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Session 8.2 Tsunami Warning Chains & SOP Development

Harald Spahn

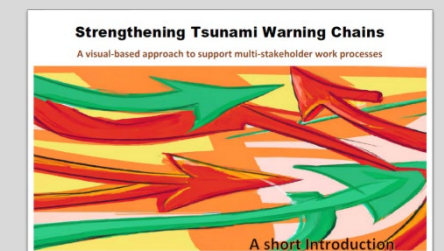
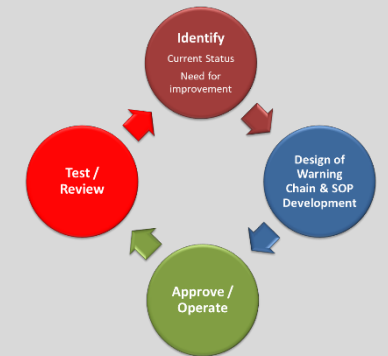
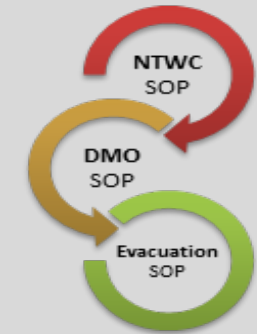
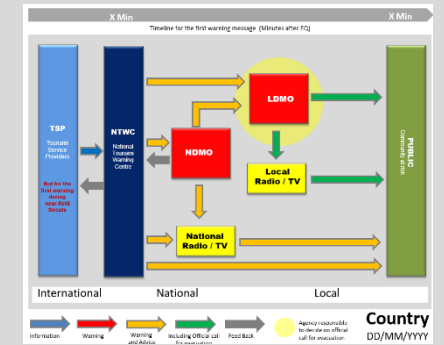
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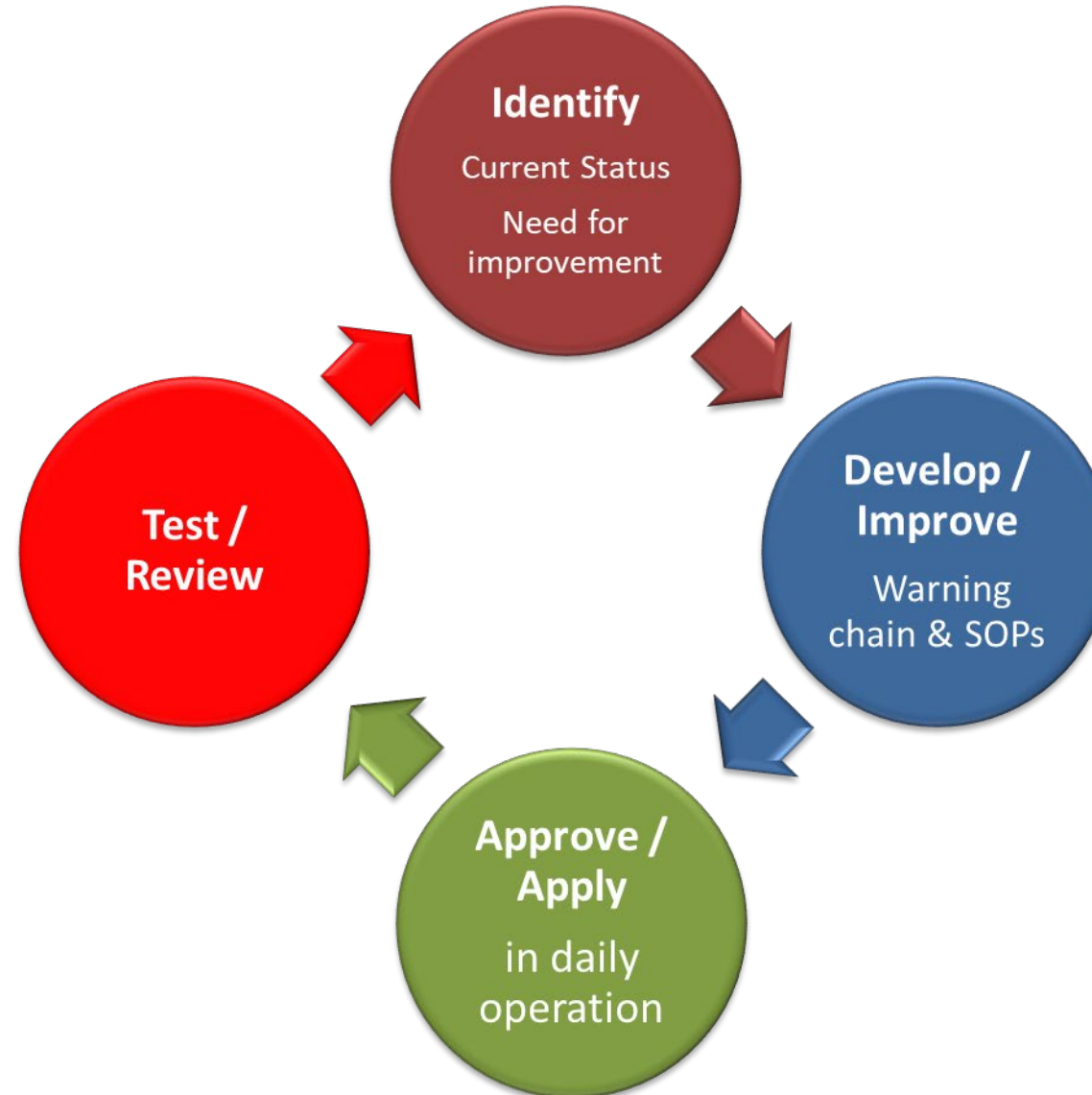
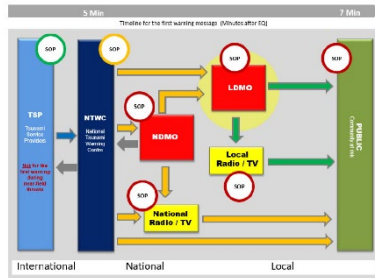
19th Meeting of ICG/IOTWMS Steering Group, Jakarta, 17-19 June 2025

