

**THIRD PLENARY SESSION ISSUE BRIEF
'SENDAI FRAMEWORK MONITORING'**

Background

Global progress in achieving the Sendai Framework for Disaster Risk Reduction seven targets, will be measured using the 33 indicators recommended by the 'Open-ended Intergovernmental Expert Working Group on Indicators and Terminology Relating to Disaster Risk Reduction' (OIEWG), which concluded its work in November 2016.

Furthermore, at its 48th Session the UN Statistical Commission (UNSC) endorsed the report¹ of the Inter-agency and Expert Group on Sustainable Development Goal Indicators (IAEG-SDGs) proposing the use of key indicators recommended by the OIEWG in measuring disaster-related targets of SDGs 1, 11 and 13, within the global framework of 230 indicators² which countries are tasked to use to monitor and report against the Goals and targets of the 2030 Agenda for Sustainable Development³.

In addition a set of optional national indicators has been developed that may be selected by countries to measure nationally-determined targets and priorities of national strategies aligned with the Sendai Framework for Disaster Risk Reduction. These indicators will enable countries to monitor policy actions as well as factors that contribute to reducing and preventing the creation of risk or building resilience. While optional, these national indicators are crucial to being able to measure the impact of disaster risk management strategies on underlying risk drivers, including poverty, environmental degradation, unchecked urban expansion and weak risk governance.

The indicators are the backbone of the monitoring process, and will simultaneously function as a management tool to help countries produce risk-informed policy for critical sectors, develop implementation strategies and allocate resources accordingly, as well as measure the reduction of risk and losses and help ensure the accountability of all stakeholders for achieving the Sendai Framework. Furthermore the information required to monitor progress using these indicators can contribute to the establishment of meaningful linkages across actions to manage disaster risk, adapt to climate change and promote sustainable development.

The National Statistical Offices (NSOs), which comprise the membership of the Inter-Agency and Expert Group on SDGs Indicators (IAEG-SDGs), are at the forefront of coordinating reporting efforts at national level. The data and reporting requirements are considerable, and many countries face critical capacity gaps that will need to be addressed and resourced. Significant investment will be required to produce additional data not currently available at the national level, or tap into other data sources such as geospatial information among others, to improve data quality and sharing-mechanisms in the timeframes envisaged for systematic reporting.

¹ E/CN.3/2017/2*

² Following the endorsement of the Statistical Commission (national statistics offices), 11 of the indicators included in the global indicator framework of the SDGs, are those recommended by the OIEWG for measuring the global targets of the Sendai Framework

³ See draft resolution *Work of the UN Statistical Commission pertaining to the 2030 Agenda for Sustainable Development*, March 2017

Data to measure all three global agreements will be generated at both the national and sub-national levels, referred to as disaggregation of data. There are also significant gaps in data architecture at all levels which will need to be addressed.

Furthermore, for multi-disciplinary efforts to achieve the goals and targets of the Sendai Framework and the SDGs to be effective, a significant investment will be required in systematized decision-support functions and feedback mechanisms that translate disaster loss and risk data into information products for risk-informed decision-making and investment.

What is the opportunity

The recommendation of the IEAG-SDGs to include the outcomes of the OIEWG in the proposal to the UN Statistical Commission, is tangible evidence of the much sought after coherence between 2015 agenda, and present a real opportunity for support to, and the use of, multi-purpose data sources in monitoring and reporting on the achievement of the goals and targets of all 2015 agreements.

Countries will first report on national baselines for and progress made towards achieving the global targets of the Sendai Framework by March 2019, using the online Sendai Framework Monitor, and in so doing will report on progress in achieving disaster-related targets of the SDGs.

The current state of national data, required to report against the Sendai Framework and the SDGs is being assessed and data capacity supported through various initiatives inter alia by the Statistical Divisions of UN DESA and the United Nations Regional Economic Commissions, The Global Partnership for Sustainable Development Data⁴, the United Nations initiative on Global Geospatial Information Management (UN-GGIM), Eye on Earth⁵, GVADATA⁶, CODATA⁷ and others.

The Sendai Framework Data Readiness Review, rolled-out in February 2017, assesses data availability in countries to measure Sendai Framework global targets. Findings on data availability, in combination with other criteria, namely, data applicability, data accessibility, and data quality, are used to determine the global status of disaster-related data and countries ability to not only monitor the Sendai Framework and the 2030 Agenda, but to apply the data for planning and policy-making, including for disaster risk reduction and management, sustainable development and climate change adaptation.

