PLENARY SESSION 7 – MONITORING AVAILABILITY OF MHEWS, RISK INFORMATION AND ASSESSMENTS

TARGET G
Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030

Launch of the Sendai Framework Monitoring Process
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United Nations Office for Disaster Risk Reduction (UNISDR)

In support of the Sendai Framework for Disaster Risk Reduction 2015 - 2030
<table>
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<tr>
<th>G-1</th>
<th>Number of countries that have multi-hazard early warning systems.</th>
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<td>G-2</td>
<td>Number of countries that have multi-hazard monitoring and forecasting systems.</td>
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<td>G-3</td>
<td>Number of people per 100,000 that are covered by early warning information through local governments or through national dissemination mechanisms.</td>
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<td>G-4</td>
<td>Percentage of local governments having a plan to act on early warnings.</td>
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<td>G-5</td>
<td>Number of countries that have accessible, understandable, usable and relevant disaster risk information and assessment available to the people at the national and local levels.</td>
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<tr>
<td>G-6</td>
<td>Percentage of population exposed to or at risk from disasters protected through pre-emptive evacuation following early warning.</td>
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**4 Key Elements of MHEWS**

*Member States in a position to do so are encouraged to provide information on the number of evacuated people.*
Early Warning System ~ 4 interrelated key elements

(1) **disaster risk knowledge** based on the systematic collection of data and disaster risk assessments;

(2) **detection, monitoring, analysis and forecasting** of the hazards and possible consequences;

(3) **dissemination and communication**, by an official source, of authoritative, timely, accurate and actionable warnings and associated information on likelihood and impact; and

(4) **preparedness** at all levels to respond to the warnings received

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Issues to be considered

I. Multi-hazard

<Terminology from the OIEWG Report>

(1) the selection of multiple major hazards that the country faces, and

(2) the specific contexts where hazardous events may occur simultaneously, cascadingly or cumulatively over time, and taking into account the potential interrelated effects.
Issues to be considered

I. Multi-hazard

Each country should define the major hazards to be included in MHEWS based on the following;

i. natural and/or man-made hazards of a certain level of frequency and intensity/severity of impacts (risk assessment);

ii. historical records on impacts;

iii. according to each country’s contexts and priorities
Issues to be considered

II. Coverage and denominator (Exposure)

- Tropical Cyclone
- Imaginary country
- Floods
- Earthquakes
- Tropical Cyclone

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UNISDR
G-1
Number of countries that have multi-hazard early warning systems. (compound G2-G5)

Country score = average of G2 ~ G5
=(country score of G2+G3+G4+G5) / 4

where 0 <= G_i <= 1 \quad \text{i} = 2, 3, 4, 5
G-2 Number of countries that have multi-hazard monitoring and forecasting systems

Sub-indicators from draft MHEWS Checklist are proposed

i. **Monitoring data** available through established network with observed by well-trained staff

ii. **Forecasting** through data analysis and processing, modelling, and prediction based on accepted scientific and technical methodologies and disseminated within international standards and protocols

iii. **Warning messages** which include risk/impact information with clear emergency preparedness to trigger response reactions generated and disseminated in a timely and consistent manner

iv. **Standardized process, and roles and responsibilities** of all organizations generating and issuing warnings established **mandated** by legislation or other authoritative instrument.
How to measure each of sub-indicator

5 levels of implementation in each element

• Comprehensive implementation (full score): 1.0

• Substantial implementation, additional progress required: 0.75

• Moderate implementation, neither comprehensive nor substantial: 0.50

• Limited implementation: 0.25

• No implementation or no existence, 0

⇒ Country score= average score of sub-indicators
<table>
<thead>
<tr>
<th>#</th>
<th>CORE REQUIREMENTS</th>
<th>YEAR</th>
<th>2016</th>
<th>2018</th>
<th>2016</th>
<th>2018</th>
<th>2016</th>
<th>2018</th>
<th>2016</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Have objectives and measures aimed at reducing existing risk</td>
<td>2016</td>
<td>0</td>
<td>0</td>
<td>1.0</td>
<td>0</td>
<td>1.0</td>
<td>0.5</td>
<td></td>
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<tr>
<td>2</td>
<td>Have objectives and measures aimed at preventing the creation of risk</td>
<td>2016</td>
<td>0</td>
<td>0</td>
<td>1.0</td>
<td>0</td>
<td>1.0</td>
<td>0.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Have objectives and measures aimed at strengthening economic, social, health and environmental resilience</td>
<td>2016</td>
<td>0</td>
<td>0</td>
<td>1.0</td>
<td>0</td>
<td>1.0</td>
<td>0.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Have time frames, targets and indicators</td>
<td>2016</td>
<td>0</td>
<td>0</td>
<td>1.0</td>
<td>0</td>
<td>1.0</td>
<td>1.0</td>
<td></td>
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</tr>
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</table>
G-3
Number of people per 100,000 that are covered by early warning information through local governments or through national dissemination mechanisms

**Coverage** of any primary media/mode for early warning information
G-4 Percentage of local governments having a plan to act on early warnings

Sub-indicators from draft MHEWS Checklist are proposed and measured by binary, Yes=1, No=0

i. Are disaster preparedness measures, including response plans, developed and operational?

ii. Is public awareness and education conducted?

iii. Is public awareness and response tested and evaluated?

⇒ For each local government take average of local gov score

⇒ **Country score** = (total of local gov score) / number of local gov
G-5 Number of countries that have accessible, understandable, usable and relevant disaster risk information and assessment available to the people at the national and local levels

From the past UNISDR work on risk assessment, ideal risk assessment is, given the hazard,

• based on most scientific approach possible (ideally probabilistic where possible);

• the product of a national consultation, shared, coordinated, and used by national institutions;

• with clear responsibilities for decision making, planning, and storing data and information
G-6 Percentage of population exposed to or at risk from disasters protected through pre-emptive evacuation following early warning

Member States in a position to do so are encouraged to provide information on the number of evacuated people. (OIEWG Report)

- Report by each hazardous event
- Report the number of evacuated people with exposed population, if available