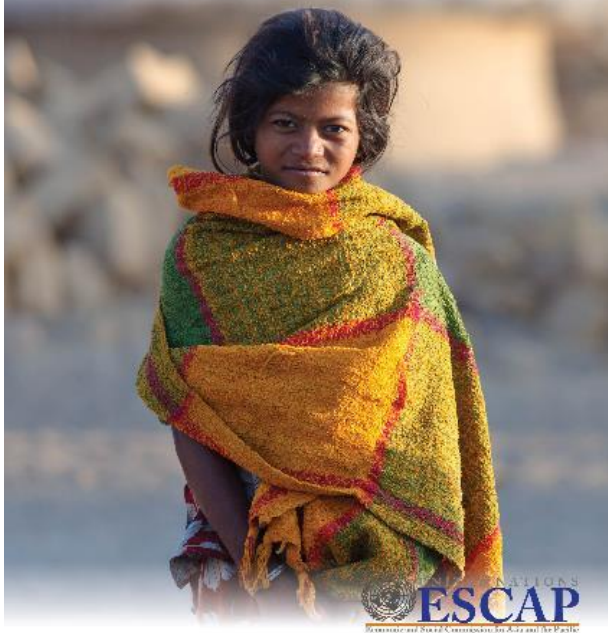


13th Meeting of the TWG on Disaster-related Statistics

27 October 2021

DISASTER-RELATED STATISTICS FRAMEWORK (DRSF)

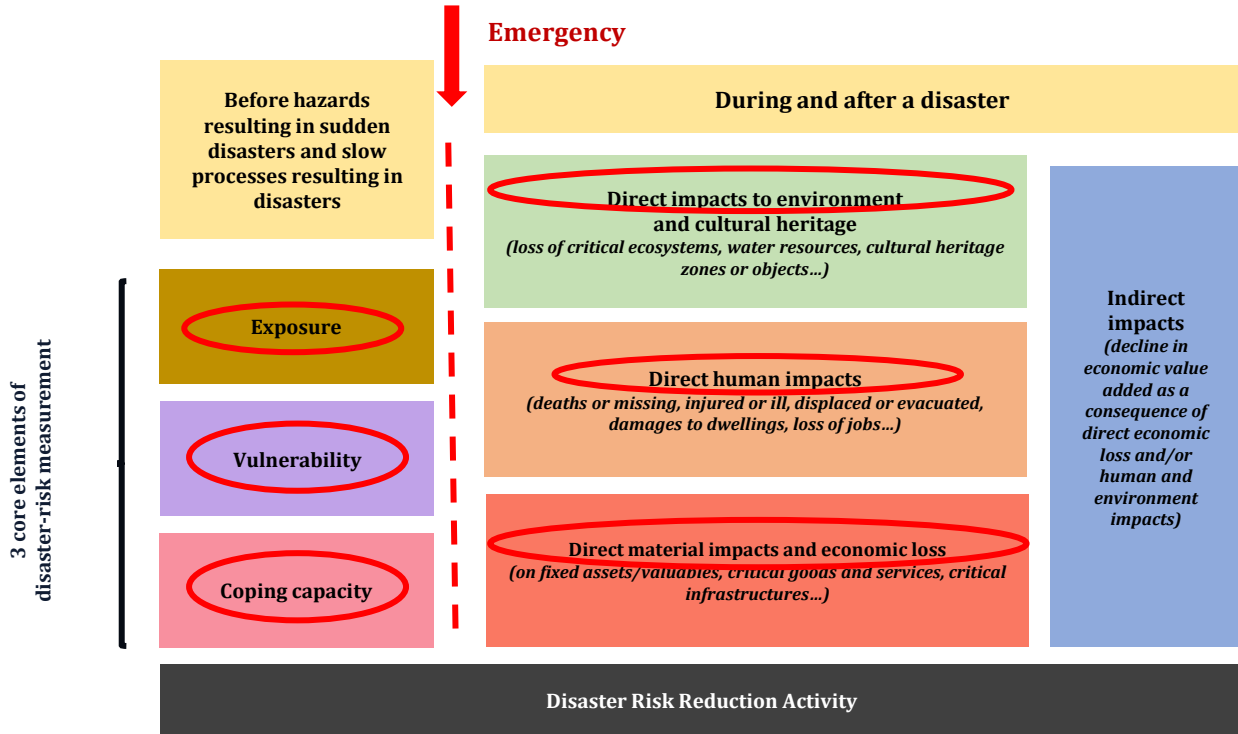
Expert Group on Disaster-related Statistics in Asia and the Pacific



DRSF Basic Range of Disaster-related Statistics

[https://stat-
confluence.escap.un.org/display/TWG/DRSF
%3A+Disaster-related+Statistics+Framework](https://stat-confluence.escap.un.org/display/TWG/DRSF+%3A+Disaster-related+Statistics+Framework)

Components of the Basic Range of Disaster-related Statistics



Basic range of disaster related statistics

- Objectives: to help national statistical systems to assess data gaps; adopt priorities for statistical development for disaster risk management and identify opportunities to produce new statistics
- Was developed based on pilot studies and extensive discussions by the Expert Group
- Most of the statistics in the basic range are compatible with GIS, i.e., variables are associated with a standardized system of geo-referenced coding

Link to the complete DRSF statistical tables:

https://stat-confluence.escap.un.org/display/TWG/DRSF:+Disaster-related+Statistics+Framework?preview=/16155350/27852893/DRSF%20Tables_2021_Final.pdf

The basic range of disaster related statistics is organized according to generic tables or categories of tables:

