



UK Health
Security
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Disaster Related Statistics and the Sendai Framework

Ms Kanza Ahmed

Global Public Health Advisor and Epidemiologist, UK Health Security Agency
Co-Chair of the UN Inter-Agency Expert Group on Disaster Related Statistics

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Kanza.Ahmed@ukhsa.gov.uk

Definition of 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.”

UN Office for Disaster Risk Reduction

<https://www.undrr.org/terminology/disaster>

The image shows the cover of the Sendai Framework for Disaster Risk Reduction 2015-2030. It features a dark blue background with a horizontal bar at the top divided into four colored segments: red, purple, orange, and teal. The title is centered in white text, and the United Nations logo is at the bottom.

Sendai Framework
for Disaster Risk Reduction
2015 - 2030



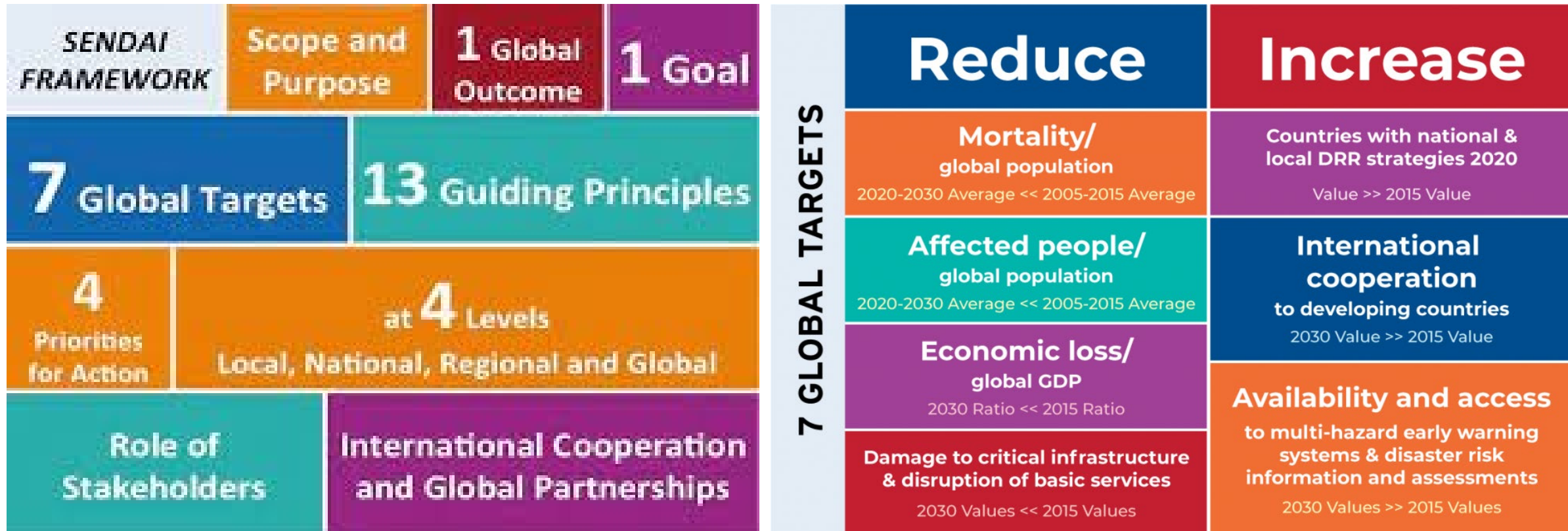
Sendai Framework for Disaster Risk Reduction 2015-2030

