes in the eastern Indian Ocean may arrive in hours, still leaving not much time for warnings to be issued and communities to respond. Although this may result in relatively small tsunamis of 1-2m height in NWIO, these waves can generate powerful currents and surges of water that can take lives and damage critical infrastructure, such as fishing villages, ports and harbours, therefore also causing significant economic impacts.

A second major objective of this UNESCAP project has been the development of tsunami hazard maps for the region (hazard probability and hazard zones). These are based on identification of possible sources and the modelling of the tsunami propagation throughout the region. The proposed next phase of the project aims to determine the potential inundation levels along the coastlines, which also aid the development of evacuation maps for vulnerable communities. Along with exposure maps (vulnerable populations and critical infrastructure), hazard and inundation maps will help provide an overview of the overall risk for each country’s coastal areas. Areas of high risk can then be identified and used to prioritise mitigation measures. The high-risk areas are characterized by a high probability of a tsunami and a low evacuation capability of the population. People in high-risk areas may not be able to reach a safe place during a tsunami event.

### **Session 3: Tsunami Warning Systems in the North-West Indian Ocean**

In his presentation to introduce into the tsunami warning systems serving the North West Indian Ocean (NWIO), Mr. Rick Bailey explained about the institutional frameworks in the context of the mandate given by the United Nations to the IOC to set-up regional tsunami warning systems covering the different ocean basins across the world where a tsunami threat exist. Prior to the devastating Indian Ocean Tsunami of 2004, there was no tsunami warning system in the Indian Ocean. He detailed the development and current status of the IOTWMS, including how Tsunami Service Providers (TSPs) in Australia, India, and Indonesia now provide tsunami threat information during an event to the NTWCs set-up in the 28 countries participating in the IOTWMS. These countries may then also include information from their own scientific analyses of the threat to assist in the development and dissemination of national tsunami warnings.

Major Indian Ocean wide exercises of the IOTWMS are carried out every 2 years to ensure communication and warning systems are working, SOPs are tested, emergency response operations are in place. A Science Plan to further develop the IOTWMS and the other ocean basin tsunami warning systems is being developed as a contribution to the UN Decade of Ocean Science for Sustainable Development 2021 – 2030.

### **Session 4: National Tsunami Warning Chains and the role of the Media**

Using a graphic visualizing the set-up of a generic tsunami warning chain, Mr. Harald Spahn elaborated on the different actors involved, their specific role in the warning processes, the main flows of warning information and the timelines. He pointed out the strategic role of the broadcasting media in the warning chain as well as strengths, limitations and challenges to be considered. Broadcasting media can reach large parts of the population, act quickly, often (but not always) operate 24/7 and provide live updates, reliable and trusted, skilled in communication. But they can be affected by power outages in disaster situations and not effective during the night when people are asleep. Those that may operate 24/7, but only replay and repeat news segments at night may be disseminating old warning information that could be out of date and dangerous.

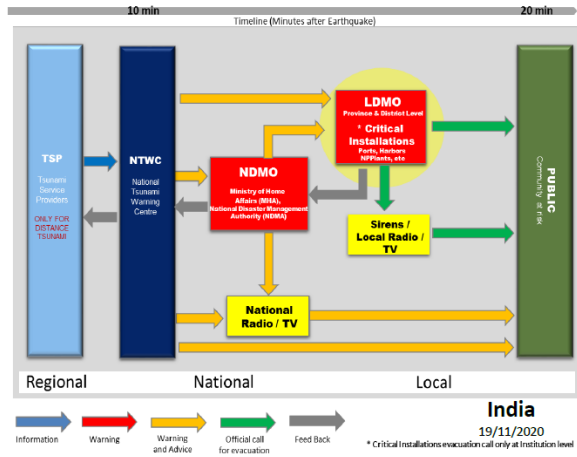
### **Session 5: Challenges and requirements for the media**

Ms. Natalia Ilevia from the Asia-Pacific Broadcasting Union (ABU) in her talk on the challenges and requirements for the media, advised that despite the fact that the involvement of media has been growing stronger since 2004, there is still a huge potential which hasn't yet been developed. She emphasized that focus must also be on the "quiet time" before a disaster occurs to help create awareness and knowledge among the population about the threat, but also to prepare the media themselves to play their role in the warning chain. This implies developing SOPs, conducting training, and also ensuring a resilient technical infrastructure is in place for broadcasting. Communication infrastructure may also be damaged if close to the earthquake or impacted by the tsunami. Mr. Anoop Khajuria (ABU) emphasized the role of the media as a bridge between warning providers and the public. He urged a shift of attention from the current focus of the media on reporting after a disaster has happened to a more holistic approach including being part of the warning of the event when it occurs. Regarding the warning process, he reminded the workshop to pay attention to critical points like the short timelines and the required permissions to act quickly during a warning situation. These constraints are very different to most other disasters.

