

India Report on Tsunami Warning Chain & SOPs

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Indian National Centre for Ocean Information Services (INCOIS)

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North-Western Indian Ocean Member States Training Workshop

Review Standard Operating Procedures (SOPs) and

Tsunami Service Provider (TSP) Products in

Preparation for Exercise IOWave23

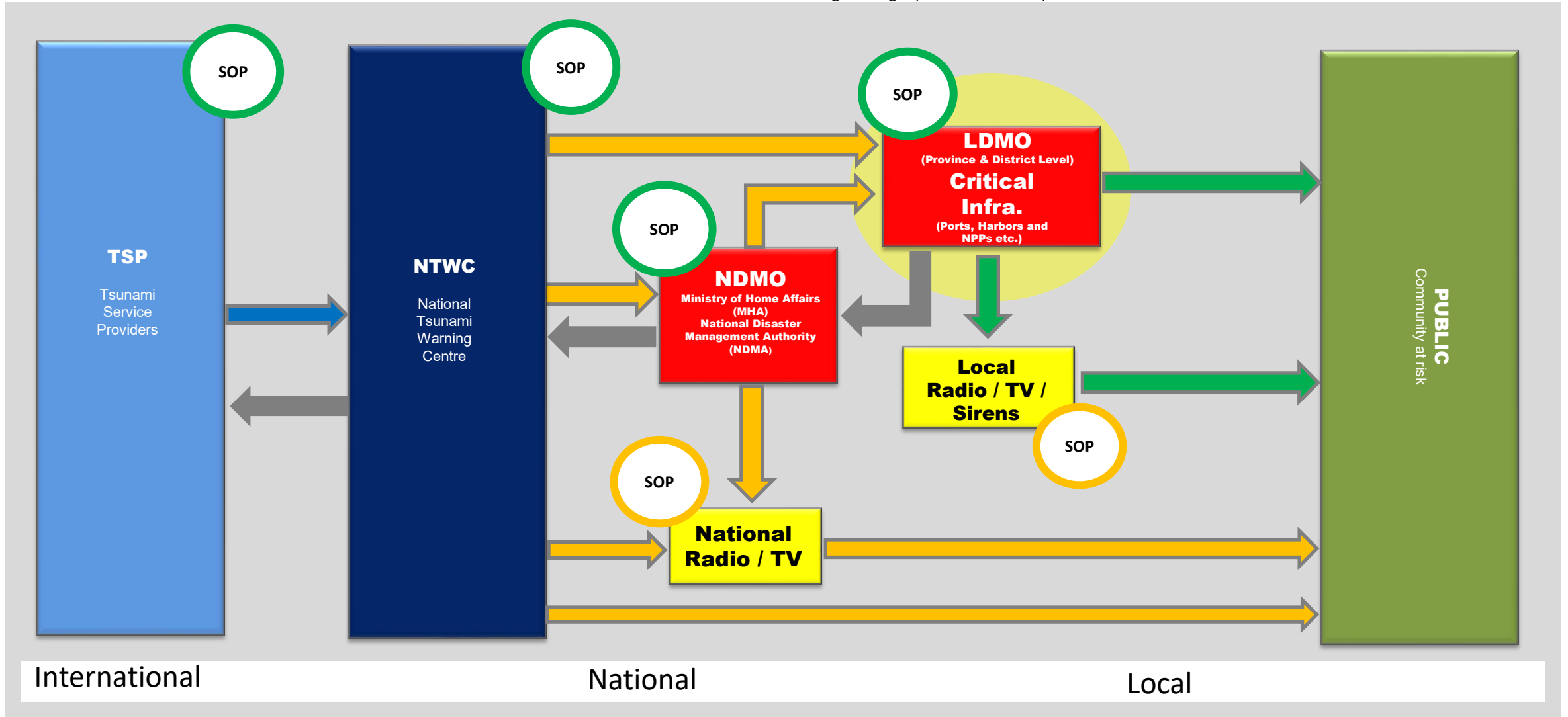
7-8 August 2023

Tsunami Warning Chain

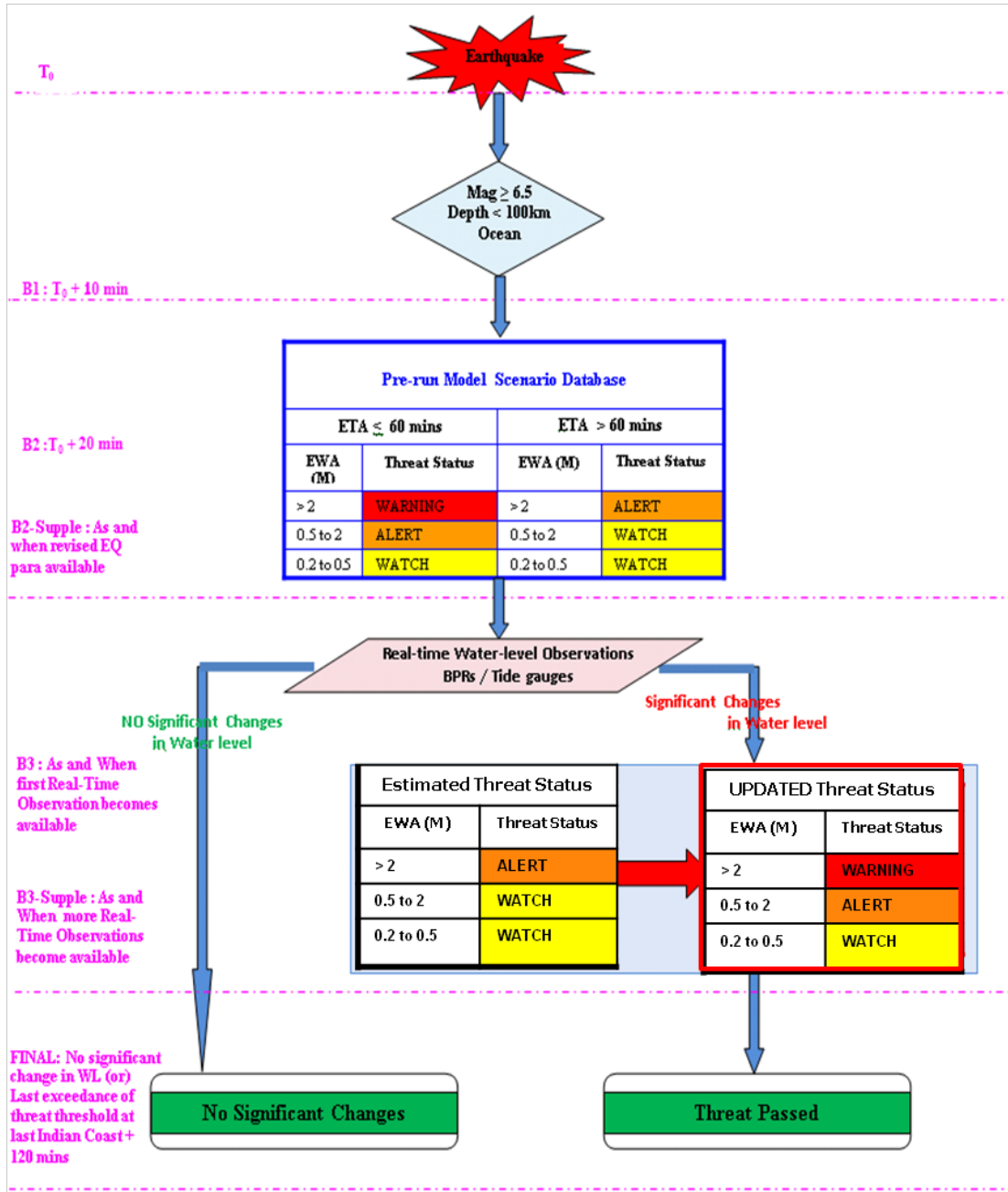
10 Min

20 Min

Timeline for the first warning message (Minutes after EQ)