The Big Picture

1. Importance of well-designed **warning chains** for a functioning end-to-end warning system → **further clarification / fine-tuning recommended in some MS**
2. To operate the warning chain, **timeline-driven and integrated SOPs** are essential → **Deficiencies observed in N/P/LDMO and Media SOPs - a topic in nearly all MS**
3. Warning chains & SOPs need to be tested and updated on a regular basis for **continuous improvement** → **Use the biannual IOWave exercises for this**
4. The **ICG IOTWMS** plays an important role to **support Member States** on this (concepts, tools, training, exercise) → **continue support, provide inputs to MS**

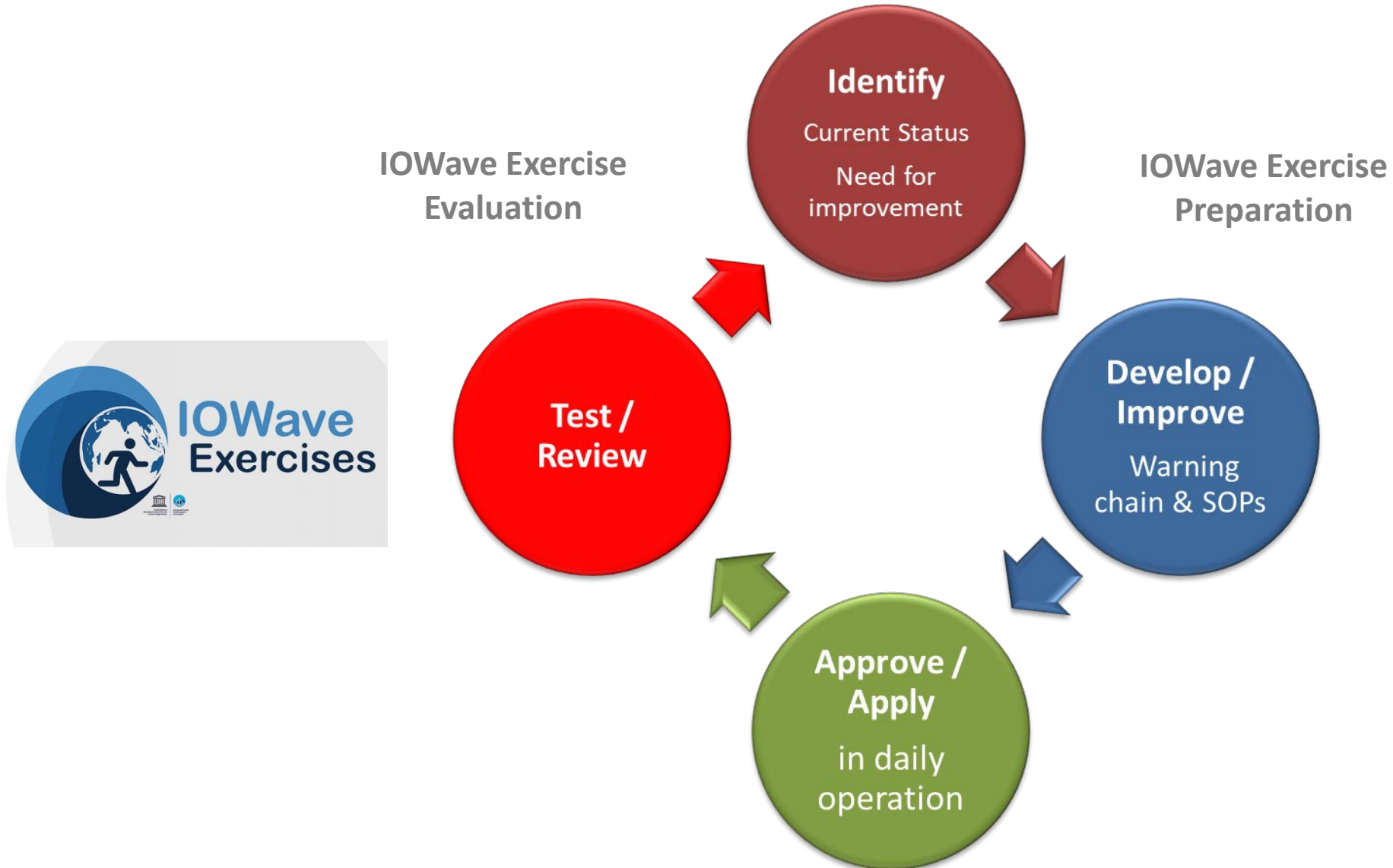


Warning chains and SOPs should be tested, revised and improved by the Member States at regular intervals

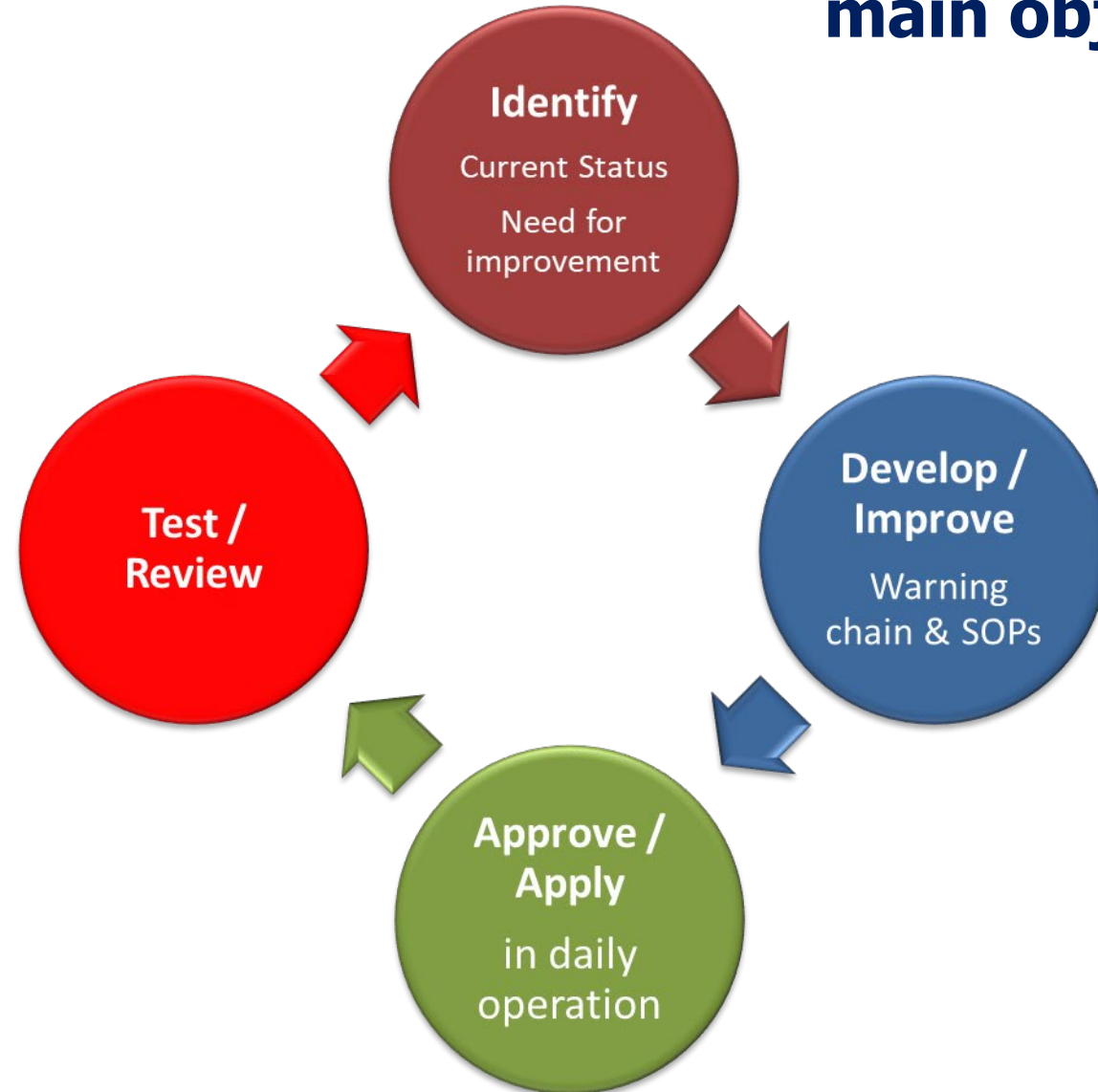
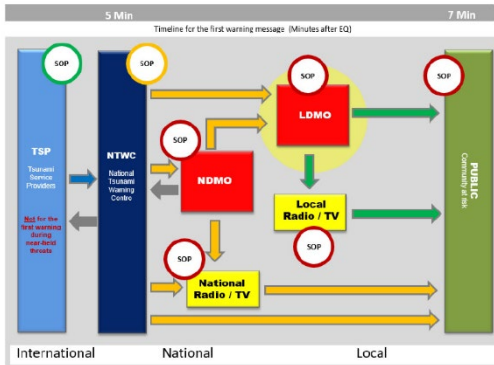