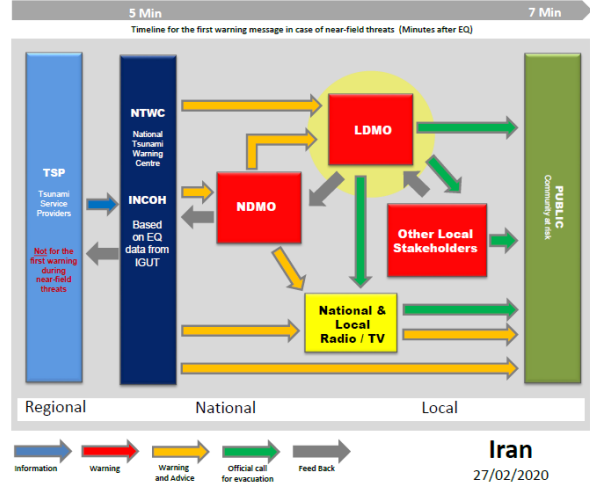
### **Session 6: National Tsunami Warning Chains**

Representatives of the five participating countries provided an update on the current status of the respective National Tsunami Warning Chains:

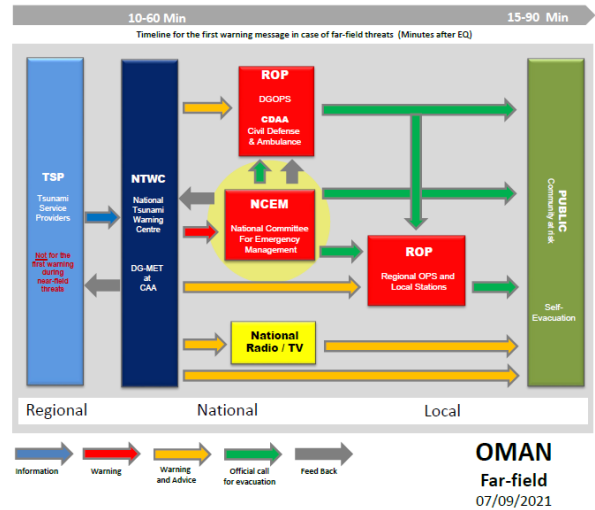
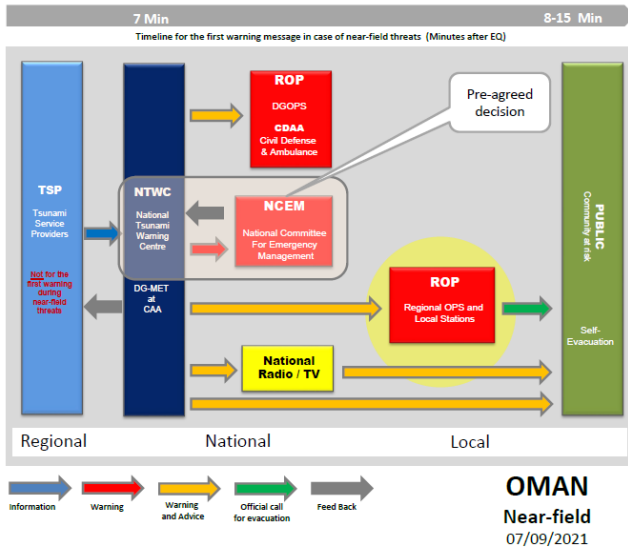
### India