Standard Operating Procedure of NTWC

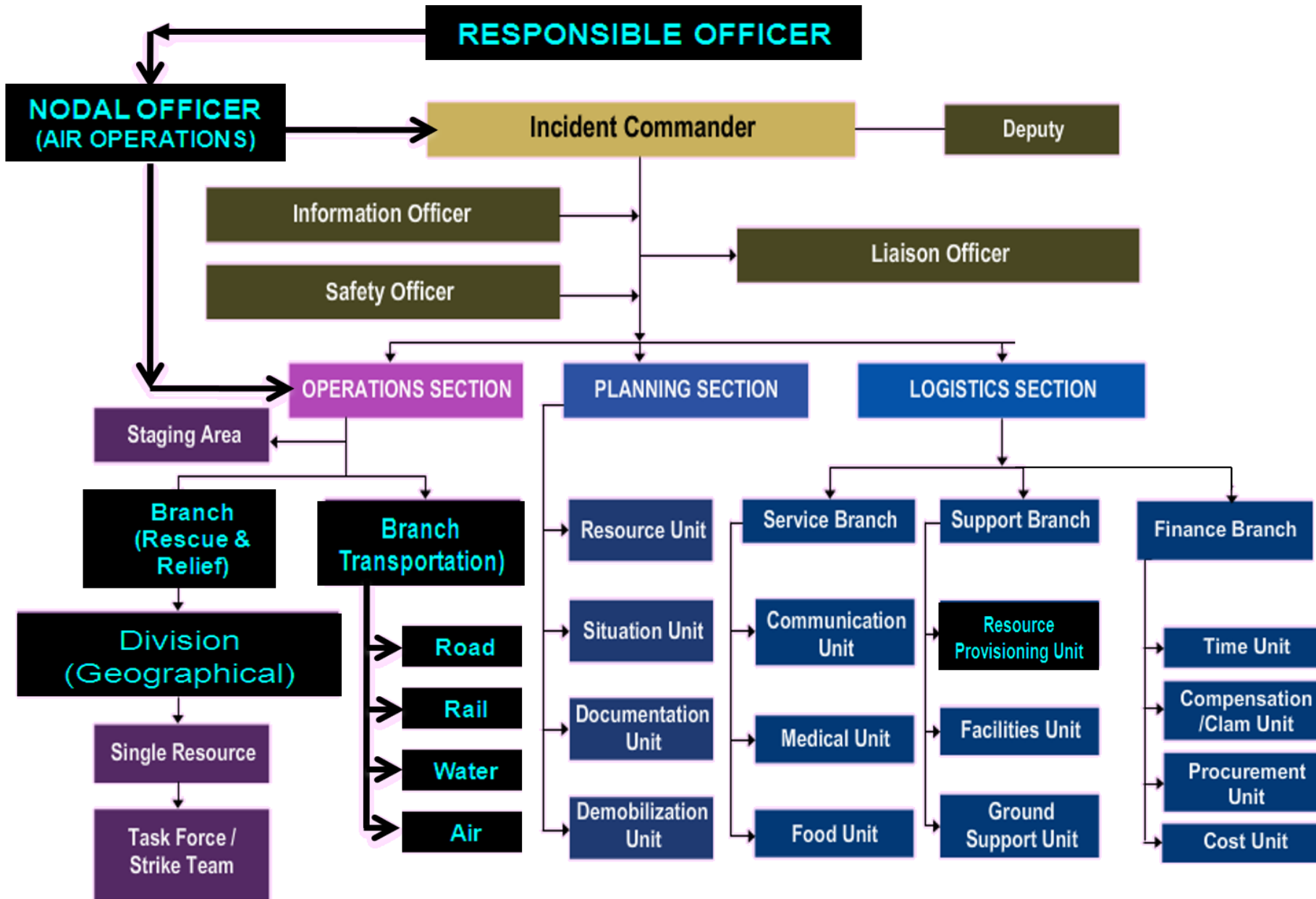


- The Indian Tsunami Early Warning Centre (ITEWC) services for an event commence whenever an earthquake is recorded with $M \geq 6.5$ within the Indian Ocean and $M \geq 8.0$ outside of the Indian Ocean
- Uniquely designed SOP for generation of timely and accurate tsunami bulletins to handle both near-source and far-source coastal regions
- Based on proximity of a coastal zone to the tsunamigenic earthquake source regions and Expected Wave Heights from Models
- 4 Threat Levels corresponding to different public responses and mapped to [NDMA guidelines](#)