- **A:** Summary tables of **disaster occurrences**
- **B:** Selected **background statistics** and **exposure to hazards**
- **C:** Summary tables of **human impacts**;
- **D:** Summary tables of **direct material impacts** in **physical terms**
- **E:** Summary tables of **direct material impacts** in **monetary terms**
- **F:** Summary of **material impacts to Agriculture**
- **G:** Summary table of **direct environmental impacts** and
- **DRRE: Disaster risk reduction expenditure accounts**

Basic range of disaster-related statistics: before a disaster

Before a Disaster	Concept	Data/Statistics	Indicators
Risk Assessment	process to determine the nature, extent, and locations of risk, by analysing exposure and conditions of vulnerability to hazards and present coping capacities against all types of disaster impacts.	<ul style="list-style-type: none"> Population density by location Characteristics of dwellings Information on assets of households, such as type of dwelling 	<ul style="list-style-type: none"> Disaster risk indices Multi-hazard risk indices
Exposure to Hazards	state of being in which a person or a group of people remain in an imminent risk of danger due to hazards	<ul style="list-style-type: none"> Hazard map Map of the population, critical infrastructure Population density Land cover/Use HH income 	<ul style="list-style-type: none"> Hazard Exposure by geographic regions Population Exposure by social groups Exposure of Land and Infrastructure by Hazard Type
Vulnerability	conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards.	<ul style="list-style-type: none"> statistics on basic social & demographic characteristics of populations, especially in high risk areas. 	<ul style="list-style-type: none"> prevalence of sexual and physical violence and harassment in situations of instability women's participation in post recovery process

Basic range of disaster-related statistics: before a disaster (con't)

Before a disaster	Concept	Data/Statistics	Indicators
Coping Capacity	resilience of households, businesses, communities, social-ecological systems, and whole countries against external shocks in the form of a disaster	<ul style="list-style-type: none"> • Disaster preparedness of HH; trainings attended • Early warning systems • Investments in DRR 	<ul style="list-style-type: none"> • Share of HH with emergency plans • Population covered by early warning systems • Share of HH with improved access to water
Disaster risk reduction activity (before a disaster)	Activities aimed at preventing new and reducing existing disaster risk and managing residual risk, all of which contributes to strengthening resilience	<ul style="list-style-type: none"> • Expenses on land use planning; early warning systems; emergency management by institutional sector • Production expenses on disaster preparedness; emergency supply by institutional sector 	<ul style="list-style-type: none"> • Activity expenditure and investment in disaster risk prevention and mitigation • Current production expenditure on disaster management

Basic range of disaster-related statistics: during and after a disaster(con't)

During and after a Disaster	Concept	Data/Statistics	Indicators
Disaster Occurrence	number of occurrences according to the hazards, scale and geographical classifications; provide background statistics for rapid assessment and decision-making by the disaster response authorities and allotting resources where needed	<ul style="list-style-type: none"> Annual, multi-year statistics on hazard type, date, time, geographical location, magnitude 	<ul style="list-style-type: none"> context variables for statistics in other tables trend analyses, for measuring relative intensity of impacts over time.

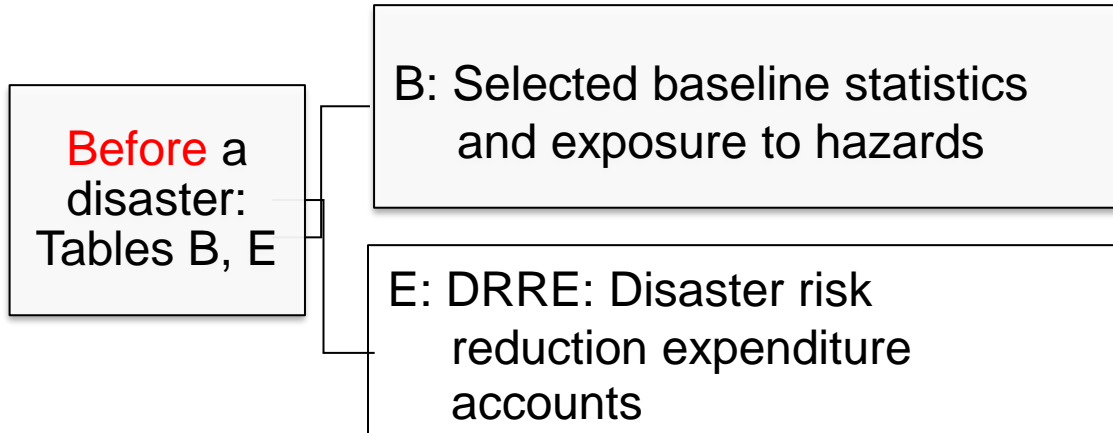
Basic range of disaster-related statistics: during and after a disaster

During & after a Disaster	Concept	Data/Statistics	Indicators
<p>Direct impacts: (economic loss)</p> <p>- to environment and cultural heritage</p>	<p>Physical damage happening during or shortly following a disaster directly triggered by a hazard.</p> <p>damage to land and other natural resources, ecosystems</p>	<ul style="list-style-type: none"> • Area of agricultural plantation destroyed • Area of urban and dev't area destroyed • Area of cultural heritage sites destroyed 	<ul style="list-style-type: none"> • Effect of disasters on GDP • Damage to ecosystems by land cover type • Damage to natural water resources • Damage to the atmosphere
<p>- human impacts</p>	<p>Loss of lives; personal injury and illness; displacement of people due to disasters</p>	<ul style="list-style-type: none"> • hazard type by geographic region • No. of deaths, injured, displaced, loss of jobs • No. of persons evacuated; received aid 	<ul style="list-style-type: none"> • human impacts by hazards types and geographic regions • affected human, population by demographic & social categories
<p>- material impacts</p>	<p>Damages to buildings and structures; machinery</p>	<ul style="list-style-type: none"> • Dwellings, buildings and structures destroyed • damage to critical infrastructure (roads, bridges, dams) 	<ul style="list-style-type: none"> • direct material and agricultural impacts by hazards types and geographical region • Disruption of basic services by hazard type and geographical region