In implementing the global monitoring framework of the Sendai Framework, countries can: (1) create coherence of monitoring practices and methods among and within countries to ensure quality and comparability; (2) ensure that data at national level is accessible to multiple stakeholders and for multiple purposes; and (3) better define data usability to support policy-making for risk reduction, sustainable development, and climate change adaptation.

⁴ <http://www.data4sdgs.org/>

⁵ <http://www.eoesummit.org/about-eye-on-earth/>

⁶ http://gvadata.ch/sdg_radar

⁷ <http://www.codata.org/task-groups/linked-open-data-for-global-disaster-risk-research>

The information required to measure progress against these indicators can be used to create linkages in actions to manage disaster risk, adapt to climate change and advance sustainable development. As a result of this integrated approach, the potential for sustainable and efficient monitoring efforts, as well as optimizing government use and ownership of monitoring systems, is enhanced.

Policy developments

The availability of national data regarding administrative boundaries, key infrastructure locations and road networks can be limited, and in some instances differs between national institutions. This challenges the applicability of such data⁸ and demonstrates that data availability cannot be dissociated from data quality, ownership and accessibility.

As a result, a strategic framework on geospatial information and services for disasters is being developed under the umbrella of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM). The framework seeks to ensure that accurate, timely, available, high quality and accessible geospatial information and services are provided in a coordinated way to decision makers and operational leads prior to, during and following disasters. An important element of this data is open Earth observation data, which is worked on by the intergovernmental Group on Earth Observations (GEO) working with UN-GGIM and the 104 national government Members of GEO. There are in excess of 200,000,000 open Earth observation data resources available for free at www.geoportal.org.

In parallel, the Inter-Agency Standing Committee (IASC) guidelines on Common Operational Datasets (CODs) in Disaster Response⁹ are currently being revised by the UN Office for the Coordination of Humanitarian Affairs (UNOCHA), to encourage more interaction between the humanitarian community and governments on data for disaster risk reduction, preparedness, response and recovery.

Between 2014 and 2016, UNISDR supported a series of pilot studies in Lebanon, Fiji, Armenia, Philippines, Mozambique, Italy, Japan and Paraguay to assess the feasibility of optional national indicators for the Sendai Framework. The findings showed that in addition to significant gaps in data gaps and risk governance, the efficiency and impact of monitoring efforts were impeded by a number of factors including: governance structures for data management and sharing; the application of data for decision making; and ownership of international initiatives. This was often compounded by the existence of multiple methodologies and standards for data generation, which impeded the sharing of data between relevant institutions and stakeholders.

In conclusion, for national capacities to monitor the Sendai Framework for DRR to be successfully developed so that policy decisions to implement the Sendai Framework can be taken on the basis of on credible data and evidence, there are four challenges that must be addressed:

⁸ http://www.gaia-geosystems.org/PROJECTS/SIEM/PHL/Green_Paper_DSWD-SIEM_305014.pdf

⁹ https://www.humanitarianresponse.info/system/files/documents/files/iasc_guidelines_on_common_operational_datasets_in_disaster_preparedness_and_response_2010-11-01.pdf

a. Gaps in data availability

The UN Statistical Division has assessed country data to monitor and report on the SDGs, and found that many countries do not have full datasets required to measure all SDGs indicators¹⁰. The Sendai Framework Data Readiness Review reveals a similar picture. The first reporting cycle for the Sendai Framework using the online Sendai Framework Monitor will conclude in March 2019 on the basis of which the first Sendai Framework Progress Report and the SDGs Report will be developed and presented respectively to the Global Platform 2019 and the Heads of State Summit of the High Level Political Forum on Sustainable Development (HLPF) in July 2019. It is unknown if the financial resources required by countries to reach full data capacity by March 2019 will be made available in a timely manner.

The establishment of baselines for the Sendai Framework for DRR - which will require historical disaster loss information dating back to 2005, among other data – are subject to similar questions. The existence of these gaps might be an indication of deeper risk governance deficits related to the decision making process and the science-policy interface. In some cases however data availability reported by a focal point institution, might be an accessibility issue, as data may exist but may not be accessible.

b. Gaps in data accessibility

For disaster-related data to be accessible to all, it must be accessible free of charge, and with no organizational, legal or technical barriers. An effective science-policy interface, generating relevant data and usable information promotes the chances of developing successful policy initiatives for risk-informed development. Accessibility and the implicit ability to utilize disaster-related data for planning can also result in enhanced ownership at the national level; corollary effects include growing demand for disaster-related data to inform sustainable development. Gaps in organizational, legal and technical access to data are directly related to governance and risk governance and must be addressed through improving risk governance practices, without which policies can be developed without being informed by risk and disaster loss data.