Four priorities for action

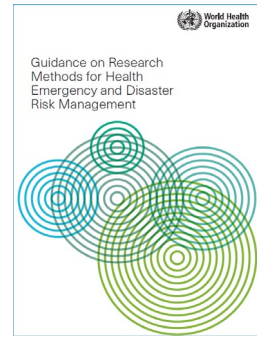
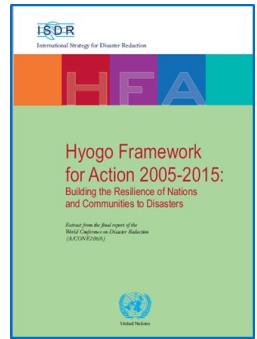
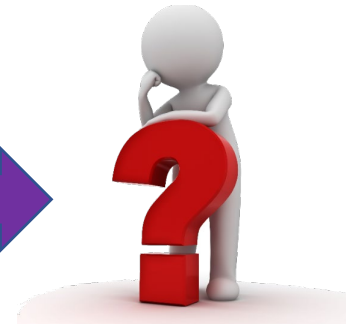
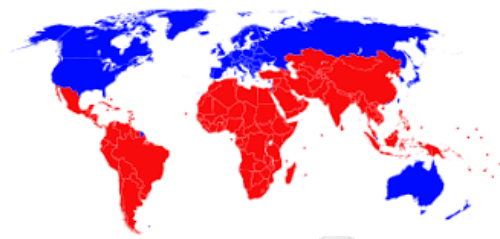
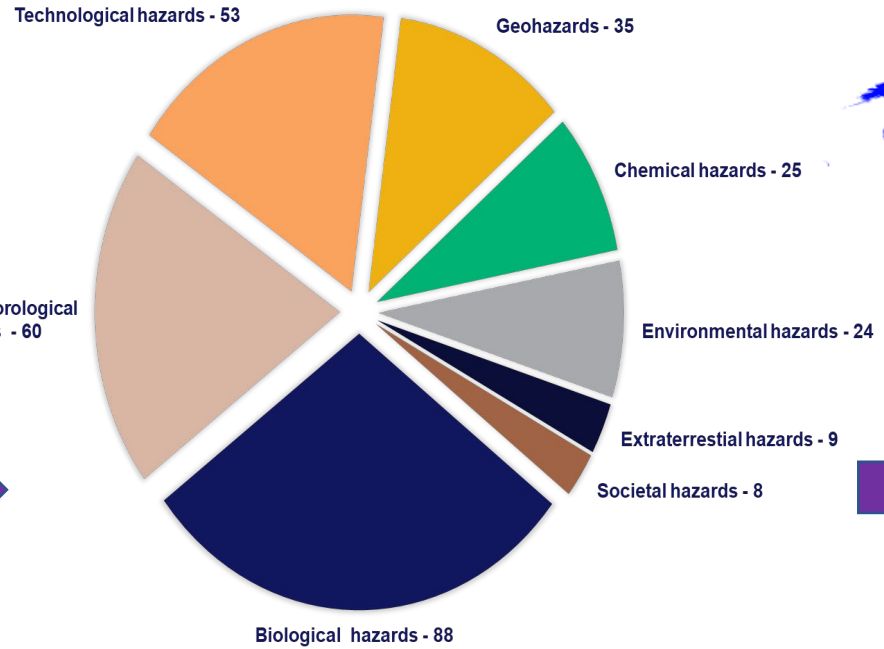
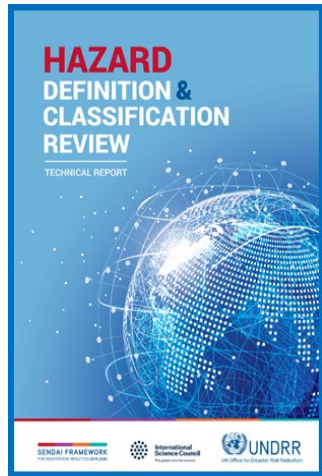
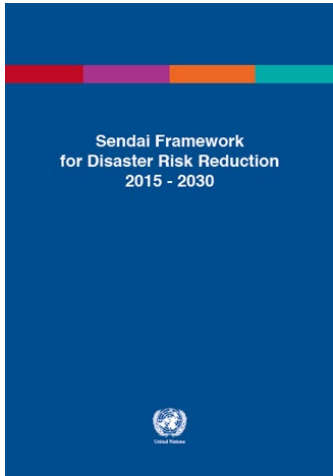
- **Understanding** disaster risk;
- **Strengthening** disaster risk governance to **manage** disaster risk;
- **Investing** in disaster risk reduction for resilience;
- **Enhancing** disaster preparedness for effective response, and to “Build Back Better” in recovery, rehabilitation and reconstruction.