Basic range of disaster-related statistics: during and after a disaster(con't)

During and after a Disaster	Concept	Data/Statistics	Indicators
Indirect impacts (indirect economic loss)	Consequences of a disaster to the economy or other social conditions for which causality is not directly observed	<ul style="list-style-type: none"> time series statistics on: hazards; population and housing; economic activities from business surveys 	<ul style="list-style-type: none"> Loss of livelihood Disruption of basic services as a consequence of disasters
Disaster risk reduction activity	aimed at preventing new and reducing existing disaster risk and managing residual risk, all of which contributes to strengthening resilience	<ul style="list-style-type: none"> Expenditures on relocation, rehabilitation and construction by institutional sector Government expenditure for disaster risk reduction Public transfers to private 	<ul style="list-style-type: none"> Production expenditure on disaster recovery' Research & dev't, education expenditure Disaster-reduction transfers paid

Summary of Statistics Tables



B tables are for assessing hazard exposure statistics, which are compiled prior to disaster occurrences, and updated over time according to the relevant categories (hazard types and geographic zonings); the DRRE provides the background statistics on coping capacity and resilience.

Example of B tables

Table B1a: Population Background Statistics and Hazard Exposure by geographic regions

For each disaster occurrence, there are at least three characteristics of the event that should be recorded: hazard type, scale and geographic region

		REGION					Measurement Unit
		Geo. Region 1	Geo. Region 2	Geo. Region 3	1	NATIONAL TOTAL	
1	Population	SDG 1.5.1, Sendai A1,B1	SDG 1.5.1, Sendai A1,B1	SDG 1.5.1, Sendai A1,B1	SDG 1.5.1, Sendai A1,B1	SDG 1.5.1, Sendai A1,B1	No. of people
1.1	Children under 5 years						No. of people
1.2	Persons over 60 years						No. of people
1.3	Persons with disabilities						No. of people
2	Households						No. of households
3	Median Households disposable income						currency
3.1	Local currency (NAME...)						currency
3.2	US\$ PPP						US\$ PPP
4	GDP	SDG 1.5.2	SDG 1.5.2	SDG 1.5.2	SDG 1.5.2	SDG 1.5.2	currency
4.1	Local currency (NAME...)						currency
4.2	US\$ PPP						US\$ PPP
5	Population in Hazard Area						No. of people
5.1	Geophysical						
5.1.1	High exposure						No. of people
5.1.2	Moderate exposure						No. of people
5.1.3	Low exposure						No. of people
5.2	Hydrological						
5.2.1	High exposure						No. of people
5.2.2	Moderate exposure						No. of people
5.2.3	Low exposure						No. of people
5.3	Meteorological & Climatological						
5.3.1	High exposure						No. of people
5.3.2	Moderate exposure						No. of people
5.3.3	Low exposure						No. of people
5.4	Other (specify)						
5.4.1	High exposure						No. of people
5.4.2	Moderate exposure						No. of people
5.4.3	Low exposure						No. of people

Data sources: Joint work of NSO and NDMA, background statistics derived from NSO and from national accounts; exposure to hazards calculated by NDMA

Links to global indicators: Number of deaths attributed to disasters, per 100,000 population

Exposure is measured according to hazard area maps, produced using a variety of physical data inputs (see Chapter 2). Hazard maps are overlaid with social and economic statistics to estimate exposure. The ranking (high, moderate, low) refer to hazard probabilities - for example flood hazards are usually higher closer to the sources and depending on the slope and features of the terrain. The hazard may exist at lower probabilities, further away.

Table on Disaster Risk Related Expenditure (DRRE)_A

Table DRRE_A: Production expenditure account (current plus investment) by characteristic activities by local currency

The DRRE tables are based on the standards and formats of the SNA to align with the broader aggregated accounting framework for the whole economy.

Risk analyses can benefit from comparisons between investment within the categories of DRR activities, like post-disaster reconstruction expenditures and post-disaster “structural measures” for future disaster prevention, e.g. building back better.

	Providers of disaster risk reduction services (SNA institutional sectors)										Total World (2019)	
	Non-financial corporations	Financial corporations	General government (incl. non-profit institutions controlled by governments and social security)				Households		Nonprofit institutions (except households)	TOTAL Production units with base year = 2019		
			Central government	State government	Local government	Subtotal General government	Households (by status of independ- ent dwelling)	Employ- ment of trans- fer incomes				Subtotal House- hold in private
Activity expenditure account (current plus investment)												
1 Disaster Risk Prevention												
1.1 Risk prevention in advance of hazardous event												
1.2 Risk prevention in or after hazardous event												
2 Disaster Risk Mitigation												
2.1 Structural measures												105,157.1
2.2 Non-structural measures												
2.3 Land-use planning												
2.4 Early warning systems management												
3 Disaster Management												
3.1 Preparedness												
3.2 Emergency management												
3.3 Other disaster responses												
3.4 Emergency supply of commodities												
4 Disaster Recovery												
4.1 Relocation												
4.2 Rehabilitation												
4.3 Reconstruction												
5 General Government, Research & Development, Education Expenditure												
5.1 General government expenditure for Disaster Risk reduction												
5.2 Research & Development, risk assessment and information												
5.3 Education to Disaster Risk Reduction												
A Subtotal current production expenditure (UM1 to B)												
1 Disaster Risk Prevention												
1.1 Risk prevention in advance of hazardous event												
1.2 Risk prevention in or after hazardous event												
2 Disaster Risk Mitigation												
2.1 Structural measures												
2.2 Non-structural measures												
2.3 Land-use planning												
2.4 Early warning systems management												
3 Disaster Management												
3.1 Preparedness												
3.2 Emergency management												
3.3 Other disaster responses												
3.4 Emergency supply of commodities												
4 Disaster Recovery												
4.1 Relocation												
4.2 Rehabilitation												
4.3 Reconstruction												
5 General Government, Research & Development, Education Expenditure												
5.1 General government expenditure for Disaster Risk reduction												
5.2 Research & Development, risk assessment, and information												
5.3 Education to Disaster Risk Reduction												
B Subtotal Gross formation of fixed capital (UM1 to B)												
6 Acquisition less disposals of land and other non-produced non-financial assets												
6.1 Acquisition less disposals of land												
6.2 Acquisition less disposals of non-produced non-financial assets												
C Investment production expenditure												
Total DRRE Production Expenditure (current plus investment)												