Cycle for continuous improvement

IOTWMS can support MS by integrating such reviews as a regular part of the IOWave exercises and providing the necessary guidance



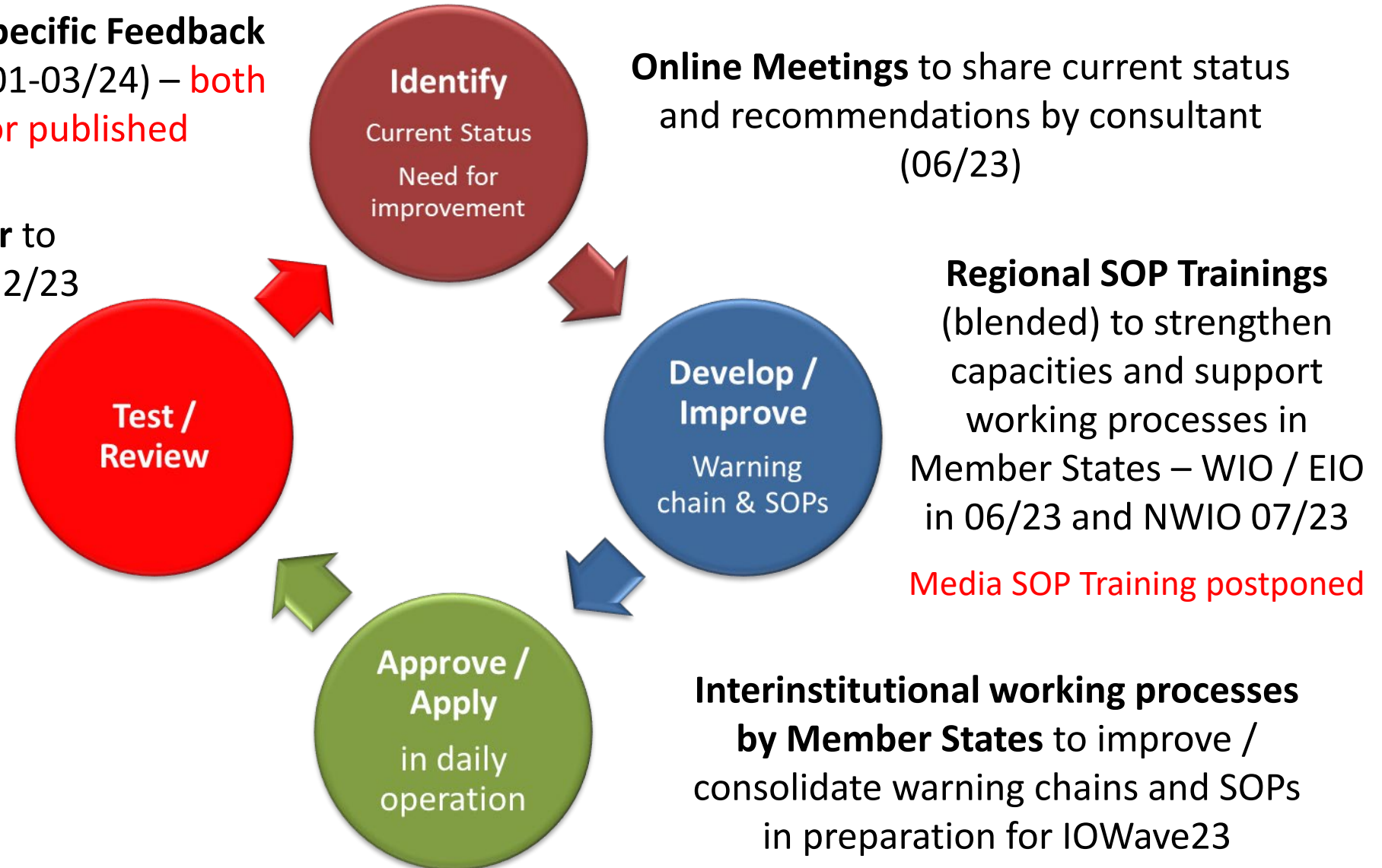
Ultimately, this would also strengthen IOWave, because testing the warning processes and SOPs along the warning chains is one of the main objectives of IOWave