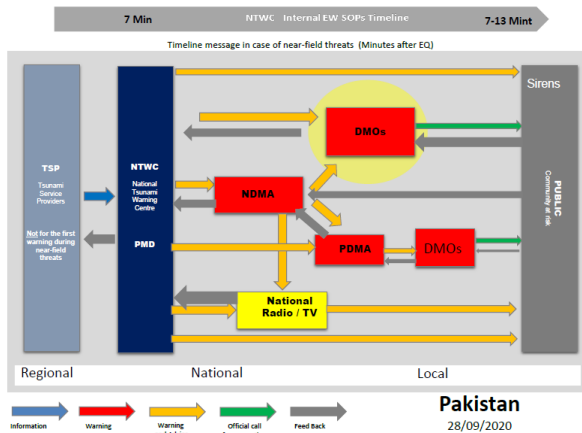
### Iran



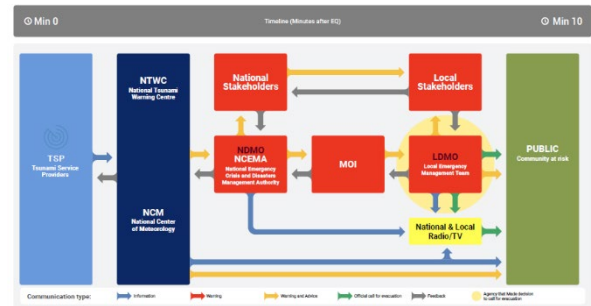
### Oman



### Pakistan



### UAE



It was noted that the national warning chains may look different in each country, due to different agencies having different legislated authority and different levels of capability, as well as the different complexity of national, provincial, and local disaster management arrangements. The role of the media is also included in diagrams demonstrating the different national tsunami warning chains.

### **Session 7: Integrated and timeline driven SOPs in National Tsunami Warning Chains**

Mr. Harald Spahn provided some conceptual information and considerations regarding the development of integrated and timeline driven Standard Operating Procedures (SOPs) in national tsunami warning chains. This included the provision of working definitions for the relevant terms and an outline of the concepts and role of SOPs along the warning chain. It was pointed out that SOPs need to be developed at institutional levels and that the information products by the individual institutions represent the main references to link these institutional SOPs to each other. SOPs need to be strictly followed to ensure complete and effective activity, regularly reviewed and tested. Staff must be trained and their competency at performing the activities (as per the SOP) routinely assessed.

Special attention was given to the timeline, which provides the time constraints to operate such SOPs. As tsunamis may arrive in minutes to hours, SOP timelines must be realistic and doable in the time available. Further, an example from Indonesia on Media SOPs was shared: [Indonesia tsunami early warning guidelines for broadcasting media](#)

### **Session 8: General Discussion and Closing Remarks for Day 1**

During the last session of Day 1, final preparations for the meetings to be conducted in India, Oman and Pakistan on the following Day 2 were discussed. Participants were briefed about the objectives and expected outcomes of these national meetings. The meetings on Day 2 were organized by the three hosting NTWCs and took place in their respective premises. Unfortunately, due to the constraints of the COVID epidemic, it was not possible for the NTWC in Iran to host an event. The NTWC in UAE already had a strong working relationship with the media. With some final remarks and a brief summary of Day 1, Mr. Rick Bailey closed the first day of the workshop.

## **Day 2**

### **Session 9: Meetings between NTWC and Media in India, Oman and Pakistan**

The meetings were held independently and without participation of the TTF Project team in the three countries. The meetings included a guided tour of NTWC with a demonstration of the warning process and explanation of the NTWC SOPs and products. A central topic was the explanation of the national tsunami warning chain and the role of Disaster management Offices (DMOs) at national and local levels, as well as the discussion on the role of media in the national warning process and options for concrete collaboration. Finally, a report back to the workshop on Day 3 was prepared.

## **Day 3**

### **Session 10: Report back from the visits to the NTWCs in the countries**

During this session, which was moderated by Ms. Nora Gale, all five participating countries reported back either on the visits of Media representatives to the NTWCs on Day 2, or on the current status of discussions and agreements on the role of media in the warning chain in the countries that did not conduct meetings on Day 2.

For **India**, a report was presented by Dr. P. Manas Krishnakant (Deputy Director, Press Information Bureau - PIB) and Ms. Laxmi (Correspondent, All India Radio - AIR). They informed the workshop about the discussion on the role of media in the phase before, during and after a disaster. The focus was on the national level. They pointed out that only the national broadcaster is allowed to release the first warning received from NTWC or NDMA in order to maintain the authenticity and reduce panic or fake news generation. Current limitations in the national broadcaster are related to the infrastructure and manpower, as well as a lack of proper specialized crisis communication training to the media personnel.