SOP – Public Response and Threat Levels in Bulletins

Threat Status	Action to be taken	Dissemination to	Threat Status	Icon
WARNING	Public should be advised to move inland towards higher grounds. Vessels should move into deep Ocean	MoES, MHA, NDMA, NCMC, NDRF Battalions, SEOC, DEOC, Public, Media	WARNING	
ALERT	Public should be advised to avoid beaches and low-lying coastal areas. Vessels should move into deep Ocean	MoES, MHA, NDMA, NCMC, NDRF Battalions, SEOC, DEOC, Public, Media	ALERT	
WATCH	No immediate action is required	MoES, MHA, NDMA, NCMC, NDRF Battalions, SEOC, DEOC, Media	WATCH	
THREAT PASSED	All clear determination to be made by the local authorities	MoES, MHA, NDMA, NCMC, NDRF Battalions, SEOC, DEOC, Public, Media	THREAT PASSED	

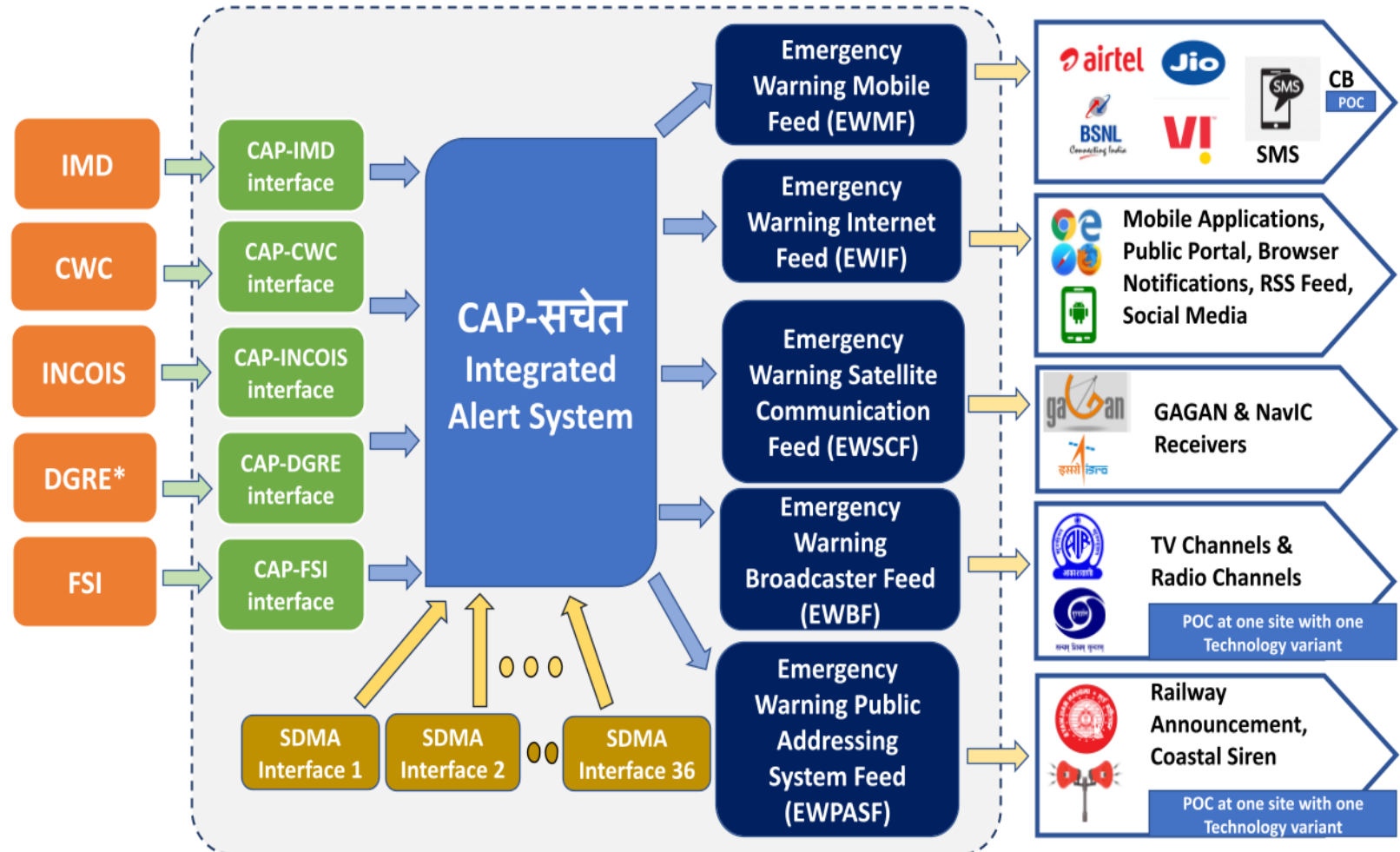
INCIDENT RESPONSE SYSTEM - NDMA



- NDMA's Incident response system (IRS) is in place to provide warnings to community at risk along with necessary procedures with specified roles & responsibilities and 24 X7 arrangements
- The role of the NDMA/SDMA in the warning process is to interpret warning messages from the NTWC (INCOIS), take decisions and prepare guidance messages to the LDMOs (District/UT Disaster Management Organizations) and Media.
- The LDMOs are in charge to decide and call on evacuations

Implementation of CAP in India

- Common Alerting Protocol(CAP) सचेत is an Integrated Alerting System for Disaster Management to warn the public regarding disasters and emergencies in targeted manner.
- Forecasting agencies can address public or the First Responders of a specific area simultaneously cover all media coverage (SMS, IVR call, TV, Radio, Siren, Road Signage, social media etc.) in vernacular languages

