

SDG indicator metadata

(Harmonized metadata template - format version 1.1)

0. Indicator information (SDG_INDICATOR_INFO)

0.a. Goal (SDG_GOAL)

Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable

0.b. Target (SDG_TARGET)

Target 11.5: By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

0.c. Indicator (SDG_INDICATOR)

Indicator 11.5.2: Direct economic loss attributed to disasters in relation to global gross domestic product (GDP)

0.d. Series (SDG_SERIES_DESCR)

VC_DSR_GDPLS - Direct economic loss attributed to disasters [1.5.2,11.5.2]

VC_DSR_LSGP - Direct economic loss attributed to disasters relative to GDP [1.5.2, 11.5.2]

VC_DSR_AGLH - Direct agriculture loss attributed to disasters [1.5.2, 11.5.2]

VC_DSR_HOLH - Direct economic loss in the housing sector attributed to disasters, by hazard type [1.5.2, 11.5.2]

VC_DSR_CILN - Direct economic loss resulting from damaged or destroyed critical infrastructure attributed to disasters [1.5.2, 11.5.2]

VC_DSR_CHLN - Direct economic loss to cultural heritage damaged or destroyed attributed to disasters [1.5.2, 11.5.2]

VC_DSR_DDPA - Direct economic loss to other damaged or destroyed productive assets attributed to disasters [1.5.2, 11.5.2]

0.e. Metadata update (META_LAST_UPDATE)
2024-12-20

0.f. Related indicators (SDG_RELATED_INDICATORS)

1.5.2

0.g. International organisations(s) responsible for global monitoring

(SDG_CUSTODIAN_AGENCIES)

United Nations Office for Disaster Reduction (UNDRR)

1. Data reporter (CONTACT)

1.a. Organisation (CONTACT_ORGANISATION)

United Nations Office for Disaster Reduction (UNDRR)

2. Definition, concepts, and classifications (IND_DEF_CON_CLASS)

2.a. Definition and concepts (STAT_CONC_DEF)

Definition:

This indicator measures the ratio of direct economic loss attributed to disasters in relation to gross domestic product (GDP).

Concepts:

Disasters: A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts (UNDRR, 2017, <https://www.preventionweb.net/terminology/disaster>).

Economic Loss: Total economic impact that consists of direct economic loss and indirect economic loss.

Direct economic loss: The monetary value of total or partial destruction of physical assets existing in the affected area. Direct economic loss is nearly equivalent to physical damage.

Indirect economic loss: A decline in economic value added as a consequence of direct economic loss and/or human and environmental impacts.

Annotations:

Examples of physical assets that are the basis for calculating direct economic loss include homes, schools, hospitals, commercial and governmental buildings, transport, energy, telecommunications infrastructures and other infrastructure; business assets and industrial plants; production such as crops, livestock and production infrastructure. They may also encompass environmental assets and cultural heritage. Direct economic losses usually happen during the event or within the first few hours after the event and are often assessed soon after the event to estimate recovery cost and claim insurance payments. These are tangible and relatively easy to measure.

Detailed definitions, concepts, including composition and calculation for each of the data series, can be found in the SFM Technical Guidance (see below the Reference section)

2.b. Unit of measure (UNIT_MEASURE)

For VC_DSR_LSGP - Direct economic loss attributed to disasters relative to GDP (%): per cent (%).

For other data series: current United States Dollar.

2.c. Classifications (CLASS_SYSTEM)

Not applicable

3. Data source type and data collection method (SRC_TYPE_COLL_METHOD)**3.a. Data sources** (SOURCE_TYPE)

Data provider at national level is appointed Sendai Framework Focal Points. In most countries disaster data are collected by line ministries and national disaster loss databases are established and managed by special purpose agencies including national disaster management agencies, civil protection agencies, and meteorological agencies. The Sendai Framework Focal Points in each country are responsible of data reporting through the Sendai Framework Monitoring System.