For **Oman**, Mr. Mohammed Al Yahamadi (Ministry of Information) explained the set-up of the existing Media SOP. He showed an example with a sequence of NTWC warnings for a selected scenario, the respective role of the Ministry of Information, as well as the suggested wording for media announcements. He also informed that Cell Broadcasting will be an important channel to disseminate warnings to the public.



For **Pakistan**, Ameer Hyder (Pakistan Meteorology Department) of the NTWC informed that the meeting in Karachi was successful and a number of media broadcasters participated. Among the eight participating broadcasters there was one national TV (PBC), while the others represented private broadcasting companies. As it was the first time that the participants have been in contact with the NTWC, the meeting was mainly used to inform them about the center's role and the tsunami warning processes and products. Ms Natalia Ilieva (ABU) commented that FM radio is mainly used by much of the population in Pakistan as the main source of information and therefore could be key in disseminating tsunami warnings.



For the **UAE**, Mr. Askar Al Breiki (National Centre of Meteorology) of the NTWC gave a presentation on the role of the media and the NTWC procedures. He emphasized the role of the media is a strategic partner in delivering the information to the community, as well as a key player during warning and awareness campaigns. As part of the organized media the National Council of Media and the Emirates News Agency "WAM" are key players. He pointed out that for most people in the UAE handheld devices and social media are the main source of information and an efficient way to reach the public. Regarding the procedures in the national tsunami warning chain, he explained the sequence of activities to be conducted by the personnel in charge and the contents of information and warning messages to be send out.

For **Iran**, Dr. Ali Koshkholgh (Iranian National Institute for Oceanography and Atmospheric Science) of the NTWC informed the workshop that there hasn't been any activity to involve media in the warning chain conducted as yet, but that he is confident to be able to present some progress during the next Media-SOP workshop. The Covid situation in Iran also made it difficult on this occasion to hold an on-site meeting.



## Session 11: Outline working process to draft Media SOPs and support required

Mr. Harald Spahn informed the workshop about the follow-up process in the period until the 2<sup>nd</sup> Media SOP workshop, which is planned to be implemented in October. This period should be used to develop SOPs for the media in the countries which do not yet have such SOPs and to improve or enhance them in the other countries. The main reference for the SOP development is the warning sequences and warning products from the NTWC, as well as the timelines. The results will then be presented at the next workshop. He also pointed out that in the relatively short period of time until then, it will certainly not be possible for everyone to develop these SOPs in full, but that it will be important to have some progress to be presented. This can then be discussed and improved if necessary. The project team will be available to support the participants with methodological advice and back-stopping on demand.

Representatives from the five countries briefly informed the workshop about their planned activities until the 2<sup>nd</sup> workshop. **India** informed that they aim to present draft Media SOPs in the next workshop. **Iran** plan to conduct a national meeting with media representatives to inform them on the national tsunami warning chain and discuss the role of media in the warning process. As **Oman** already has media SOPs in place, they will conduct an exercise to test the procedures and report on this at the next workshop. Further, it is intended to involve private media via the Ministry of Information. In **Pakistan**, participants from the meeting at the NTWC already decided on Day 2 that they will meet again in the following week to continue the discussion. **UAE** already holds regular meetings with media representatives and will follow-up with the drafting process of media SOPs.

## Session 12: Discuss preparation of the second Media SOP workshop and Next Steps

Participants requested the 2<sup>nd</sup> workshop be scheduled at the latest possible date before the project ends, as this would give the maximum time to the participating countries to work on the SOP development and achieve progress. As this second regional workshop cannot be implemented as a face-to-face meeting, it is considered to do it again in a blended format consisting of virtual regional sessions and in-country meetings with physical presence of the participants.