ICG IOTWMS Working Process in 2023 / 2024

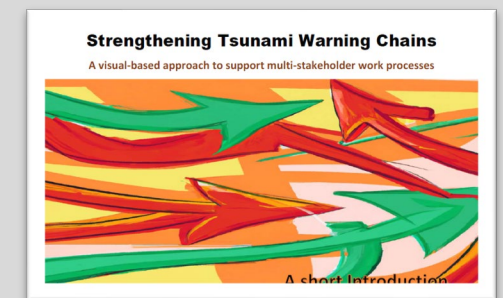
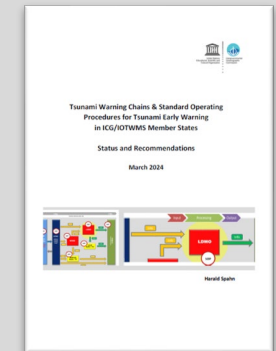
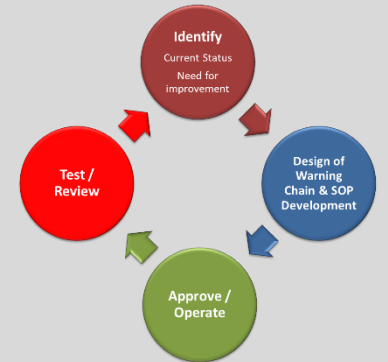
Status Report and Specific Feedback for Country Teams (01-03/24) – both not yet shared or published

Post-IOWave Webinar to discuss lessons learnt 12/23



How to move on in 2025?

1. Promote and support the **continuous improvement** of warning chains and SOPs by MS (→ **WGs, Secretariat**) and integrate it strategically in the preparation, implementation and evaluation of **IOWave25** (→ **TT IOWave25**)
2. Share already developed references to MS: i.e. **Status Report** and **Specific Feedback for Country Teams** (latter on a individual basis) (→ **WG, Secretariat?**)
3. **Publication of booklet** on the visual based approach as a tool to strengthen tsunami warning chains as IOC UNESCO document (→ **WG, Secretariat?**)