3.b. Data collection method (COLL_METHOD)

Data are reported by national Sendai Framework focal points in the Sendai Framework Monitor (SFM) and national disaster loss database: DesInventar-Sendai. Data are consisted of official, national reporting exclusively. Direct agricultural loss attributed to disasters, direct economic loss to all other damaged or destroyed productive assets attributed to disasters, direct economic loss in the housing sector attributed to disasters, direct economic loss resulting from damaged or destroyed critical infrastructure attributed to disasters, and direct economic loss to cultural heritage damaged or destroyed attributed to disasters are reported in SFM and DesInventar-Sendai.

3.c. Data collection calendar (FREQ_COLL)

Data are reported in Sendai Framework Monitor (SFM) on an ongoing basis, and snapshotted once every year.

3.d. Data release calendar (REL_CAL_POLICY)

Data are released once a year.

3.e. Data providers (DATA_SOURCE)

United Nations Office for Disaster Reduction (UNDRR)

3.f. Data compilers (COMPILING_ORG)

United Nations Office for Disaster Reduction (UNDRR)

3.g. Institutional mandate (INST_MANDATE)

The Open-ended Intergovernmental Expert Working Group on Indicators and Terminology Related to Disaster Risk Reduction (OIEWG) report, endorsed by the United Nations General Assembly in Resolution A/RES/71/276, requested the UNDRR to undertake technical work and provide technical guidance to develop minimum standards and metadata, the methodologies, and the global monitoring and measurements of the SFM global indicators.

This indicator is recommended by the OIEWG for the measurement of global Target C of the Sendai Framework, which were endorsed by the UN General Assembly in its Resolution A/RES/71/276, *Report of the open-ended intergovernmental expert working group on indicators and terminology relating to disaster risk*.

4. Other methodological considerations (OTHER_METHOD)

4.a. Rationale (RATIONALE)

The Sendai Framework for Disaster Risk Reduction 2015-2030 was adopted by UN Member States in March 2015 as a global policy of disaster risk reduction. Among the global targets, “Target C: Reduce direct disaster economic loss in relation to global GDP by 2030” will contribute to sustainable development and strengthen economic, social, health and environmental resilience. The economic,

environmental and social perspectives would include poverty eradication, urban resilience, and climate change adaptation.

The Open-ended Intergovernmental Expert Working Group on Indicators and Terminology relating to disaster risk reduction (OIEWG) established by the United Nations General Assembly (UNGA) (resolution 69/284) has developed a set of indicators to measure global progress in the implementation of the Sendai Framework, which was endorsed by the UNGA (OIEWG [report A/71/644](#)). The relevant global indicators for the Sendai Framework will be used to report for this indicator.

Direct economic losses are significantly influenced by both large-scale catastrophic events. In the meantime, a high number of small-scale hazardous events also impose heavy impacts on economies especially in vulnerable environments. UNDRR recommends Member States to report the data by event in DesInventar-Sendai, and per the minimum reporting requirement of the Sendai Framework Monitor (SFM) using the Technical Guidance (see Reference and Documentation section), so complementary analysis can be done on the regional and global scale.

4.b. Comment and limitations (REC_USE_LIM)

The Sendai Framework Monitoring (SFM) System has been developed to measure the progress in the implementation of the Sendai Framework by UNGA endorsed indicators. Member States report through the system since March 2018. The data for SDG indicators are compiled and reported by UNDRR.

4.c. Method of computation (DATA_COMP)

$$C_1 = \frac{C_2 + C_3 + C_4 + C_5 + C_6}{GDP}$$

Where:

C₁: Direct economic loss attributed to disasters in relation to gross domestic product; corresponding to Sendai Framework Indicator C-1.

C₂: Direct agricultural loss attributed to disasters; corresponding to Sendai Framework Indicator C-2. Agriculture is understood to include the crops, livestock, fisheries, apiculture, aquaculture and forest sectors as well as associated facilities and infrastructure.

C₃: Direct economic loss to all other damaged or destroyed productive assets attributed to disasters; corresponding to Sendai Framework Indicator C-3. Productive assets would be disaggregated by economic sector, including services, according to standard international classifications. Member States would report against those economic sectors relevant to their economies.

C₄: Direct economic loss in the housing sector attributed to disasters; corresponding to Sendai Framework Indicator C-4. Data would be disaggregated according to damaged and destroyed dwellings.