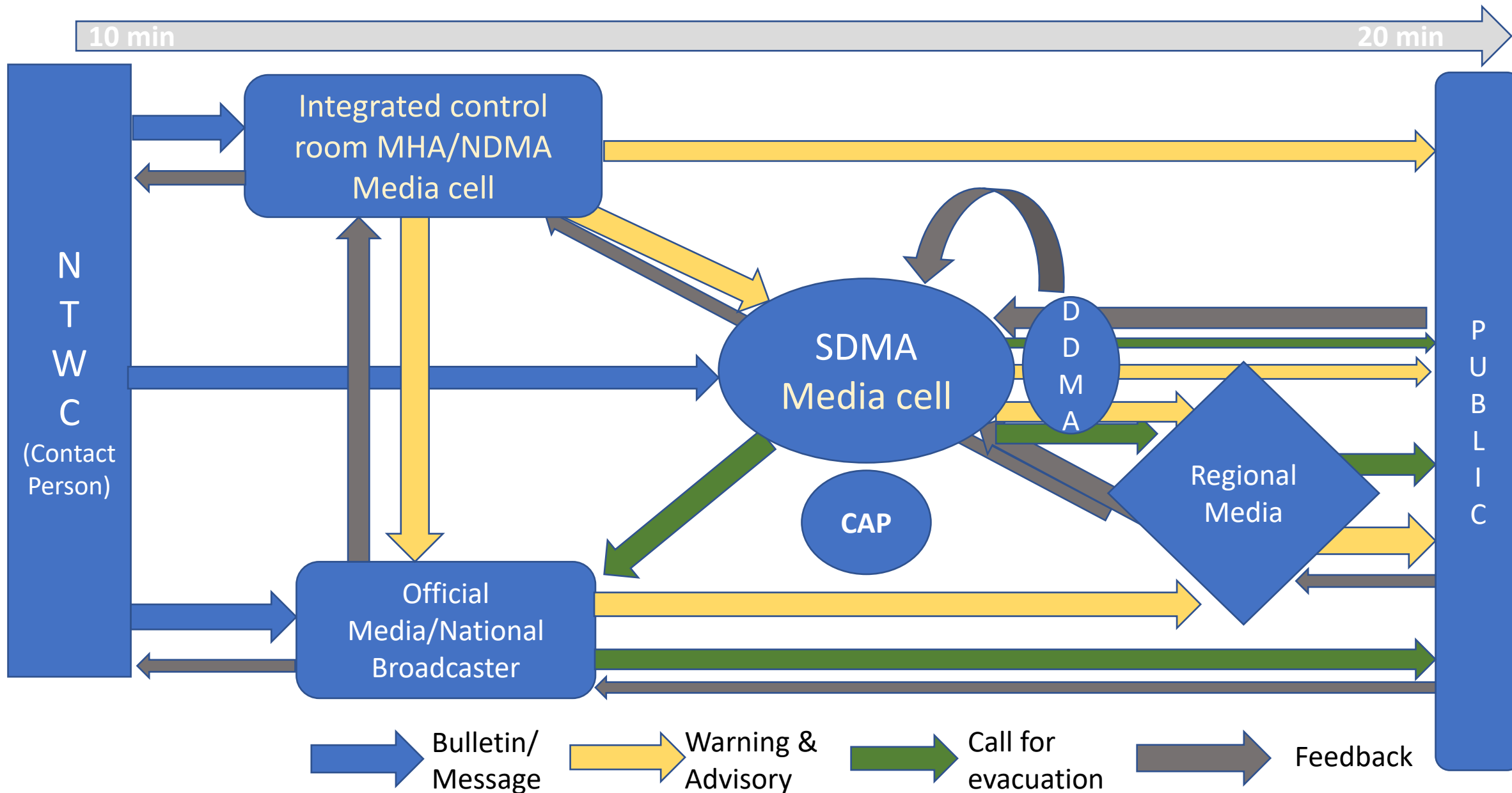


* SASE has been renamed as DGRE.

DDMO SOP

S No	Major theme	Nodal Central Agencies	State (in Consultation /Coordination with Central and State Level Agencies)	Responsibility – District (DDMA)
2	Early Warning, Maps, Satellite inputs, Information Dissemination	<p>Lead Agencies: IMD, CWC, INCOIS, SASE, GSI, BRO, MoIB, MoES, MoWR, MoAFW.</p>	<p>State Agencies: Tamil Nadu Government TNSDM Authority, Revenue and Disaster Management Department, Commissioner of Revenue Administration/State Relief Commissioner, TNSDM Agency, FES, Line Departments., Civil defence.</p>	<p>Agency - DDMA - District Disaster Management: District Revenue Administration, Disaster Management and Mitigation Department, Police, Fire Services.</p>
		<p>Support Agencies: SoI, NSRC, DoT, MHA, NDMA, MoCIT, Hazard specific nodal Ministries</p>	<p>Responsibilities:</p> <ul style="list-style-type: none"> To secure forecasts, alerts and early warnings. To secure Satellite imageries and other scientific methods for risk assessment, mapping & forecasting. Disseminate alerts, warning and information to Line Departments and DDMA to reduce loss of life and property. Compile data of equipments preparedness, etc., Issue Circulars for preparedness Facilitate dissemination of disaster risk with reputed information update to the general public through electronic & print media. Ensure Proper communication between State and National agency Ensure fail safe functionality and Secure critical instrumentation available at the vulnerable areas. Vulnerability profiling and Mapping. 	<ul style="list-style-type: none"> Identify very High, High medium low vulnerable area and prepare vulnerability map. To disseminate early warning signals to local Authorities, and the community in the vulnerable areas so as to reduce loss of life and reduce damages to property. Ensure appropriate compilation/ analysis of received data such as evacuation carried out damages caused etc. Report compiled data to CRA/SRC by the District Collector / Commissioner GCC.

Media Flow of Information during Crisis/Tsunami (draft)





unesco

Intergovernmental
Oceanographic
Commission

Thank you