c. Gaps in data quality

If disaster-related data is available and accessible, but does not follow commonly agreed methodologies and quality standards, it is difficult to collate, compare and analyze. National statistical offices, which are coordinating the development of the global indicator framework for the SDGs and related data, are applying seven components of statistical quality to official statistics, namely: Relevance, Accuracy, Timeliness, Punctuality, Accessibility, Clarity, and Comparability. For the location or geospatial data, quality elements are recognized around positional accuracy, logical consistency and completeness.

In order to more clearly align the monitoring processes of the SDGs and the Sendai Framework for DRR, the integration of disaster loss information within official statistics is

¹⁰ <http://unstats.un.org/sdgs/indicators>

essential. Assuring appropriate data quality will be a challenge, and must be included in efforts to develop national capacities for monitoring.

d. Gaps in data application

The question of the application of disaster-related data is amongst other things intrinsically linked to data accessibility and the transformation of data into actionable information. Its application is predicated on the analyses and actionable information that can be generated from the data. Countries will require support in developing the capacities required for data analysis and the development of information products that can successfully be applied to disaster risk management and sustainable development.

- **On-going Initiatives and Partnerships for Data for DRR**

Global Partnership for Disaster-related Data for Sustainable Development

To contribute to addressing the four disaster-related data challenges identified previously, and based on the findings of the Sendai Framework Data Readiness Review, a Global Partnership for Disaster-related Data for Sustainable Development will be launched at the Global Platform for DRR 2017.

This partnership aims to assist countries in developing disaster-related data and data systems, by bringing stakeholders and related but often independent initiatives together to work collectively and coherently towards the common goal. This includes improving the state of data itself, as well as data governance mechanisms, and the development and agreement of standards, so that data can easily be used for multiple purposes by multiple partners.

The partnership is a commitment and contribution to ‘The Global Partnership for Sustainable Development Data’¹¹, and the ‘Cape Town Global Action Plan for Sustainable Development Data’¹².

Cape Town Global Action Plan for Sustainable Development Data (CTGAP)

Recognising that national statistical systems (NSS) face the urgent need to adapt and develop in order to meet the widening, increasing and evolving needs of data users, including for the full implementation of the 2030 Agenda for Sustainable Development, the CTGAP was launched at the first UN World Data Forum on 18 January 2017 and was subsequently endorsed by the UN Statistical Commission at its 48th Session.

It provides the framework for discussion on, and planning, implementation and evaluation of, statistical capacity building pertaining to the 2030 Agenda for Sustainable Development. It proposes 6 strategic areas, addressing capacity, institutional frameworks, and data standards and quality. The CTGAP acknowledges that this work will be country-led, and will occur at sub-national, national, and regional levels. This global plan is proposed to leverage

¹¹ www.data4sdgs.org

¹² <http://undataforum.org/WorldDataForum/launch-of-the-cape-town-global-action-plan-for-sustainable-development-data/>

and coordinate these many efforts, and those of international organizations and other partnerships.

The Global Partnership for Sustainable Development Data

The Global Partnership for Sustainable Development Data supports country-led efforts to advance whole-of-government and multi-stakeholder Data Roadmaps for Sustainable Development¹³. It is developing a Toolbox that will address inter alia institutional, policy, technical, resources and capacity issues. It will assist countries to address challenges and seize new opportunities in the collection and use of real-time, dynamic, disaggregated data to achieve and monitor the SDGs and national sustainable development priorities. This includes data supporting the indicators that also measure the global targets of the Sendai Framework.

Earth Observation Data and Information

Earth observation (EO) data and information, which include satellite, airborne, land and marine-based data, as well as model outputs, play an essential role in underpinning the environmental dimension of the SDGs. Combined with demographic, statistical, and other data, EO can be used for action and data-driven decision-making across government, and to support targeted development programmes.

Earth observations can track global change in high resolution and in real time, and their use in SDG monitoring and decision-making is essential in capturing the sustainability of developments underpinning the SDG framework. EO has the potential to expand monitoring capabilities across sectors and provide more dynamic disaggregated data to help nations and other stakeholders make informed decisions, plans, and on-going adjustments that will contribute toward achieving the SDGs¹⁴.