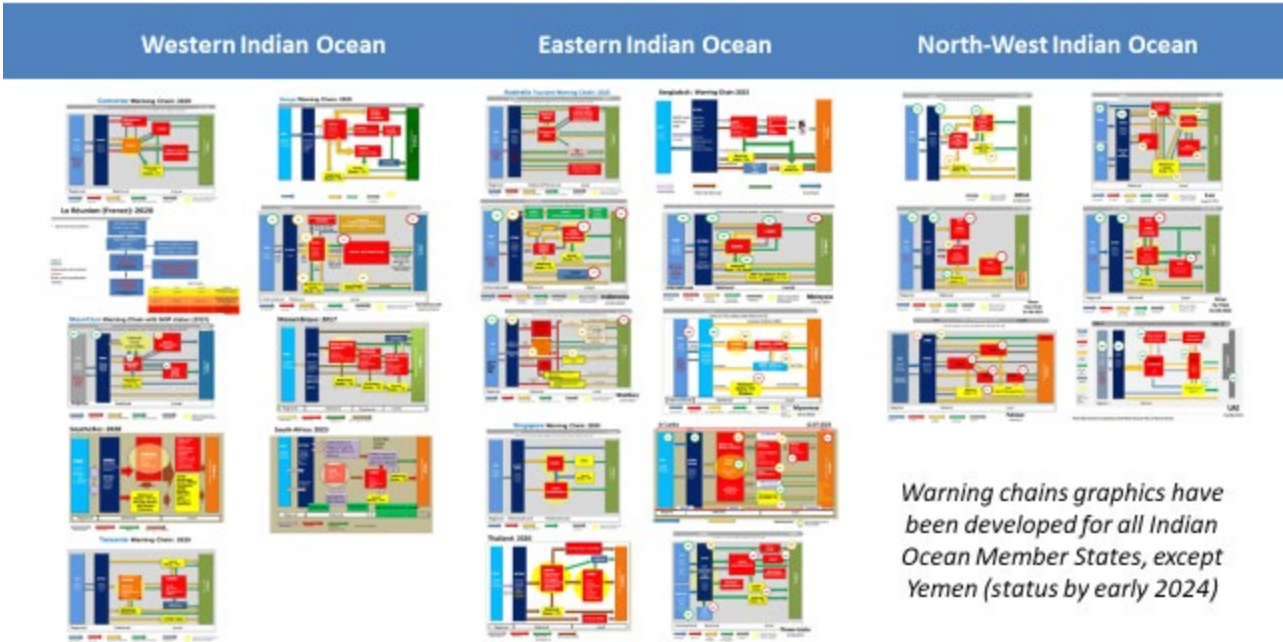
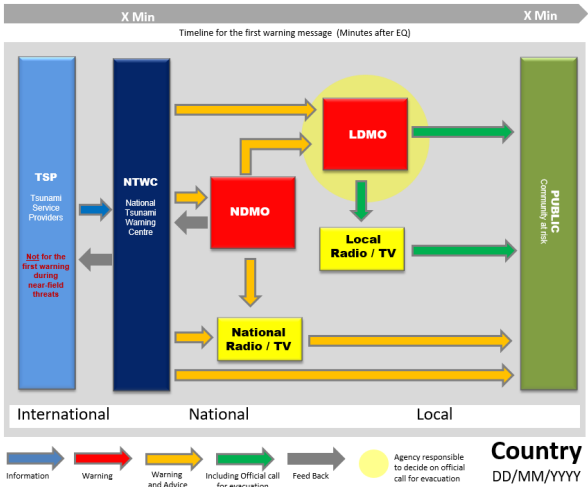


Graphics as a tool to work on Tsunami Warning Chains and SOP Development

*This is how it started in the
SOP Workshop 2011 in
Jakarta...*



*...and this is the template
we use nowadays*



Warning chains graphics have been developed for all Indian Ocean Member States, except Yemen (status by early 2024)