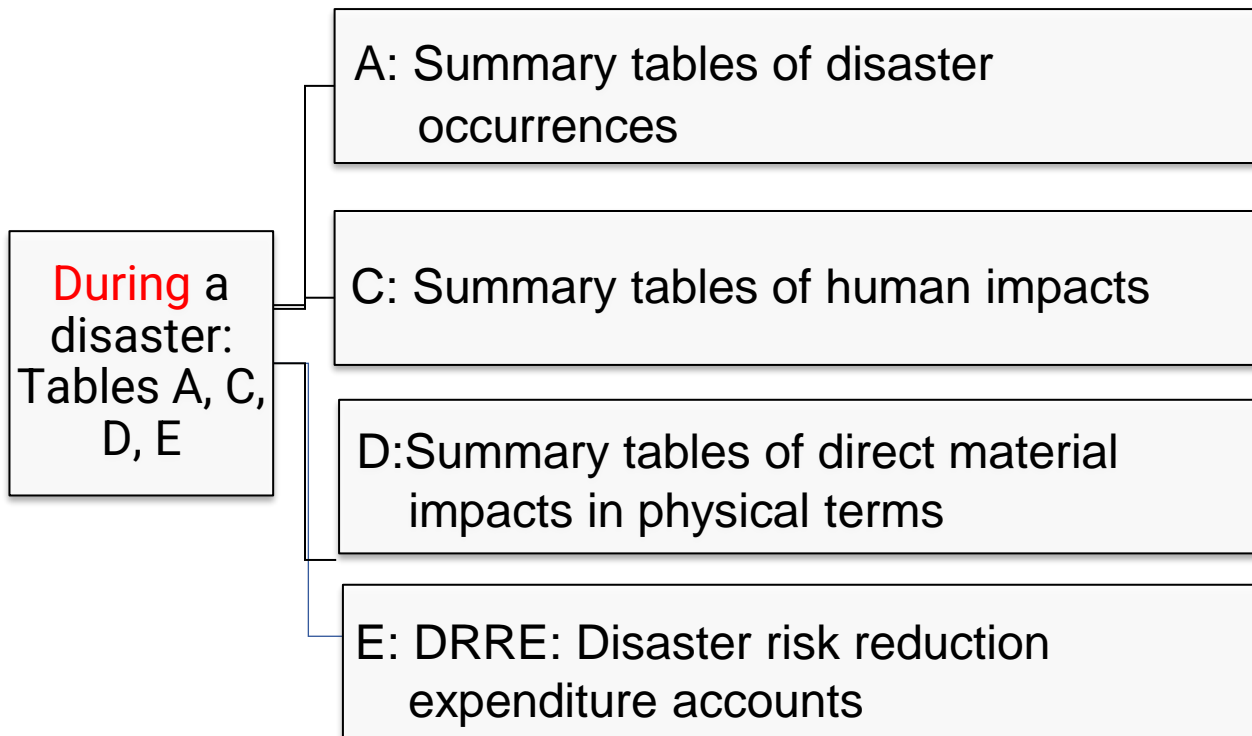
Table on Disaster Risk Related Expenditure (DRRE)_B

Table DRRE_B: Transfers expenditure account & DRR National Expenditure (local currency)

This table aims to identify the portions of activities with a primary disaster risk reduction purpose.

Non-Financial Corporation	Private Corporation	Institutional sector							Non-profit (NGOs)	TOTAL (local units with 4 year of ability)	PER 1000 PEOPLE (RuW)
		General government (excluding government social security)				Household					
		Central government	State government	Local government	Subtotal General government	Households (owners of immovable and movable property)	Employees (wages of paper and social insurances)	Household			
Transfers expenditure account											
Total Transfers paid (6.1)											
5.1 Disaster risk reduction characteristic transfer paid											
5.1.1 Internal transfers between public government services (current and in capital)											
5.1.2 Risk transfers, insurance, pensions and indemnities											
5.1.3 Disaster related international transfers (current and in capital)											
5.1.4 Public transfers to private (subsidies, transfers in capital...)											
5.1.5 Private transfers (cash, voluntary...)											
5.1.6 Other transfers											
Total Transfers received (6.2)											
5.2 Disaster risk reduction characteristic transfer received											
5.2.1 Internal transfers between public government services (current and in capital)											
5.2.2 Risk transfers, insurance, pensions and indemnities											
5.2.3 Disaster related international transfers (current and in capital)											
5.2.4 Public transfers to private (subsidies, transfers in capital...)											
5.2.5 Private transfers (cash, voluntary...)											
5.2.6 Other transfers											
DRR NET TRANSFER (6.1 minus 6.2)											
Total GDR Production Expenditure (current plus investment)											
DRR National Expenditure = Total Production Expenditure plus Net Transfers											
Beneficiaries of the DRR National expenditure (by beneficiaries)											
Beneficiaries of the total Production Expenditure											
Beneficiaries of Total Transfers Received											