GEO-DARMA for example aims to support operational risk reduction activities through the implementation of end user priorities in line with the Sendai Framework, on a trial basis in several regions of the developing world (such as Latin America, South Asia and Southern Africa). One of the main objectives of GEO-DARMA is to address critical issues related to DRR affecting most of the countries in a region through a series of end-to-end projects (initially demonstrators) that rely on the use of multiple source of observation data (space, *in-situ*, socio-economic, models outputs) in response to needs of the end user communities. The methodology followed for defining and implementing has already been experimented and consolidated by the Committee on Earth Observation Satellites (CEOS) and its partners,

GSNL aims to improve, through an Open Science approach, geophysical scientific research and geo-hazard assessment in support of Disaster Risk Reduction. The first 5 years of the Initiative allowed demonstration of the validity of the Supersite concept, showing that improved access to EO and *in-situ* data is able to stimulate new science which can directly benefit the society. The process by which decision makers made direct use of the

¹³ <http://www.data4sdgs.org/toolbox#sthash.LskmWbHD.dpuf>

¹⁴ <http://www.data4sdgs.org/earth-observation-data-to-support-the-sdgs>

information produced and communicated by the scientific community was straightforward for some Supersites (e.g. Hawai'i, Iceland, Campi Flegrei, Ecuador). However much work will be done in the next three years to establish the conditions by which the same process can be applied on a more routine basis to all Supersites¹⁵.

The integration of geospatial information and statistical data will be key for the production of a number of the indicators in the global monitoring framework of the SDGs. In recognising this the IAEG-SDGs established the Working Group on Geospatial Information which will inter alia provide advice as to how geospatial information, Earth observations and other new data sources can reliably and consistently contribute to the indicators.

GEOSS is the Global Earth Observations System of Systems developed over the last decade by the global GEO community. GEOSS Data Sharing Principles (2016-2025) will include Open Data by default, making data available as part of the GEOSS Data Collection of Open Resources for Everyone (Data-CORE) without charge or restrictions on reuse, subject to the conditions of registration and attribution when the data are reused. Although earth observation data will not contribute directly to measuring Sendai Framework indicators, but will contribute to reducing risk.

Disaster-related Statistics

As per the instructions of the OIEWG, and related resolutions of the UNSC, UNISDR is working together with national statistics offices, the IAEG-SDGs, and the statistics divisions of UN DESA and the UN regional economic commissions, to undertake further technical work to inter alia support national efforts in developing disaster-related statistics and related statistical capacities, according to the Fundamental Principles of Official Statistics. To support this undertaking, at the first UN World Data Forum in Cape Town in January 2017, national statistical offices called for the establishment of a *global partnership for disaster-related statistics*.

The work to be undertaken will capitalise on the coordinating role of the UNSC in the substantive and technical work to develop international statistical standards, methods and guidelines¹⁶ that are required to follow up and review the SDGs and their targets. It will also support collaboration between national statistical systems and the relevant international and regional organizations to enhance data reporting channels and ensure the harmonization and consistency of disaster-related data and statistics.

Aspects of this work are already underway. The Conference of European Statisticians (CES) has established a *Task Force on measuring extreme events and disasters* supported by the Statistics Division of UNECE, which seeks to clarify the role of official statistics in providing data, and identify practical steps for NSOs to support disaster risk management and risk reduction. In parallel, the Economic and Social Commission for Asia and the Pacific established the *Asia-Pacific Expert Group on Disaster-related Statistics* (UN-ESCAP Expert Group)¹⁷ which aims to improve availability and use of statistics to support development of DRR policies and monitor progress of international targets of the Sendai Framework and the SDGs. Other entities such as the Statistical Divisions of the Organization of Islamic States and ECLAC have expressed interest in contributing to these global efforts.

¹⁵ <http://www.earthobservations.org/activity.php?id=115>

¹⁶ cf. the Cape Town Global Action Plan for Statistics for Sustainable Development Data (CTGAP).

¹⁷ following ESCAP resolution 70/2 on "Disaster-related statistics in Asia and the Pacific"

Partnership to build and operate an innovative global ICT system

UNDP, together with the International Research Institute of Disaster Science, Tohoku University (IRIDeS), and Fujitsu Limited have agreed to form a partnership to build and operate an innovative global ICT system, in the Global Centre for Disaster Statistics (GCDS), which aims to support the endeavors of the Member States to achieve the goals of the Sendai Framework for Disaster Risk Reduction through:

- i. establishing baselines for monitoring, reporting and analysis of disaster risk reduction targets and indicators of the Sendai Framework and the SDGs;
- ii. developing capacities of national systems of disaster statistics including socio-economic impact analysis;
- iii. promoting risk-informed development by integrating DRR into development planning and policy.