## Session 13: Closing remarks

As part of his closing remarks, Mr. Rick Bailey as Head of ICG/IOTWMS Secretariat, summarized the key points of the three day workshop as follows:

Tsunami warning chains and SOPs:

- Tsunami warning chains are only as strong as the weakest link
- NTWCs, DMOs and Media need all work together to deliver warnings and advice to the public
- Tsunamis may arrive in just minutes to a few hours... SOPs are essential to ensure best practice is followed in times of extreme urgency
- SOPs must be practical with short timelines
- SOPs need to be regularly tested, reviewed and updated
- Staff using the SOPs need to be trained and competency tested routinely
- Staff and management at all levels in the organisation need to have specific SOPs
- SOPs must be regularly tested for effectiveness and ability to deliver timely warnings

Warning messages:

- Warning messages should be sourced from the national authorities and no possibility of “fake news”, uninformed news, or out-of-date warnings
- Warning messages must be concise and clearly advise what it is the communities need to do to survive the tsunami threat... action orientated

- No tsunami threat messages also important
- Warning messages must be delivered in the appropriate range of languages, including sign language.
- Warning messages and Holding Statements should be templated before events, covering all scenarios including while waiting updates
- Warning messages should adopt the Common Alerting protocol (CAP) to be interoperable
- Contact details must be kept up-to-date

#### Media Infrastructure:

- Media centres must be truly 24/7 and not just replay old news overnight
- Media centres and communication infrastructure need to be resilient in times of natural disasters... infrastructure, redundant communications, personnel available, transportation
- Need use broadcast and social media
- Use cell-broadcasts where possible to alert people directly, including wake up function at night.
- Need to have as many as possible media institutions involved

#### Stakeholder engagement:

- Need sensitise all stakeholders (within and across organisations and institutions) before an event to help understand the gravity of the event
- All stakeholders need to be aware of the extremely short timelines and need to react quickly.
- Media have important role with community education prior to events
- Popularise nomenclature associated with tsunami and associated events
- Avoid politicising the event



## AGENDA

### **Day #1: Tuesday 7<sup>th</sup> September**

Chair: Rick Bailey

Time	Agenda Item (Speaker/Lead)
0700 – 0730 UTC	1. Opening <ul style="list-style-type: none"> <li>• Welcome remarks (Head of ICG/IOTWMS Secretariat Mr. Rick Bailey)</li> <li>• Background (Ms. Nora Gale)</li> <li>• Objectives of Workshop, UNESCAP Project Team, Mr. Harald Spahn</li> </ul>
0730 – 0745 UTC	2. Tsunami hazard in the Makran Region (Dr. Mohammad Mokhtari/ Mr. Rick Bailey)
0745 – 0800 UTC	3. Tsunami Warning Systems serving the North West Indian Ocean (NWIO) (Mr. Rick Bailey)
0800 – 0815 UTC	4. National Tsunami Warning Chains and the role of the Media (Mr. Harald Spahn)
0815 – 0845 UTC	5. Challenges and requirements for the media (Ms. Natalia Ilevia, Mr. Anoop Khajuria, ABU)
0845 – 0915 UTC	6. National Tsunami Warning Chains (5 mins each by national representatives) <ul style="list-style-type: none"> <li>• India</li> <li>• Iran</li> <li>• Oman</li> <li>• Pakistan</li> <li>• UAE</li> </ul>
0915 – 1000 UTC	7. Integrated and timeline driven Standard Operating Procedures (SOPs) in National Tsunami Warning Chains (Mr. Harald Spahn) <ul style="list-style-type: none"> <li>• Introduction and concept</li> <li>• Timelines</li> <li>• Examples</li> <li>• Challenges and issues to consider</li> </ul>
1000 – 1030 UTC	8. General discussion and closing remarks for Day #1 (Mr. Rick Bailey / Ms. Nora Gale)

### **Day #2: Wednesday 8<sup>th</sup> September**

Visit of Media representatives to NTWC offices in India, Pakistan and Oman organized by:

- India – Ajay Kumar Bandela, INCOIS, [ajay@incois.gov.in](mailto:ajay@incois.gov.in)
- Oman – Khalid Al-Wahaibi, DGMet, [k.alwahaibi@met.gov.om](mailto:k.alwahaibi@met.gov.om)
- Pakistan – Ameer Hyder, PMD, [free2hyder@yahoo.com](mailto:free2hyder@yahoo.com)

Time	Agenda Item
0700 – 1100 UTC To be confirmed	9. Guided tour of NTWC (NTWC representatives) <ul style="list-style-type: none"> <li>• Demonstration of warning process</li> <li>• Explanation of NTWC SOPs and products</li> <li>• Explanation of the national tsunami warning chain and the role of Disaster management Offices (DMOs) at national and local levels</li> <li>• Discuss the role of media in the national warning process and options for concrete collaboration</li> <li>• Agree on the report back to the workshop on Day #3</li> </ul>