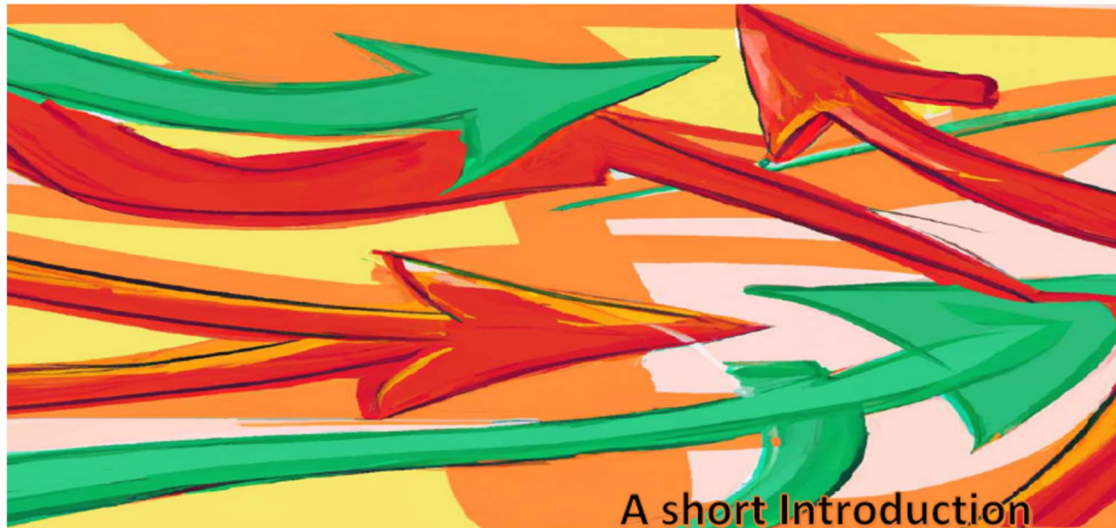
Warning chains and SOPs have so far been designed exclusively for seismically induced tsunamis. Possible non-seismic events still need to be taken into account

...applied by all Member States, except Yemen

A short booklet to share the concept and experience of the visual based approach to strengthen tsunami warning chains – *ready for publication*

Strengthening Tsunami Warning Chains

A visual-based approach to support multi-stakeholder work processes

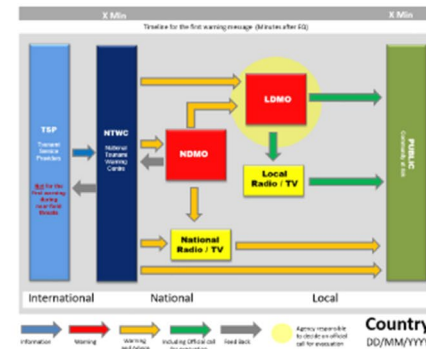


A short Introduction

Ensure that it is consistent and easy to understand

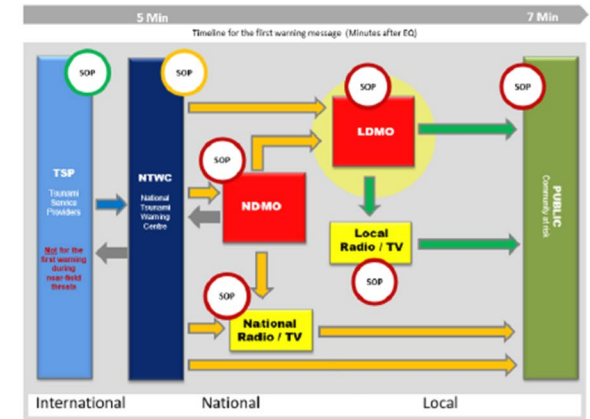
A good visualisation of the warning chain should be **self-explanatory**. Make sure that flows and colour codes are consistent. If an external person can read the warning chain correctly, everything is ok

How does it work?



Shows that this is the most important and usually the most time-consuming part of the process. The responsibilities and the agreement on a short practicable solution are the main focus here.

Warning Chain



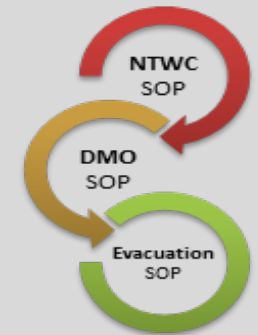
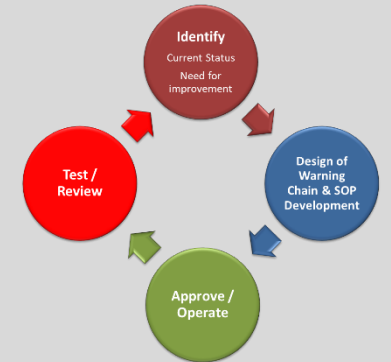
of the status of SOP helps to monitor the warning chain and for improvement

is needed. A simple set of colour codes provides a quick overview.

graphic

Beyond 2025?

1. **Systematization of learnings from IOWave25** to further support the **continuous improvement** of warning chains and SOPs
2. Support the development of **N/P/LDMO and Media SOPs** (through piloting, maybe as part of the 2026 support?). Share sound and proven DMO SOPs among Member States
3. **Continue the joint learning** in groups of Member States from geographical regions with similar tsunami threat and warning requirements (EIO, WIO, NWIO)





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THANK YOU