Framework for Goals & Performance Monitoring

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Chair, Task Team for Goals & Performance Monitoring
A presentation to the 27th Meeting of ICG/PTWS, Tahiti, 28 – 31 March 2017
The TOWS-WG recommended the Assembly to instruct ICGs:


- The ICG/PTWS, in line with the IOC XXVII Assembly decision 8.2, to continue its work on the Key Performance Indicators to cover all aspects of the Tsunami Warning and Mitigation Systems, aligning as closely as possible with the Sendai Framework, and share it to the other ICGs for consideration by the Member States, and report back to TOWS XI with a view to establish global KPIs
Aims

• Document shared goals and desired outcomes
• Identify performance measures
• **Demonstrate and manage progress**
  • Identify gaps
  • Inform work of the ICG
  • Align with national & international priorities
• **Secure resources**
End-to-End System Elements

Three Pillars Medium Term Strategy

1. Risk Assessment
2. Detection, Warning & Dissemination
3. Disaster Management, Preparedness & Risk Reduction
Measurement & Assessment Framework for each element

- **Goals**
  - Longer-term aspirations

- **Outcomes**
  - Outcomes delivered over next 2-4 years

- **Output**
  - Activities to achieve outcomes

Set => TARGETS
Performance Measures

- For each goal and outcome need determine **Key Performance Indicators (KPIs)** to track progress

- Must set realistic **Targets**
Link Goals and Outcomes to:

1. International Frameworks
   ➢ e.g. Sendai Framework for Disaster Risk Reduction 2015-2030

2. Regional Programmes
   ➢ e.g. Pacific Risk Resilience Program

3. IOC Programmes
   ➢ e.g. Capacity Development

4. Projects
   ➢ E.g. Tsunami Evacuation Maps, Plans & Procedures (TEMPP)
Sendai 2015-30 Framework

Building on the Hyogo Framework for Action, the Sendai Framework aims to achieve the following outcome over the next 15 years:

*The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries*
Sendai 2015-30 Framework

The seven global targets are:

(a) Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015.

(b) Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared to 2005-2015.

(c) Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030.

(d) Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030.
Sendai 2015-30 Framework

Continued…

(e) Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020.

(f) Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this framework by 2030.

(g) Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030.
Sendai 2015-30 Framework

Priority 1: Understanding disaster risk
Priority 2: Strengthening disaster risk governance to manage disaster risk
Priority 3: Investing in disaster risk reduction for resilience
Priority 4: Enhancing disaster preparedness for effective response, and to “Build Back Better” in recovery, rehabilitation and reconstruction
Element Goals (aspirations)

1. Tsunami Risk Assessment
   
   *All countries assessed the tsunami risk to their coastlines*

2. Tsunami Detection, Warning & Dissemination

   *At risk coastal communities of all countries receive timely, accurate, reliable and effective warnings for all types of tsunamis*

3. Preparedness & Awareness

   *At risk coastal communities of all countries ready to respond effectively to tsunami threat*

4. International Coordination and Cooperation

   *Countries in a region and globally work together to detect tsunami threat and build capacity and capability to respond*
## Monitoring Framework

<table>
<thead>
<tr>
<th>ICG/PTWS End-to-End System Element</th>
<th>GOAL (LONGER TERM OUTCOME)</th>
<th>Pacific Tsunami Warning &amp; Mitigation System (PTWS)</th>
<th>GOALS and PERFORMANCE MONITORING</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUTCOMES (short, and intermediate term to 2021)</td>
<td>End of the outcome(s) - in this case, all are intermediate to longer term outcomes (ie not realised until 2-4 yrs, i.e. two inter-essional ICG periods) - we expect to be achieved realistically by 2021. The objectives link to other Project, Regional, Global (Sendai 2015 Framework) and IOC measures. Performance is monitored against these objectives/expected outcomes.</td>
<td></td>
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</tr>
<tr>
<td>Indicators (must be Specific, Measured, Attainable, Relevant and Timely - SMART)</td>
<td>Targets</td>
<td>Means of Verification (MOV)</td>
<td>Traffic Lights (Performance measure)</td>
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Monitoring Framework

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<td>End of the outcome(s) - in this case all are intermediate to</td>
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<td></td>
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Monitoring Framework

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<th>J</th>
<th>K</th>
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<tr>
<td><strong>Planning &amp; Mitigation System (PTWS)</strong></td>
<td><strong>Performance Monitoring</strong></td>
<td></td>
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</tr>
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**Longer term outcomes** (i.e., not realised until 2-4 yrs, i.e., two inter-sessional ICG periods) need to link to other project; regional; global (Sendai 2015 Framework) and IOC measures.

**Against these objectives/expected outcomes.**

<table>
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<tr>
<th>Activities (things we need to do to get the Output)</th>
<th>Assumptions and Risks</th>
<th>Data Collection Method (e.g., survey, questionnaire, interviews, FGDs)</th>
<th>Timing</th>
<th>Responsibility (who leads)</th>
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</table>

**Activities**

**Assumptions and Risks**

**Data Collection Method** (e.g., survey, questionnaire, interviews, FGDs)

**Timing**

**Responsibility (who leads)**
Tsunami Risk Assessment Outcomes

- Tsunami hazard zones are defined for each country
- Risk associated with tsunami hazard zones quantified for each country
- Information on tsunami hazard and risk publically available
Tsunami Detection, Warning & Dissemination Outcomes