- *at National and Local Levels*
- *at Global and Regional Levels*

Sendai Framework for Disaster Risk Reduction



From Scientific Definitions to Statistical Definitions



Hazard Information Profiles



Figure 1: UNDRR/ISC hazard information profiles according to eight hazard types

Note: CBRNE = chemical, biological, radiological, nuclear and high-yield explosives

BI0015 / BIOLOGICAL / Infectious Diseases (Human and Animal)

Anthrax

Definition

Anthrax is a disease caused by the spore-forming bacteria *Bacillus anthracis*. Anthrax is primarily a disease of herbivorous animals, although all mammals, including humans can contract it. In humans, anthrax manifests itself in three distinct patterns (cutaneous, gastrointestinal, inhalational) (adapted from WHO, FAO and OIE, 2008; CDC, 2020).

References

CDC, 2020. Anthrax. Centres for Disease Control and Prevention (CDC). www.cdc.gov/anthrax/index.html Accessed 11 October 2020.

WHO, FAO and OIE, 2008. Anthrax in Humans and Animals. 4th Ed. World Health Organization (WHO), Food and Agriculture Organization of the United Nations (FAO), World Organisation for Animal Health (OIE). www.who.int/csr/resources/publications/anthrax_webs.pdf Accessed 11 October 2020.

Annotations

Synonym

Not identified.

Additional scientific description

Until the introduction and widespread use of effective veterinary vaccines, Anthrax was a major cause of fatal disease in cattle, sheep, goats, camels, horses, and pigs throughout the world. Anthrax continues to be reported from many countries in domesticated and wild herbivores, especially where livestock vaccination programmes are inadequate or have been disrupted (WHO, no date).

Humans generally acquire the disease directly or indirectly from infected animals, or occupational exposure to infected or contaminated animal products. Control in livestock is therefore the key to reduced incidence in humans. The disease is generally regarded as being non-contagious (WHO, no date).

The infected host sheds the vegetative bacilli onto the ground and these sporulate on exposure to the air. The spores, which can persist in soil for decades, may displace up to the topsoil, following grass growth or flooding, creating favourable conditions for anthrax. Grazing animals may take up the spore and get infected, when germination and multiplication can again take place upon the site of infection. Flies appear to play an important role in large outbreaks in endemic areas. Humans acquire anthrax from handling carcasses, hides, bones, etc. from animals that died of the disease (WHO, FAO and OIE, 2008).

More than 95% of human anthrax cases take the cutaneous form and result from handling infected carcasses or hides, hair, meat or bones from such carcasses. All three forms (cutaneous, gastrointestinal, inhalational) are potentially fatal if untreated, but the cutaneous form is more often self-limiting. Data from pre-antibiotic and vaccine days indicate that 10%–40% of untreated cutaneous cases may be expected to result in death with some geographical and temporal variations (WHO, FAO and OIE, 2008).

Bacillus anthracis has always been high on the list of potential agents with respect to biological warfare and bioterrorism. It has been used in that context on at least two occasions, prepared for use on several other occasions and been the named agent in many threats and hoaxes (WHO, FAO and OIE, 2008).

Metrics and numeric limits

Not available.

Key relevant UN convention / multilateral treaty

Codex Alimentarius (FAO and WHO, no date).

International Health Regulations (2005), 3rd ed (WHO, 2016).

WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) (WTO, no date).

UN Recommendations on the Transport of Dangerous Goods - UN Model Regulations Model Regulations Nature, Purpose and Significance of the Recommendations (UNECE, no date).

