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Sendai Framework for Disaster Risk Reduction through a climate change adaptation lens

"Three out of four humanitarian disasters are now climate-related"

UN Secretary-General Ban Ki-moon

1 Global targets of Sendai Framework For Disaster Risk Reduction (SFDRR), A–G

What does it mean for climate change adaptation (CCA)?

The targets below are a basis for monitoring and evaluation of SFDRR. There are no clearly defined numerical targets, the achieved change should be "substantial", often with regard to the global outcome.

- Consistent with climate change adaptation goals in the context of climate risk assessment and achievement of climate resilience.

Targets A–D: aim to protect of life and assets including critical infrastructure

A Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality rate in the decade 2020–2030 compared to the period 2005–2015.

B Substantially reduce the number of affected people globally by 2030, aiming to lower average global figure per 100,000 in the decade 2020–2030 compared to the period 2005–2015.

C Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030.

D Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030.

Target E: aims for institutional strengthening and further development of DRR policies across different levels

E Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020.

The engagement at a local level – authorities, but also businesses and people – is particularly important in the DRR context as disasters and extremes occur most often on the local level. Preparing and adapting to climate-exacerbated risks is a part of this task.

- Joint pressure from climate change adaptation (CCA) & disaster risk reduction (DRR) communities can help to increase the overall number of countries with climate-risk strategies.
- Under the Paris Agreement (PA) countries should deliver National Adaptation Plans (NAPs) – new or updated versions – by 2020. Under SFDRR, national and local strategies for DRR should also be developed by 2020. Duplication of effort can be avoided if climate-risk related tasks are appropriately aligned.
- CCA narrative focuses on global impacts. DRR's long experience with work on the ground ("community-based DRR") can be used by the CCA community to mainstream its actions into overall prevention and preparedness.

Target F: aims to improve coordination with other fields and political frameworks with a particular emphasis on developing world

F Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this Framework by 2030.

SFDRR created an informal link to the International Mechanism for Loss and Damage (L&D) established in November 2013 at the UNCCC's Conference of Parties (CoP) in Warsaw. A formal reference – "*common but differentiated responsibilities*" – that would acknowledge liability of developed countries to support poor countries in fighting climate-amplified risks was rejected in the final document after a heated debate (Mysiak *et al*. 2016).

DRR community has a lot of experience in development work and aid. It also has a very broad risk perspective, including socioeconomic and political factors.

- Climate community working with the International Mechanism for Loss and Damage (L&D) could benefit from DRR community experience in that area. In particular, DRR could provide a good orientation for target values, effective monitoring and measurement. However, it is crucial that both communities agree on a standardised and unambiguous definition of L&D.
- DRR knowledge in development aid can be used to evaluate if climate finance is sustainable and truly effective by assessing its ability to improve general living conditions.
- DRR experience in population evacuation can be used by the CCA community to deal with climate migration movement.

Target G: aims to enhance of prevention and preparedness

G Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030.

SFDRR pledges a multi-hazard, science-informed risk policymaking process.

> **Paragraph 25b** "…global and regional levels" should "promote the conduct of comprehensive surveys on multi-hazard disaster risks and the development of regional disaster risk assessments and maps, including climate change scenarios" (UNISDR 2015b, p. 10).

- The development of early-warning systems and risk information and assessments undoubtedly advances preparedness for extreme events (which is also an integral part of adaptation) and offers a unique opportunity to harmonise CCA and DRR, e.g. with regard to indicators. This can lead to more effective working by avoiding duplication and creating synergies by bringing together different knowledge pools.

To realise that goal, non-sensitive, local-level data with reference to past events (spatial and temporal information), their financial impact – including spillovers – must become broadly available to conduct reliable risk assessments.

- Risk modelling and simulation, predominantly on the local level, are an important part of the risk assessment and enhancement of prevention and preparedness. With regard to climate-related risk, the CCA community with a strong scientific background can help to complete that task. The importance of the "climate" factor was emphasised in Paragraph 34c of SFDRR that mentions connections to the Global Framework for Climate Services.

2 SFDRR priorities for action, 1-4

Priority 1: Understanding disaster risk

SFDRR presents disaster risk management in a broader context, going beyond natural disasters and catastrophes and taking into account institutional and socioeconomic factors such as poverty, excessive extraction of natural resources, biodiversity loss. Climate change is noted as a hazard driver, although it can also diminish some disaster risks (Kelman 2015). Adaptation to climate change belongs naturally with DRR prevention and preparedness work.