- Earthquakes detected
- Tsunamis detected
- Tsunami threat information provided for all countries at risk
- National 24/7 capability to receive or generate tsunami threat information and issue tsunami warnings to coastal communities at risk
Preparedness & Awareness Outcomes

Readiness:
• Evacuation maps developed and displayed
• Publication education materials prepared
• Outreach activities delivered to communities
• Community exercises conducted

Response:
• Tsunami response plans established
• Emergency Operations Centres in place
• Multiple channels used to receive tsunami warnings
• Multi-channels used for public alerting systems
International Coordination and Cooperation Outcomes

• Enhanced capacity and capability to respond to tsunami threat
Example – 1) Tsunami Risk Assessment

Goal
• 1) All countries assessed the tsunami risk to their coastlines

Outcomes
• 1.1) Tsunami hazard zones are defined for each country

KPI = Hazard assessments undertaken
Target: By 2018

Output
• 1.1.1) Methodology for hazard zone mapping is established and available
Implementation

• **Implementation Plan** not updated for sometime, without major consequence

• Replace Implementation Plan with **PTWS Status Report** presented to each ICG:
  – compiled with input from all Working Groups
  – including information from **National Reports** providing required information using input from structured template
  – performance measured against ICG agreed performance indicators/targets

• **ICG Decisions, Recommendations, Requests, and Action Plans** for ICG Working Groups and Task Teams addressing any issues, gaps and identified enhancements addressing implementation needs.
# Key Performance Indicators

**AGREED by TOWS-WG**

## Tsunami Service Provider (TSP) Performance

<table>
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<th>No.</th>
<th>Key Performance Indicator</th>
<th>Target Value</th>
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<tr>
<td></td>
<td><strong>Earthquake Detection</strong></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Elapsed time of 1st (EQ) Bulletin for TSP Area of Service</td>
<td>10 minutes (when no coordination required between TSPs)</td>
</tr>
<tr>
<td>1.</td>
<td>Probability of Detection of EQ with basin-defined minimum magnitude threshold, in comparison with final estimate from USGS after one month</td>
<td>100%</td>
</tr>
<tr>
<td>1.</td>
<td>Accuracy of EQ parameters in comparison with final estimate from USGS after one month:</td>
<td>Magnitude: 0.3 Depth: 30 km Location: 30 km</td>
</tr>
<tr>
<td></td>
<td><strong>Threat Assessment</strong></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Elapsed time of issuing first threat assessment bulletin after EQ</td>
<td>20 minutes (when no coordination required between TSPs)</td>
</tr>
<tr>
<td>1.</td>
<td>Probability of detection of tsunamis above basin specific threat threshold</td>
<td>100%</td>
</tr>
<tr>
<td>1.</td>
<td>Accuracy of tsunami amplitude forecasts</td>
<td>factor of 2</td>
</tr>
</tbody>
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# Key Performance Indicators

**AGREED by TOWS-WG**

**Tsunami Service Provider (TSP)**

**Functional Status**

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<tr>
<td>1.</td>
<td>Operational 24 hours/day, seven days/week (24/7)</td>
<td>99%</td>
</tr>
<tr>
<td>1.</td>
<td>Notify TWFPs and NTWCs of planned major service changes</td>
<td>&gt; 3 months</td>
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<tr>
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<td>Notify TWFPs and NTWCs of planned major interruptions</td>
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<td>Return to service after planned interruptions</td>
<td>&lt; 1 day</td>
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<td>Return to service after unplanned interruptions in an event</td>
<td>&lt; 30 mins</td>
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Key Performance Indicators agreed by TOWS-WG

National Tsunami Warning Centre (NTWC) Functional Status

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<td>Notify authorities of planned service changes</td>
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<td>Return to service after unplanned interruptions</td>
<td>&lt; 30 mins</td>
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<tr>
<td>1.</td>
<td>Elapsed time of issuing tsunami warnings and other related statements according to SOPs</td>
<td>&lt; 10 mins after earthquake for local and 30 mins for regional tsunami threat to their country</td>
</tr>
<tr>
<td>1.</td>
<td>Notify IOC of changes to Tsunami Warning Focal Point information</td>
<td>&lt; 1 week</td>
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<tr>
<td>1.</td>
<td>Maintain an overlap period between the old TWFP contact information and the new TWFP contact information to allow time for the IOC and TSPs to implement the change</td>
<td>&gt; 3 months</td>
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Key Performance Indicators agreed by TOWS-WG

Tsunami Warning Focal Point (TWFP)
Functional Status

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<td>Elapsed time of disseminating TSP bulletins according to Standard Operating Procedures</td>
<td>&lt; 10 mins after TSP bulletin issuance for local and regional tsunami threat to their country</td>
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Ultimate Goal (Aspiration)

All countries recognised as "Tsunami Ready"
A dream becomes a goal when action is taken toward achieving it...
Task Team for Goals and Performance Monitoring recommends the ICG/PTWS:

- **Note** the development of a draft *IOC Framework for Goals and Performance Monitoring of Tsunami Warning & Mitigation Systems* and a new *National Report* template, which have been developed in consultation with the Steering Group of the ICG for the Indian Ocean Tsunami Warning & Mitigation System (IOTWMS) and the TOWS-WG.

- **Request** feedback on the IOC Framework from Member States at a Sessional Meeting at the 27th Meeting of the ICG/PTWS for subsequent consideration by the TOWS-WG in developing a harmonised and standardised framework for all ICGs to adopt, which may be tailored to meet individual ICG requirements.
Thank You!

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