Examples of drivers, outcomes and risk management

The Food and Agriculture Organization of the United Nations provides information on anthrax outbreaks via its guidance on improved prevention, control and heightened awareness (FAO, 2018). Anthrax provides a good platform for a 'One Health' approach which can be operationalised through locally adapted approaches for prevention and control. These efforts should be supported by enhanced intersectoral collaboration and coordination between the veterinary and medical authorities, particularly at the field level, for information and report exchange, integration of surveillance data, joint case investigations, coordination of community awareness messaging and implementation, and effective delivery of vaccination campaigns (FAO, 2018).

In the World Organisation for Animal Health (OIE) Terrestrial Animal Health Code chapter on anthrax, it is reported that there is no evidence that anthrax is transmitted by animals before the onset of clinical and pathological signs. It provides guidance on early detection of outbreaks, quarantine of affected premises, destruction of diseased animals and fomites, and implementation of appropriate sanitary procedures at abattoirs and dairy factories will ensure the safety of products of animal origin intended for human consumption (OIE, 2019).

References

FAO, 2018. Anthrax Outbreaks: a Warning for Improved Prevention, Control and Heightened Awareness. Food and Agriculture Organization of the United Nations (FAO). www.fao.org/3/a-i6124e.pdf Accessed 11 October 2020.

FAO and WHO, no date. About Codex Alimentarius. Food and Agriculture Organization of the United Nations (FAO) and World Health Organization (WHO). www.fao.org/fao-who-codexalimentarius/about-codex/en Accessed 11 October 2020.

OIE, 2019. Terrestrial Animal Health Code. Vol II Section 8 Ch 8.1 Anthrax. World Organisation for Animal Health (OIE). www.oie.int/index.php?id=169&L=0&htmfile=chapitre_anthrax.htm Accessed 11 October 2020.

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WHO, no date. Anthrax Emergencies Preparedness and Response. World Health Organization (WHO). www.who.int/csr/disease/Anthrax/en Accessed 11 October 2020.

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WTO, no date. The WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) (1994). World Trade Organization (WTO). www.wto.org/english/tratop_e/sps_e/spsagr_e.htm Accessed 11 October 2020.