Summary of Statistics Tables



Example of A table

Example of A tables: Table A1: Summary table of disaster occurrences

For each disaster occurrence, there are at least three characteristics of the event that should be recorded: hazard type, scale and geographic region

A1 Summary table of disaster occurrences, by hazards types, scale, and geographic region

Measurement units: counts of occurrences

	Geo Region 1				Geo Region 2				Geo Region 3				...				Adjustment for multiple counting of events by regions/states (-)				Adj. National total					
	Large	Medium	Small (Local scale)	Total	Large	Medium	Small (local scale)	Total	Large	Medium	Small (Local scale)	Total	Large	Medium	Small (Local scale)	Total	Large	Medium	Small (Local scale)	Total	Very large events	National scale medium to large events	Small (Local scale)	Total		
Geo-physical																										
Hydrological																										
Meteorological & Climatological																										
Biological																										
Other																										
Total																										

Example of C table

Table C1: Summary table of human impacts by hazards types

Some data and statistics relate to both human and material categories. For example, the same data sources that are used for accounting for damaged or destroyed dwellings (Sendai Framework Target C for economic loss) should also be applicable for estimating the number of people whose houses were damaged (Sendai Framework Target B for affected population).

		HAZARDS					
		Geo-physical	Hydrological	Meteorological & Climatological	Biological	Other	NATIONAL TOTAL
1 - Summary of Human Impacts							
Human, affected population							
1.1	Deaths or missing	SDG 1.5.1/Sendai A	SDG 1.5.1/Sendai A	SDG 1.5.1/Sendai A	SDG 1.5.1/Sendai A	SDG 1.5.1/Sendai A	SDG 1.5.1/Sendai A
1.1.1	Deaths	Sendai A-2	Sendai A-2	Sendai A-2	Sendai A-2	Sendai A-2	Sendai A-2
1.1.2	Missing	Sendai A-3	Sendai A-3	Sendai A-3	Sendai A-3	Sendai A-3	Sendai A-3
1.2	Injured or ill	Sendai B-2	Sendai B-2	Sendai B-2	Sendai B-2	Sendai B-2	Sendai B-2
1.2.1	Major injuries						
1.2.2	Minor injuries						
1.2.3	Assesses						
1.3	Displaced						
1.3.1	Permanent relocations due to destroyed dwelling	Sendai B-4	Sendai B-4	Sendai B-4	Sendai B-4	Sendai B-4	Sendai B-4
1.3.2	Other Displaced						
1.4	Dwellings Damaged						
1.4.1	Number of people whose houses were damaged due to hazardous events	Sendai B-3	Sendai B-3	Sendai B-3	Sendai B-3	Sendai B-3	Sendai B-3
1.5	Loss of Jobs/occupations						
1.5.1	Direct losses of jobs/occupations in industry and services	Sendai B-5	Sendai B-5	Sendai B-5	Sendai B-5	Sendai B-5	Sendai B-5
1.5.2	Direct losses of jobs/occupations in agriculture						
1.5.3	Losses of days of activity						
1.5.3.1	Direct losses of days of activity in agriculture						
1.5.3.2	Direct losses of days of activity in industry and services						
1.6	Number of people evacuated or receiving aid						
1.6.1	Number of people who received aid, including food and non-food aid during a disaster						
1.6.2	Supported with evacuation						
1.6.3	Non-supported evacuations						
1.6.4	Number of people who received aid after a disaster						
1.7	Otherwise affected						
1.8	Total Human Impacts (no of impacts)	SDG 1.5.1/Sendai B	SDG 1.5.1/Sendai B	SDG 1.5.1/Sendai B	SDG 1.5.1/Sendai B	SDG 1.5.1/Sendai B	SDG 1.5.1/Sendai B
1.9	Multiple counts, individuals (minus)						
1.10	Total Human Impacts (no of people)						

Variables 1.4 and 1.3.3 based on measurement of damage and destruction to dwellings (material impacts tables)

Multiple counts is an adjustment for aggregation in terms of number of people (instead of number of impacts), see Chapter 6 for further explanation.

Example of D table

Table D1a: Summary table of direct material impacts by hazards types

Direct observations of material impacts from a disaster are initially compiled in physical terms, for example area affected or counts of units or buildings that are damaged or destroyed. The impacts can also be represented in relation to the numbers of people exposed or affected. This includes, where possible, disaggregated statistics, e.g. by gender or by income categories