Eye on Earth Initiative

Initiatives such as the Eye on Earth are supporting more efficient data governance to break down barriers at the national level, between mapping institutions, statistical offices, disaster management agencies and others to increase data sharing and promote open access to data.

In order to learn from previous initiatives, as the end user, countries are encouraged to put in place a sustainable mechanism for the collection, analysis, dissemination and provision of free access disaster-related data that observes a standard format. This will be subject to the risk-related data governance system, and the political and economic specificity of the region and respective country. The mere availability of disaster-related data will not automatically lead to its use in determining policy. Similarly, significant investment will be required to assure that efforts to strengthen capacities for disaster-related data collection, analysis and dissemination are sustainable.

National and local initiatives

Notwithstanding existing global and regional initiatives, and the advent of new data providers, technologies and datasets – including for example big data and citizenry-generated data – there is a need to ensure that the highly localized, sub-national nature of exposure, vulnerability, risk and losses can be captured. As climate change, sustainable development and poverty reduction challenges commonly manifest at the local level rather than at national or regional levels, such global efforts will therefore need to be complemented by national and local initiatives.

Indeed capturing the localized nature of exposure, vulnerability, risk and disaster losses will be essential if the crucial linkages between disaster risk management, climate change adaptation and sustainable development are to be realized. In turn, it is envisaged that this will create demand and ownership for such data, as it can feed the decision making process and contribute to a safe and efficient use of resources.

Moreover, experience from local level monitoring mechanisms – such as the Views from the Frontline – shows that an inclusive participatory monitoring process focused on disaster risk (as opposed to disaster impact) can raise awareness, engagement and social demand for

disaster risk reduction. When generated, local risk information can be used to inform local strategies and action plans – supporting implementation of global Target E of the Sendai Framework.

Private Sector

The network of private sector entities of the UNISDR Private Sector Alliance for Disaster Resilient Societies (ARISE), has voluntarily committed to align with the Sendai Framework, and to share information, experience, activities, and projects. Some of its members, among them the 'Build Change'¹⁸ initiative, have affected real change in hazard risk at the ground level in multiple countries and continents, improving hazard safety for a quarter of a million people, made fifty thousand buildings safer and trained over twenty five thousand people on safer construction. They have partnered with governments, but have also encountered difficulties and challenges created by public policies and practices. Private sector entities need to identify how they could support solutions to support monitoring and policy decision-support frameworks at national and local levels, drawing from inter alia lessons-learned from ARISE members.

Way Forward

The Issue Brief describes how a variety of existing initiatives and stakeholders are supporting countries enhance disaster-related data quality, set up national coordination mechanisms for disaster-related data, data-sharing protocols and data coherence. Collaboration is key to enhancing disaster-related data, and for its broad-based application for disaster risk reduction and sustainable development.

The *Global Partnership for Disaster-related Data for Sustainable Development* is intended to be a multi-stakeholder initiative bringing together governments, international organizations, the private sector, civil society groups, and the statistics and data communities, to optimize and operationalize their existing or future disaster-related data support to countries, by addressing data availability, but also issues of data accessibility and applicability and data quality for enhanced country capacity for the management of disaster risk and the measurement of the global targets of the Sendai Framework for Disaster Risk Reduction and the 2030 Agenda for Sustainable Development.

The partnership seeks to bring greater coherence of effort, identify and prioritize outstanding gaps to be addressed, and maximize impact of existing and future work carried out by stakeholders in advancing disaster-related data for sustainable development. This will be achieved by establishing a common strategy for implementation of key activities, and increased networking and collaboration for common goals.

Goals

- 1) Assist countries to fill key gaps in disaster-related data and national level capacity as uncovered by the Readiness Review.
- 2) Support countries in improving disaster-related data quality.
- 3) Increase accessibility of existing disaster-related data to all relevant stakeholders

¹⁸ <http://www.buildchange.org/>

- 4) Mobilize political will to apply disaster-related data to reduce disaster risk
- 5) Collaborate with countries in the development of statistical and analytical processing of data.
- 6) Ensure efforts contribute to, and are integrated in, the implementation, and monitoring and review of the 2030 Agenda for Sustainable Development.

To ensure that the partnership supports national and local implementation effectively, while the coordination is done globally, the partnership will be operationalized at regional level.