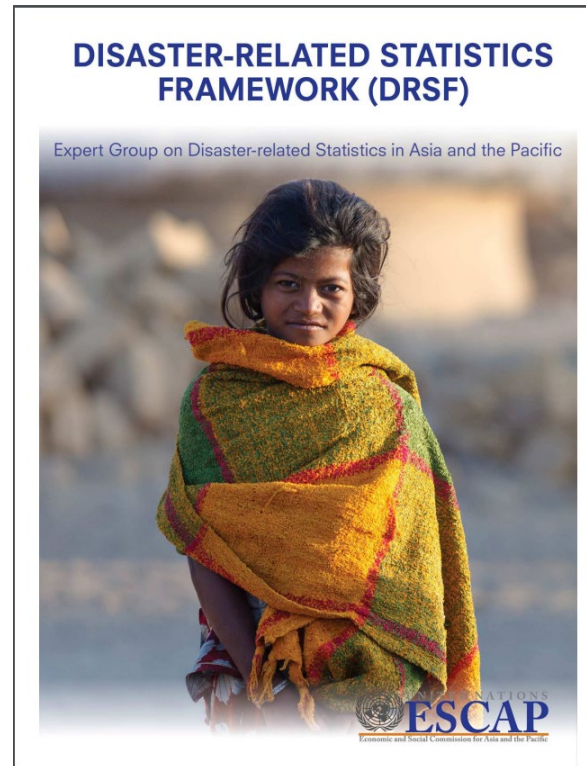
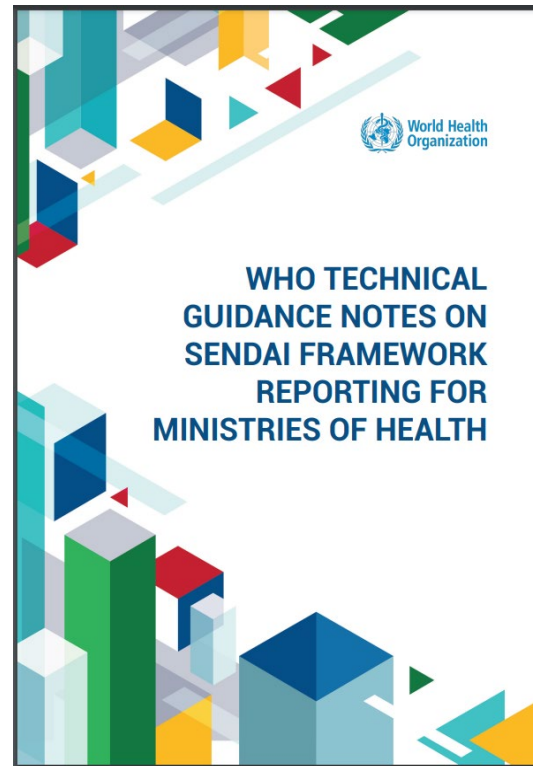
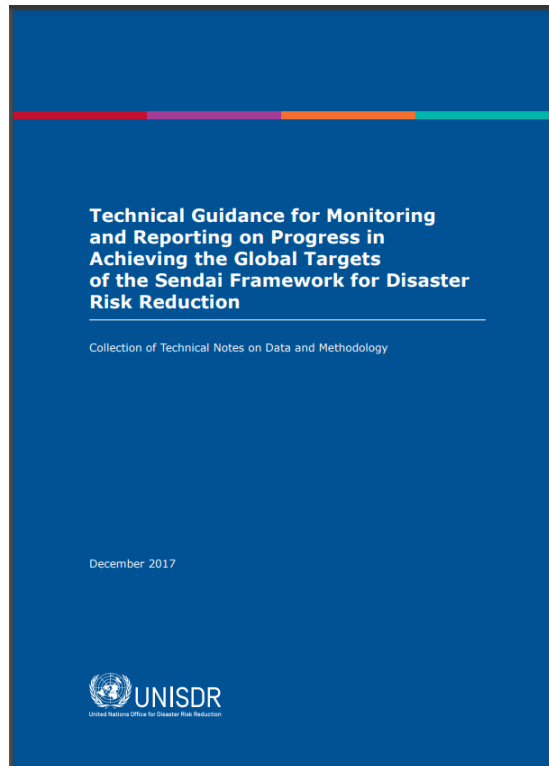
Coordinating agency or organisation

Food and Agriculture Organization of the United Nations, World Health Organization, World Organisation for Animal Health (OIE).

Reporting Under Sendai

In the last six years, guidance has been published to aid the collection of harmonised hazard and disaster data under Sendai.