	hazard types						Measurement unit
	Seismic	Hydrological	Metereological & Climatological	Biological	Other	TOTAL	
Direct economic material impacts							
1-Direct impacts on fixed assets or consumer durables							
1.1							no. of units
1.1.1							no. of units
1.1.2							no. of units
1.2							sq. km
1.2.1							sq. km
1.2.2							sq. km
1.3							no. of units
1.3.1							no. of units
1.3.2							no. of units
1.4							no. of units
2-Direct impacts on valuables (NFA, asset refunction)							
2.1							no. of units
2.2							no. of units
3-Natural resources							
3.1							sq. km
3.1.1							sq. km
3.1.2							sq. km
3.2							no. of units
3.3							sq. km
3.4							no. of units
3.5							sq. km
3.6							sq. km
3.7							sq. km
4-Critical goods & services							
4.1							tons
4.1.1							tons
4.1.2							tons
5-Critical infrastructures (I, T, E, I)							
5.1							no. of units
5.1.1							no. of units
5.1.2							no. of units
5.1.3							no. of units
5.1.4							no. of units
5.1.5							no. of buildings
5.1.6							lots
5.1.7							no. of units
5.1.8							km
5.1.9							no. of units
5.1.10							no. of units
5.1.11							no. of units
5.1.12							no. of people
5.1.13							no. of units
5.1.14							no. of units
5.1.15							no. of units
5.1.16							no. of units
5.1.17							no. of units
6-Direct impact on cultural heritage							
6.1 Direct impact on cultural heritage zones							
6.1.1							sq. km
6.1.1.1							sq. km
6.1.1.2							sq. km
6.1.1.3							sq. km
6.1.1.4							sq. km
6.2 Direct impact on cultural heritage objects							
6.2.1							no. of units
6.2.1.1							no. of units
6.2.1.2							no. of units
6.2.2							no. of units
6.2.2.1							no. of units
6.2.2.2							no. of units

For definitions see Material Impacts Classification in Chapter 8
 Distinguishing between damaged or destroyed is feasible for all variables and may be reported depending on standards. For the case of dwellings, destroyed dwellings results in displacement whereas a damaged dwelling might be repaired without displacement.

Summary of Statistics Tables

After a
disaster:
Tables
C,D,E,F,G

C: Human impacts

D: Direct material impacts in physical terms

E: Direct material impacts in monetary terms

F: Material impacts to agriculture

G: Direct environmental impacts

E: DRRE: Disaster risk reduction expenditure
accounts

Example of C table

Table C3: Summary table of affected population by demographic and social categories

Disaggregated statistics on people affected by disasters are compiled for a full understanding of post-disaster recovery needs and for use in future risk assessment

	C01 - Age groups				TOTAL	C02 - Sex			TOTAL	C03 - Urban/Rural population			TOTAL	C04 - Specific vulnerability groups		NO TOTAL
	0-9	10-19	20-64	65+		Male	Female	Urban		Rural	Disabled	Poor				
														SDG	SDG	
1 - Summary of Human Impacts																
Human affected population																
1.1	Deaths or missing	SDG 1.5.1/ Sendai A-1	SDG 1.5.1/ Sendai A-1	SDG 1.5.1/ Sendai A-1	SDG 1.5.1/ Sendai A-1	SDG 1.5.1/ Sendai A-1	SDG 1.5.1/ Sendai A-1	SDG 1.5.1/ Sendai A-1	SDG 1.5.1/ Sendai A-1	SDG 1.5.1/ Sendai A-1	SDG 1.5.1/ Sendai A-1	SDG 1.5.1/ Sendai A-1	SDG 1.5.1/ Sendai A-1	SDG 1.5.1/ Sendai A-1	SDG 1.5.1/ Sendai A-1	SDG 1.5.1/ Sendai A-1
1.1.1	Deaths	Sendai A-2	Sendai A-2	Sendai A-2	Sendai A-2	Sendai A-2	Sendai A-2	Sendai A-2	Sendai A-2	Sendai A-2	Sendai A-2	Sendai A-2	Sendai A-2	Sendai A-2	Sendai A-2	Sendai A-2
1.1.2	Missing	Sendai A-3	Sendai A-3	Sendai A-3	Sendai A-3	Sendai A-3	Sendai A-3	Sendai A-3	Sendai A-3	Sendai A-3	Sendai A-3	Sendai A-3	Sendai A-3	Sendai A-3	Sendai A-3	Sendai A-3
1.2	Injured or ill	Sendai B-2	Sendai B-2	Sendai B-2	Sendai B-2	Sendai B-2	Sendai B-2	Sendai B-2	Sendai B-2	Sendai B-2	Sendai B-2	Sendai B-2	Sendai B-2	Sendai B-2	Sendai B-2	Sendai B-2
1.2.1	Minor injuries															
1.2.2	Major injuries															
1.2.3	Illnesses															
1.3	Displaced															
1.3.1	Permanent relocations due to destroyed dwelling	Sendai B-4		Sendai B-4	Sendai B-4	Sendai B-4	Sendai B-4	Sendai B-4	Sendai B-4	Sendai B-4	Sendai B-4	Sendai B-4	Sendai B-4	Sendai B-4	Sendai B-4	Sendai B-4
1.3.2	Other displaced															
1.4	Dwellings Damaged															
1.4.1	Number of people whose houses were damaged due to hazardous events	Sendai B-3		Sendai B-3	Sendai B-3	Sendai B-3	Sendai B-3	Sendai B-3	Sendai B-3	Sendai B-3	Sendai B-3	Sendai B-3	Sendai B-3	Sendai B-3	Sendai B-3	Sendai B-3
1.5	Loss of jobs/occupations															
1.5.1	Direct losses of jobs/occupations in industry and services	Sendai B-5		Sendai B-5	Sendai B-5	Sendai B-5	Sendai B-5	Sendai B-5	Sendai B-5	Sendai B-5	Sendai B-5	Sendai B-5	Sendai B-5	Sendai B-5	Sendai B-5	Sendai B-5
1.5.2	Direct losses of jobs/occupations in agriculture															
1.5.3	Losses of days of activity															
1.5.3.1	Direct losses of days of activity in agriculture															
1.5.3.2	Direct losses of days of activity in industry and services															
1.6	Number of people evacuated or receiving aid															
1.6.1	Number of people who received aid including food and non-food aid during a disaster															
1.6.2	Supported with evacuations															
1.6.3	Non-supported evacuations															
1.6.4	Number of people who received aid after a disaster															
1.7	Otherwise affected															
1.8	Affected Population (no of impacts)	SDG 1.5.1/ Sendai B-1		SDG 1.5.1/ Sendai B-1	SDG 1.5.1/ Sendai B-1	SDG 1.5.1/ Sendai B-1	SDG 1.5.1/ Sendai B-1	SDG 1.5.1/ Sendai B-1	SDG 1.5.1/ Sendai B-1	SDG 1.5.1/ Sendai B-1	SDG 1.5.1/ Sendai B-1	SDG 1.5.1/ Sendai B-1	SDG 1.5.1/ Sendai B-1	SDG 1.5.1/ Sendai B-1	SDG 1.5.1/ Sendai B-1	SDG 1.5.1/ Sendai B-1
1.9	Multiple counts, individuals (minus)															
1.10	Total Human Impacts (no of people)															

