Sendai Framework for Disaster Risk Reduction 2015-2030 and 2030 Agenda for Sustainable Development

Introduction the overall structure of the Online Monitoring System, Technical Guidance Notes and Disaster Loss and Damage Accounting Sub-systems

Technical Workshop
Launch of Sendai Framework Monitoring System
December 6-8, Bonn, Germany

United Nations Office for Disaster Risk Reduction (UNISDR)
In support of the Sendai Framework for Disaster Risk Reduction 2015 - 2030
UNISDR Contributions:

1. Methodologies and Technical guidance
2. Online Monitoring System
3. Online Loss Data collection Sub-system
1. Methodologies and Technical guidance
2. Online Monitoring System
3. Online Loss Data collection Sub-system

Technical Guidance Notes

For each Target and Indicator:
- Minimum data set required
- Recommended optimal dataset (including disaggregation)
- Challenges, temporal considerations, etc.
- Computation methodology (minimal to recommended datasets)
- Metadata: contents, methodology and other topics (coverage, representativeness, quality)
Sendai Framework Targets: major milestones of Technical Guidance Notes

- Three sessions of the OIEWG
- UNGA Resolution
- Technical workshops
- Consultations at the GP
Sendai Framework | 2030 Agenda for Sustainable Development
Integrated Monitoring & Reporting

1. Methodologies and Technical guidance
2. Online Monitoring System
3. Online Loss Data collection Sub-system

Process: Technical Guidance Notes

http://www.preventionweb.net/publications/view/54970

- OIEWG 2015 – 2016 Technical Concept Notes for 3 Sessions
- Technical workshops - Ispra, Italy and London, UK - 2017
- Consultation with Member States and stakeholders, April 2017
- Technical discussion and feedback at, and following GP17, May 2017
- First operational version, November, 2017
5. Computation Methodology

In the case of Target B, the method of computation is a simple summation of related indicators from national disaster loss databases divided by the sum of figures of global population data (from national censuses, World Bank or UN Statistics Information).

\[ B_1 = \frac{\text{sum}(B_2 \ldots B_5)}{\text{Population}} \times 100,000 \]

Indicators B4 and B5 shall be computed using the Average Number of Occupants per Household of the country, AOH where:

\[ AOH = \frac{\text{Population}}{\text{Number of Households}} \]

And:

\[ B_3 = \text{number of dwellings damaged} \times AOH \]
\[ B_4 = \text{number of dwellings destroyed} \times AOH \]

Thus:

\[ B_3 = B_{3n} \times AOH \]
\[ B_4 = B_{4n} \times AOH \]

Where the number of dwellings/structures damaged and destroyed are also to be used in Target C.

If countries have a national methodology to measure indicator B-5 the indicator can be entered directly as measured in situ. If a methodology or measurement is not available, B-5 will be computed using several ratios such as number of workers per hectare, number of workers per livestock, average number of employees per commerce and per industrial facility.

\[ B_{5n} = \text{hectares of crops affected} \times \text{average workers per hectare} \]
\[ B_{5b} = \text{Livestock lost} \times \text{average workers per livestock} \]
\[ B_{5e} = \text{Sum of productive assets and infrastructure facilities affected} \times \text{average workers per facility} \]

Data required will be collected for target C, therefore:

\[ B_{5n} = C2C_a \times \text{average workers per hectare} \]
UNISDR Contributions:

1. Methodologies and Technical guidance
2. Online Monitoring System
3. Online Loss Data collection Sub-system
Sendai Framework Monitor: **On-line monitoring system**

- Implementing the OIEWG Report and the Technical Guidelines
- Allowing from minimum to recommended data sets (including disaggregation)
- Metadata-enabled
- Loss Data Accounting as integrated SUB-SYSTEM
- With interfaces to SDG’s and other frameworks
- Permitting nationally defined (Custom) Targets / Indicators
- Prototype developed and consulted during GP, development ongoing

Prototype:  [http://www.unisdr.org/go/sfm](http://www.unisdr.org/go/sfm)
Architecture of SFM indicator system

INPUT

Comprehensive DRM Policies

OUTPUT

Disaster Risk

Underlying Drivers of Risk

Social and Economic Resilience

Reduced Disaster Loss

Reduced Disaster Impacts

OUTCOME

In support of the Sendai Framework for Disaster Risk Reduction 2015 - 2030
called upon UNISDR to undertake technical work and provide technical guidance— together with the international statistical community— to operationalize the global monitoring frameworks of the Sendai Framework and SDGs, including:

1. A review of data readiness with respect to the indicators
2. Minimum data standards and metadata for disaster-related data and statistics
3. Methodologies for measurement of indicators and processing of statistical data
4. Technical guidance material for the testing and roll-out of the indicators and the web-based monitoring system

Sendai Framework | 2030 Agenda for Sustainable Development
Multi-Purpose Data, Integrated Monitoring & Reporting
Sendai Framework Monitor – Dual reporting cycles

- Progress in implementing the Sendai Framework assessed biennially by UNISDR, and presented at Global Platforms.

- SDGs Report submitted annually to the High Level Political Forum for Sustainable Development (HLPF).

- 1st online SDG reporting cycle, data due March 31 for HLPF in July 2018. Reporting of Targets A-E

Sendai Framework | 2030 Agenda for Sustainable Development
Multi-Purpose Data, Integrated Monitoring & Reporting
Overall Structure of SFM

Country 1

Country 2

Country 3

Country N

Country M

Sendai Framework Monitoring System

TARGET A
TARGET B
TARGET C
TARGET D

TARGET E
TARGET F
TARGET G

S.F.M Disaster Loss Database

NATIONALLY DEFINED TARGETS

In support of the Sendai Framework for Disaster Risk Reduction 2015 - 2030

The United Nations Office for Disaster Risk Reduction (UNISDR)
**GLOBAL TARGETS: REPORTING**

**TARGET A**

Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2022-30 compared to 2005-2015

Pre-filled data is imported from the National Disaster Loss Database. Data can also be entered independently.

| A-1 Number of deaths and missing persons attributed to disasters, per 100,000 population |
|---|---|---|
| 15.5 | - | -2.4% |

**A-2** Number of deaths attributed to disasters, per 100,000 population

<table>
<thead>
<tr>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.8</td>
<td></td>
</tr>
</tbody>
</table>

**A-3** Number of missing persons attributed to disasters, per 100,000 population

<table>
<thead>
<tr>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.4</td>
<td></td>
</tr>
</tbody>
</table>
### Number of missing persons attributed to disasters, per 100,000 population

#### To be imported from National Disaster Loss Database

<table>
<thead>
<tr>
<th>YEAR</th>
<th>NUMBER</th>
<th>SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>7.4</td>
<td>National Disaster Loss Database</td>
</tr>
</tbody>
</table>

#### Number of missing persons

<table>
<thead>
<tr>
<th>YEAR</th>
<th>NUMBER</th>
<th>SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>1,903</td>
<td>National Disaster Loss Database</td>
</tr>
<tr>
<td>2022</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Disaggregation (optional)

- **HAZARD**
- **GEOGRAPHY**
- **SEX**

<table>
<thead>
<tr>
<th>SEX</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>870</td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>653</td>
<td></td>
</tr>
</tbody>
</table>
Disaggregation: Critical infrastructure

The information on size, number of workers and percentage of additional equipment and infrastructure only needs to be entered once and is used to calculate the direct economic loss of damaged or destroyed critical infrastructure (Targets C and D).

<table>
<thead>
<tr>
<th>CRITICAL INFRASTRUCTURE</th>
<th>AVERAGE SIZE</th>
<th>UNITS</th>
<th>NO. WORKERS</th>
<th>ADDITIONAL % EQUIPMENT</th>
<th>ADDITIONAL % ASSOCIATED INFRASTRUCTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health facility - small</td>
<td>80</td>
<td>sq m</td>
<td>4</td>
<td>40</td>
<td>25</td>
</tr>
<tr>
<td>Health facility - medium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health facility - big</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education – small school</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education – medium facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education – large facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road - unpaved</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road - paved</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Loss of assets

<table>
<thead>
<tr>
<th>YEAR</th>
<th>MONETARY VALUE</th>
<th>ASSETS</th>
<th>SOURCE *</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021 *</td>
<td>USD 103,403</td>
<td>total 81</td>
<td>National Disaster Loss database</td>
</tr>
<tr>
<td></td>
<td></td>
<td>63</td>
<td>Destroyed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>YEAR</th>
<th>MONETARY VALUE</th>
<th>ASSETS</th>
<th>SOURCE *</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Disaggregation (optional)