The definition of risk offered by DRR community combines hazards and vulnerability. The latter plays a very important role in the DRR context. Climate change can affect vulnerability due to rapid changes in local circumstances that communities cannot handle (Kelman 2015). But climate change can also affect long-term vulnerability as, for example, populations move from increasingly uninhabitable areas into cities which are increasingly suffering from the Urban Heat Island (UHI) and its indirect effects.

- A very broad risk perspective can be useful in adaptation work, especially where different types of risk are at work. For example, heavy roofs tightly bonded to walls in general help to protect people and assets in the case of tropical cyclones as an adaptive measure, but can increase injuries to people during earthquakes (Menoni 2011).
- Negative consequences of CC related to local food and water resources and climate-related changes in ecosystems are well known to the CCA community. However, the notion of the vulnerability underlies increased risk and conflicts related to these developments.

Priority 2: Strengthening disaster risk governance to manage disaster risk

SFDRR calls for coordination with other political agreements and mainstreaming DRR into other fields:

> **Paragraph 47d** "… incorporate disaster risk reduction measures into multilateral and bilateral development assistance programmes within and across all sectors, as appropriate, related to poverty reduction, sustainable development, natural resource management, environment, urban development an adaptation to climate change" (UNISDR 2015b, p. 22).
> **Paragraph 28b** "… foster collaboration across global and regional mechanisms and institutions for the implementation and coherence of instruments and tools relevant to disaster risk reduction, such as for climate change, biodiversity, sustainable development, poverty eradication, environment, agriculture, health, food and nutrition and others, as appropriate" (UNISDR 2015b, p. 13).

- Coordinating SFDRR with the PA can significantly improve prevention and preparedness for climate risks, facilitating the achievement of related SFDRR and PA goals and reducing the overall reporting burden. It also increases the chance to realise multiple (adaptation) co-benefits, such as better quality of life, including lower exposure to natural hazards, improved infrastructure, improved health and education system, and more effective governance (Sethi and Puppim de Oliveira, 2018)
- Progress of SFDRR is assessed globally, but countries report nationally. As a result, overall global indicators can be completed by using national indicators to make the monitoring and reporting scale between SFDRR and PA consistent (national level).

Priority 3: Investing in disaster risk reduction for resilience

DRR puts emphasis on public and private investment in disaster risk prevention and reduction. It pledges for a multi-stakeholder approach involving private sector, local governments and communities. Successful partnerships include the Making Cities Safe campaign or the Worldwide Safe Schools Initiative (UNISDR 2015)

- A lion's share (70-85%) of total investments is accomplished by private business (UNISDR 2015). If done appropriately, these can help to decrease overall risk as well as climate-amplified risks. Close cooperation with the DRR community can bring practical adaptation to climate change forward substantially.

Priority 4: Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction

SFDRR recognises the urgent need for prevention and preparedness and well as thoughtful reconstruction after major events taking into account future risks. This task requires an enhanced multi-risk forecasting approach.

> **Paragraph 33a** "…Prepare or review and periodically update disaster preparedness and contingency policies, plans and programmes with the involvement of the relevant institutions, considering climate change scenarios and their impact on disaster risk" (UNISDR 2015b, p. 16).

- The DRR community promotes a "build back better" approach, taking into account an integrated and future-oriented risk assessment. This can be translated as "build forwards based on lessons learned" in the context of climate change. SFDRR clearly recognises the importance of climate change as a hazard driver and opens the door for cooperation.

3 Conclusion

Coordination with SFDRR can lead to more effective policies through joining of forces, more efficient use of resources, and improved prevention and preparedness with regard to climate-related risks.

SFDRR overview

Goal

- "The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries."

Time horizon

- 2015–2030 (15 years)

Agreement type

- Voluntary

Stakeholders

- Multi-stakeholder approach incl. local government and business

Monitoring, assessment and reporting

- 2015–2020: "set-up phase" for establishment of national and local DRR strategies
- 2020–2030: real assessment period in comparison to 2015 baseline
- The progress of SFDRR will be measured every two years by the UNISDR and presented in the Sendai Framework Progress Report. Seven global targets (A-G) of the Sendai Framework will be assessed by means of 38 numerical indicators. First progress report is expected to appear in 2019 – countries start reporting from March 2018 via online monitoring system – and will report on the trends in the implementation process during two periods, 2015–2016 and 2017–2018.

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