Urban and rural designations according to national definitions

Designation for 'poor' according to national poverty line (or, if unavailable, World Bank global absolute poverty line)

Multiple counts is an adjustment for aggregation in terms of number of people (instead of number of impacts); see Chapter 6 for further explanation

Example of D table

Table D2a: Disruption of basic services from a disaster by hazard type

Disruptions to the functioning of a community or a society is one of the defining elements of disasters. The table is an extension of the direct material impacts tables, especially impacts to critical infrastructure. The recorded disruptions are caused by the material impact, and have a direct consequence on the affected people.

		Hazard types					
		Geo-physical	Hydrological	Metereological & Climatological	Ridological	Other	TOTAL
Disruptions to Basic services from a Disaster							
1	Health services	Sendai D-7	Sendai D-7	Sendai D-7	Sendai D-7	Sendai D-7	Sendai D-7
1.1	No. of people						
1.2	Length of time						
2	Educational services	Sendai D-6	Sendai D-6	Sendai D-6	Sendai D-6	Sendai D-6	Sendai D-6
2.1	No. of people						
2.2	Length of time						
3	Public administration services	Sendai D-8	Sendai D-8	Sendai D-8	Sendai D-8	Sendai D-8	Sendai D-8
3.1	No. of people						
3.2	Length of time						
4	Transport services	Sendai D-8	Sendai D-8	Sendai D-8	Sendai D-8	Sendai D-8	Sendai D-8
4.1	No. of people						
4.2	Length of time						
5	Electricity and energy services	Sendai D-9	Sendai D-9	Sendai D-9	Sendai D-9	Sendai D-9	Sendai D-9
5.1	No. of people						
5.2	Length of time						
6	Water supplies	Sendai D-8	Sendai D-8	Sendai D-8	Sendai D-8	Sendai D-8	Sendai D-8
6.1	No. of people						
6.2	Length of time						
7	ICT services	Sendai D-8	Sendai D-8	Sendai D-8	Sendai D-8	Sendai D-8	Sendai D-8
7.1	No. of people						
7.2	Length of time						
8	Other basic services	Sendai D-8	Sendai D-8	Sendai D-8	Sendai D-8	Sendai D-8	Sendai D-8
8.1	No. of people						
8.2	Length of time						
9	Total disruptions	Sendai D-5	Sendai D-5	Sendai D-5	Sendai D-5	Sendai D-5	Sendai D-5

Definitions of Services: see UNISDR Technical Guidelines for Sendai Framework Indicators or DRSF Chapter 4

Example of E table

Table E1b: Summary table of direct material impacts by hazards types and geographic regions (estimated cost of damages in national currency)

The monetary values compilations normally requires a combination of data sources for estimating costs of damages based on average per unit values, including insurance claims assessments, assessments for cost of reconstruction, the recorded values of assets prior to a disaster, records of actual transactions for recovery of damages and average costs of crops or other exposed assets.

	Region 1	Region 2	Region 3	Region 4	Measurement unit (national currency of donor's region) [1]	UNITED NATIONS
1-Direct impacts on fixed assets or structures durables						
1.1 Buildings (number)	Sendai C-4	Sendai C-4	Sendai C-4	Sendai C-4		Sendai C-4
1.1.1 Buildings destroyed (number)						
1.1.2 Buildings damaged (number)						
1.2 Buildings and structures						
1.2.1 Other buildings & structure	Sendai C-5	Sendai C-5	Sendai C-5	Sendai C-5		Sendai C-5
1.2.2 Other buildings and structure	Sendai C-3	Sendai C-3	Sendai C-3	Sendai C-3		Sendai C-3
1.3 Machinery and equipment						
1.3.1 Critical machinery and equipment	Sendai C-5	Sendai C-5	Sendai C-5	Sendai C-5		Sendai C-5
1.3.2 Other machinery and equipment						
1.4 Catastrophe durable						
2-Direct impacts on vulnerabilities (SNA asset de Brition)						
2.1 Infrastructure, public structures						
2.2 Other structures						
3-Natural resources						
3.1 Land, incl. soil						
3.2 Agricultural land	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2		Sendai C-2
3.3 Primary forests						
3.4 Mangroves						
3.5 Fish stocks						
3.6 Livestock						
3.7 Other natural resource						
4-Critical infrastructures (1.2.1)						
4.1 Transport facilities	Sendai C-5	Sendai C-5	Sendai C-5	Sendai C-5		Sendai C-5
4.1.1 Airports, seaports, emergency fire preparation or fire						
4.2 Education facilities						
4.3 Other critical public administration buildings						
4.4 Public monuments						
4.4.1 Religious buildings						
4.4.2 Monuments						
4.4.3 Statues						
4.4.4 Monuments						
4.4.5 Parks						
4.4.6 Transport and ports						
4.4.7 Electricity generation facilities						
4.4.8 Electricity grids						
4.4.9 Equipments						
4.4.10 Dams						
4.4.11 Water supply infrastructure						
4.4.12 Water storage treatment systems						
4.4.13 Sewer critical infrastructure	Sendai C-5	Sendai C-5	Sendai C-5	Sendai C-5		Sendai C-5
4.4.14 Sewer critical infrastructure	Sendai C-6	Sendai C-6	Sendai C-6	Sendai C-6		Sendai C-6
5-Reconstruction costs for direct impact on cultural heritage						
6-Other direct costs associated with disaster recovery (e.g. emergency medical services)						
7-Total Direct Economic Loss (1.1-1.3 + 2 + 3 + 4)	SDG 1.5.2, Sendai C-1	SDG 1.5.2, Sendai C-1	SDG 1.5.2, Sendai C-1	SDG 1.5.2, Sendai C-1		SDG 1.5.2, Sendai C-1
Measurement unit: national currency (estimated cost of damages)						
Measuring values for costs of material impacts normally requires a combination of data sources, particularly insurance claims assessments or assessments for cost of reconstruction, the recorded value of assets prior to a disaster (where available), records of actual transactions for recovery of damages, i.e. expenditure on post-disaster reconstruction, and average costs of crops or other exposed assets for estimating costs of damages based on average per unit values.						