### **Day #3: Thursday 9th September**

**Chair: Rick Bailey**

<b>Time</b>	<b>Agenda Item (Speaker/Lead)</b>
0700 – 0830 UTC	10. Report back from the visits to the NTCs in the countries (Ms. Nora Gale) <i>India, Iran, Oman, Pakistan, Iran, UAE to provide a 10-minute presentation.</i> <ul style="list-style-type: none"><li>• Process undertaken</li><li>• Agreed role of the media</li><li>• Issues discussed and any questions arising</li></ul>
0830 – 0915 UTC	11. Outline working process to draft Media SOPs and support required (Mr. Harald Spahn)
0915 – 0945 UTC	12. Discuss preparation of the second Media SOP workshop and Next Steps (Mr. Rick Bailey)
0945 – 1000 UTC	13. Closing remarks Head of ICG/IOTWMS Secretariat, Mr. Rick Bailey

## **EVENT WEBSITE**

Workshop information, including all presentations, are made available on the event website:

<https://oceanexpert.org/event/3269>.

## **PARTICIPANTS**

### **India**

Col. Nadeem Arshad, National Disaster Management Authority  
Mr. Ajay Kumar Bandela, Indian National Centre for Ocean Information Services  
Col. Dheeraj Chandola, National Disaster Management Authority  
Dr. Sudheer Joseph, Indian National Centre for Ocean Information Services  
Dr. Manas Krishnakant, Regional Outreach Bureau  
Mr. Ch. Patanjali Kumar, Indian National Centre for Ocean Information Services  
Mr. Nagaraja Kumar, Indian National Centre for Ocean Information Services  
Mrs. Lakshmi M., All India Radio  
Ms. V. Sunanda Manneela, Indian National Centre for Ocean Information Services  
Mr. Abhishek Shandiyaa, National Disaster Management Authority

### **Iran**

Dr. Ali Khoshkhologh, Iranian National Institute for Oceanography and Atmospheric Science  
Dr. Mehdi Masoodi, University of Hormozgan  
Dr. Mohammad Mokhtari, International Institute of Seismology and Earthquake Engineering  
Mr. Mohammad Hossien Nemati, Ports and Maritime Organization

## **Oman**

Mr. Hisham Al-Bulushi, Royal Oman Police  
Mr. Abdulaziz Saud Sulaiman Al Dighaishi, Royal Oman Police  
Mr. Ali Alfarsi, Civil Defence and Ambulance Authority  
Ms. Noura Alkaabi, Directorate General of Meteorology and Air Navigation  
Mr. Suliman Al-Hamrashdi, National Committee for Emergency Management  
Mr. Said Abdullah Al-Harthy, Directorate General of Meteorology and Air Navigation  
Mr. Ali Alkasbi, Royal Oman Police  
Dr. Juma Almaskari, Directorate General of Meteorology and Air Navigation  
Mr. Khalid Ahmed Alwahaibi, Directorate General of Meteorology and Air Navigation  
Mr. Mohammed Al Yahmadi, Ministry of Information

## **Pakistan**

Mr. M. Waqar Bhatti, The News  
Ms. Hina Deedar, ARY News  
Mr. Ameer Hyder, Pakistan Meteorological Department  
Mr. Tariq Ibrahim, Pakistan Meteorological Department  
Mr. Syde Shujaat Sahib, Sindh Provincial Disaster Management Authority  
Mr. Zameer Shah, PTV  
Mr. Syed Sibte Hassan Rizvi, Hum News  
Ms. Mona Siddiqui, Neo News  
Ms. Uneeba Waqar, Geo News

## **United Arab Emirates**

Mr. Askar AlBreiki, National Center of Meteorology  
Mr. Khalifa Al Ebri, National Center of Meteorology  
Mr. Ali Megahed, National Center of Meteorology

## **Invited Experts**

Ms. Natalia Ilieva, Asia Pacific Broadcasting Union  
Mr. Anoop Khajuria, Doordarshan News  
Mr. Harald Spahn, Independent Consultant, Germany

## **United Nations**

Mr. Rick Bailey, UNESCO-IOC  
Ms. Ingrid Dispert, UNESCAP  
Ms. Nora Gale, UNESCO-IOC  
Mr. Naeem Iqbal, UNDP-Pakistan  
Ms. Mehrasa Mehrdadi, UNESCO Tehran Office