**TYPE OF ASSET**

<table>
<thead>
<tr>
<th>ASSETS</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TOTAL</td>
<td>Damaged</td>
</tr>
<tr>
<td>Small hotel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium hotel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small industry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large industry</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### ANALYTICS: GLOBAL

#### Countries

![World Map](https://example.com/worldmap)

Legend:
- Blue: Report not validated
- Green: Report validated
- Green with arrow: Report validated with disaggregation
- Orange: Custom reporting

#### Global targets*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MORTALITY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-1: Number of dead/missing people per 100,000</td>
<td>9.3</td>
<td>7.3</td>
<td>5.3</td>
<td>- 7.7%</td>
<td></td>
</tr>
<tr>
<td>PEOPLE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-2: Number of directly affected people attributed to disasters, per 100,000 population</td>
<td>9.6</td>
<td>11.4</td>
<td>10.4</td>
<td>+ 1.7%</td>
<td></td>
</tr>
<tr>
<td>ECONOMIC LOSS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C-1: Direct economic loss in relation to GDP</td>
<td>3.8%</td>
<td>4.5%</td>
<td>4.5%</td>
<td>+ 0.4%</td>
<td></td>
</tr>
<tr>
<td>INFRASTRUCTURE &amp; SERVICES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Sendai Framework Monitoring System

**TARGET A:** Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020-30 compared to 2005-2015

A-1: Number of dead/missing people per 100,000

<table>
<thead>
<tr>
<th>Year</th>
<th>Worldwide</th>
<th>Asia</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-15</td>
<td>-2.7%</td>
<td>-2.7%</td>
<td>-2.7%</td>
</tr>
<tr>
<td>2015-16</td>
<td>-3.6%</td>
<td>-3.6%</td>
<td>-3.6%</td>
</tr>
<tr>
<td>2017-18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019-20</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Evolution and comparison graph showing trends over time.
Sendai Framework Monitor: **Loss Data Accounting system**

- Also implementing the Guidelines
- Allowing from minimum to recommended data sets (including disaggregation) and Metadata
- Simple data exchange formats (Excel, DesInventar XML/JSON)
- Seamlessly integrated to SFM as integrated SUB-SYSTEM
- Working as a distributed tool, potentially deployed on countries
- First version (Based on DesInventar open source software) ready.
- Full rewrite of the tool in 2018, targeted to Launch in GP 2019

DesInventar Sendai: [http://training.desinventar.net](http://training.desinventar.net)
Sendai Framework | 2030 Agenda for Sustainable Development
Integrated Monitoring & Reporting

Loss Data Accounting sub-system

- Reusing current capacity and knowledge of the tools
- Reusing data already collected

DesInventar users will be SUPPORTED BY AUTOMATED MIGRATION PATH

DesInventar Sendai: http://www.desinventar.net

In support of the Sendai Framework
for Disaster Risk Reduction 2015 - 2030
Sendai Framework Target A

Please record in this section human losses (in number of people) needed for Target A. Number of deaths and missing persons attributed to disaster. These fields will be used to compute Indicators A2, A3, B2, B5 and others.

If possible, enter disaggregated figures and use the Σ button to calculate the sum of each subgroup, and then the Σ button of the overall category to obtain to total of the group.

**Number of deaths (A-2)**

<table>
<thead>
<tr>
<th>Total of Deaths (Sub-indicator A-2a):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female: 8</td>
</tr>
<tr>
<td>Male: 6</td>
</tr>
<tr>
<td>Total: 14</td>
</tr>
</tbody>
</table>

**By sex:**

- Female: 8
- Male: 6

**By Age:**

- Children: 3
- Adult: 9
- Elder: 2

**Other disaggregation:**

- With disabilities: 1
- Below Poverty Line: 14

**Number of missing (A-3)**

<table>
<thead>
<tr>
<th>Total missing (Sub-indicator A-3a):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female: 1</td>
</tr>
<tr>
<td>Male: 2</td>
</tr>
<tr>
<td>Total: 3</td>
</tr>
</tbody>
</table>

**By sex:**

- Female: 1
- Male: 2

**By Age:**

- Children: 0
- Adult: 2
- Elder: 0

**Other disaggregation:**

- With disabilities: 0
- Below Poverty Line: 2
National databases: Trends and patterns of loss
Thank you.

Julio Serje
serje@un.org

Sendai Framework Monitoring Unit, Bonn Office,
United Nations Office for Disaster Risk Reduction (UNISDR)