Example of F table

Table F: Summary of material impacts to Agriculture by hazards types

Table F was developed by FAO. It describes the key components of the damage and loss assessment methodology for agriculture:

- Damage: total or partial destruction of physical assets
- Loss: changes in economic flows arising from a disaster

	Hazard types						Monetary units
	Geophysical	Hydrological	Hydrological & Climatological	Biological	Other	TOTAL	
I-Crops							
11 Area of fields damaged	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	hectares
12 Straw production destroyed	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	tonnes
13 Grain production destroyed	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	tonnes
14 Equipment/structures destroyed	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	units
15 Discounted value of partial losses and replanting							currency
16 Net climate change mitigation benefits							currency
II-Livestock							
21 Number of animals killed	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	animals
22 Straw production destroyed	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	tonnes
23 Equipment/structures destroyed	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	units
24 Discounted value of partial products from one animal and full recovery							currency
25 Net climate change mitigation benefits							currency
III-Fishery							
31 Area damaged or destroyed	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	hectares
32 Straw production destroyed	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	tonnes
IV-Aquaculture							
41 Production from land-based ponds	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	tonnes
42 Production from water-based cages or pens	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	tonnes
43 Straw production lost	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	tonnes
44 Production destroyed							units
45 Net climate change mitigation benefits	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	currency
V-Subsides							
51 Small scale production loss	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	SDG 1.5.2, Sendai C-2	tonnes
52 Small production loss	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	units
53 Essential large-scale production lost	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	tonnes
54 Production destroyed (fish gear, engines, vessels, storage, etc.)	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	Sendai C-2	units

This table was prepared for use in DIS/FAO Statistics Directorate. For more information or technical guidance, please contact FAO Statistics, Rome. Definitions according to national practices for agriculture statistics, and current international standards, such as the System of National Accounts (SNA, 2008) and current standards from FAO: <http://www.fao.org/tables/standards/>

Example of G table

Table G2: Summary table of direct environmental impacts by hazards types and geographic regions

Environmental impacts can also be represented in relation to geographic regions.

In addition to land cover types (same classification as the SEEA), data can also be collected for functional categories of land cover that could be of special interest for assessing direct impacts, such as designated biological reserves and World Heritage sites.

		Region 1	Region 2	Region 3	...	Aggregation for multiple counting of events by Region(s)	NATIONAL TOTAL	Measurement units
Direct environmental impact								
1	Direct impacts on ecosystems by land cover types							
1.1	Urban and associated developed areas							hectares
1.2	Homogeneous herbaceous expanse							hectares
1.3	Agriculture plantations, permanent crops							hectares
1.4	Agriculture orchards and meadows							hectares
1.5	Pasture and natural grassland							hectares
1.6	Forest tree cover							hectares
1.7	Shrubland, bushland, heathland							hectares
1.8	Sparsely vegetated areas							hectares
1.9	Natural vegetation associations and meadows							hectares
1.10	Bare land							hectares
1.11	Permanent snow and glaciers							hectares
1.12	Open waterbodies							hectares
1.13	Inland water bodies							hectares
1.14	Coastal water bodies and intertidal areas							hectares
2	Loss of critical ecosystems							
2.1	Man And Biosphere and other biological reserves (Biosphere, UNESCO)							hectares
2.2	Other designated ecosystems/habitats							hectares
2.3	Ecosystems hosting threatened species (IUCN Red List)							hectares
2.4	Other critical ecosystems							hectares
3	Losses of natural water resources (equivalent to three quality index)							
3.1	Losses due to pollution of natural surface water							res. of water bodies
3.2	Losses due to pollution of groundwater							res. of water bodies
3.3	Losses due to destruction of natural surface water resources							res. of water bodies
3.4	Losses due to destruction of groundwater reserves							res. of water bodies
4	Direct impacts to the atmosphere or climate change							
4.1	Reduction of GHGs							tonnes
4.2	Loss of carbon sequestration capacity							tonnes
4.3	Other direct impact on global warming							
4.4	Reduction of SO ₂							tonnes
4.5	Reduction of other (non-GHG) air pollutants (specify)							tonnes
Data sources: Collaboration between national monitoring authorities for land cover, water resources, and atmospheric conditions with initial impacts assessments of NDMAs after a disaster								

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