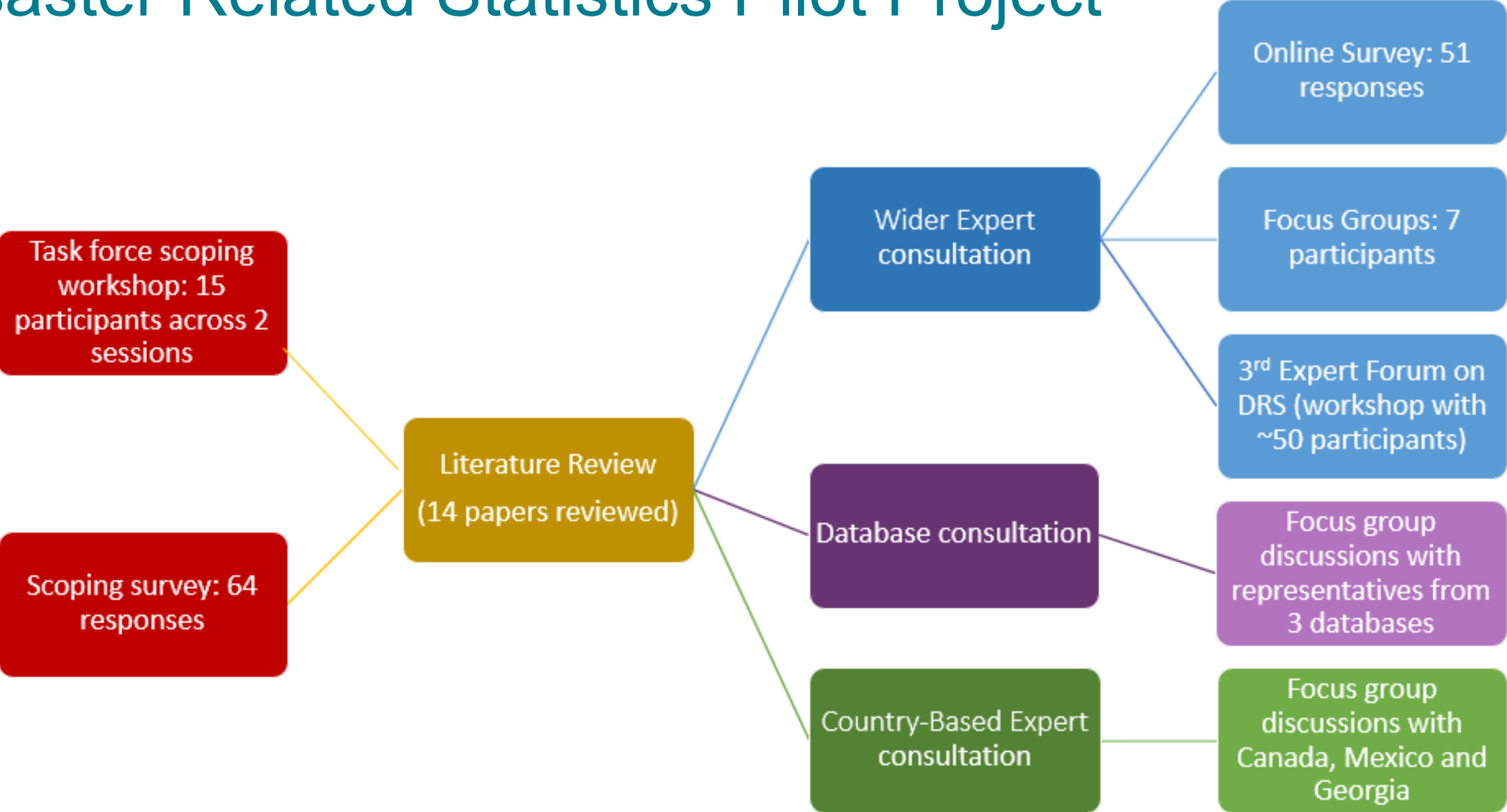
Indicators that countries can use to measure progress against Sendai targets have also been agreed.



Disaster Related Statistics Pilot Project

To provide feedback from a statistical point of view on the applicability of the reviewed hazard classification and its Hazard Information Profiles (HIPs)

Disaster Related Statistics Pilot Project



DRS Pilot Project Draft Recommendations

The capacity of stakeholders involved in the production and use of disaster-related statistics should be strengthened, including through increasing knowledge and awareness of standardised hazard taxonomies such as the Hazard Information Profiles

National institutional arrangements for disaster information and statistical management should be strengthened to enable better coordination and integration across government

Partnership approaches should be expanded to support countries to improve their approaches to disaster related statistics.

Increased support to national governments to develop systems that incorporate evidence into decision-making processes

In Summary

Losses and Damages and linking to finance

The Hazard Information Profiles potentially provide the basis for the development of globally agreed statistical definitions – enabling better comparison and understanding of total burden.

Contextualisation is key

Sendai Framework provides the opportunity to unite professions and sectors in develop coherent disaster related statistics.



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Thank you!