C₅: Direct economic loss resulting from damaged or destroyed critical infrastructure attributed to disasters; corresponding to Sendai Framework Indicator C-5. The decision regarding those elements of critical infrastructure to be included in the calculation will be left to the Member States. Protective infrastructure and green infrastructure should be included where relevant.

C₆: Direct economic loss to cultural heritage damaged or destroyed attributed to disasters; corresponding to Sendai Framework Indicator C-6.

GDP: national gross domestic product, current United States Dollar.

* Detailed methodologies can be found in the Technical Guidance (see below the Reference section)

4.d. Validation (DATA_VALIDATION)

Data are validation by UNDRR and national focal points.

4.e. Adjustments (ADJUSTMENT)

Not applicable

4.f. Treatment of missing values (i) at country level and (ii) at regional level

(IMPUTATION)

Not applicable

4.g. Regional aggregations (REG_AGG)

Not applicable

4.h. Methods and guidance available to countries for the compilation of the data at the national level (DOC_METHOD)

- Technical guidance for monitoring and reporting on progress in achieving the global targets of the Sendai Framework for Disaster Risk Reduction
- ADPC Disaster and Climate Resilience e-Learning: An orientation to using the online Sendai Framework Monitor, <https://courses.adpc.net/courses/course-v1:UNISDR+SFM001+2019Y1/about>

4.i. Quality management (QUALITY_MGMNT)

Not applicable

4.j Quality assurance (QUALITY_ASSURE)

Not applicable

4.k Quality assessment (QUALITY_ASSMNT)

Not applicable

5. Data availability and disaggregation (COVERAGE)

Data availability:

2005-2023

Time series:

Annual

Disaggregation:

- Direct agricultural loss attributed to disasters.
- Direct economic loss to all other damaged or destroyed productive assets attributed to disasters.
- Direct economic loss in the housing sector attributed to disasters.
- Direct economic loss resulting from damaged or destroyed critical infrastructure attributed to disasters.
- Direct economic loss to cultural heritage damaged or destroyed attributed to disasters.

Desirable Disaggregation:

For direct agricultural loss attributed to disasters:

- By loss of aquaculture production area affected
- By loss of crops damaged or destroyed attributed to disasters
- By loss of fisheries production area affected
- By loss of forests affected/destroyed by disasters
- By loss of livestock attributed to disasters
- By loss of agricultural assets area affected
- By loss of agricultural stock affected
- By hazard types
- By geography region (administrative unit)

For direct economic loss to all other damaged or destroyed productive assets attributed to disasters:

- By productive asset types
- By hazard types
- By geography region (administrative unit)

For direct economic loss in the housing sector attributed to disasters:

- By housing sectors
- By hazard types
- By geography region (administrative unit)

For direct economic loss resulting from damaged or destroyed critical infrastructure attributed to disasters:

- By loss of health facilities
- By loss of education facilities
- By loss of other facilities
- By hazard types
- By geography region (administrative unit)

For direct economic loss to cultural heritage damaged or destroyed attributed to disasters:

- By number of buildings, monuments and fixed infrastructures of cultural heritage assets
- By number of mobile cultural heritage assets (such as artworks) damaged
- By number of mobile cultural heritage assets destroyed
- By cost of rehabilitation or reconstruction

- By cost of rehabilitation
- By acquisition cost, if available

6. Comparability / deviation from international standards (COMPARABILITY)

Not applicable

7. References and Documentation (OTHER_DOC)

Internationally agreed methodology and guideline URL:

- Technical guidance for monitoring and reporting on progress in achieving the global targets of the Sendai Framework for Disaster Risk Reduction (UNDRR 2017)
https://www.preventionweb.net/files/54970_collectionoftechnicalguidancenoteso.pdf

Sendai Framework Monitor

<https://sendaimonitor.undrr.org/>

DesInventar-Sendai

<https://www.desinventar.net/>

Other references:

- Report of the open-ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction (OEIWG). Endorsed by UNGA on 2nd February 2017. Available at:
<https://www.preventionweb.net/publications/view/51748>

Country examples:

- **Proxy, alternative and additional indicators:** In most cases international data sources only record events that surpass some threshold of impact and use secondary data sources which usually have non uniform or even inconsistent methodologies, producing heterogeneous datasets.