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Monitoring of and reporting on Green Infrastructure for the Sendai Framework Monitor: relevance for adaptation

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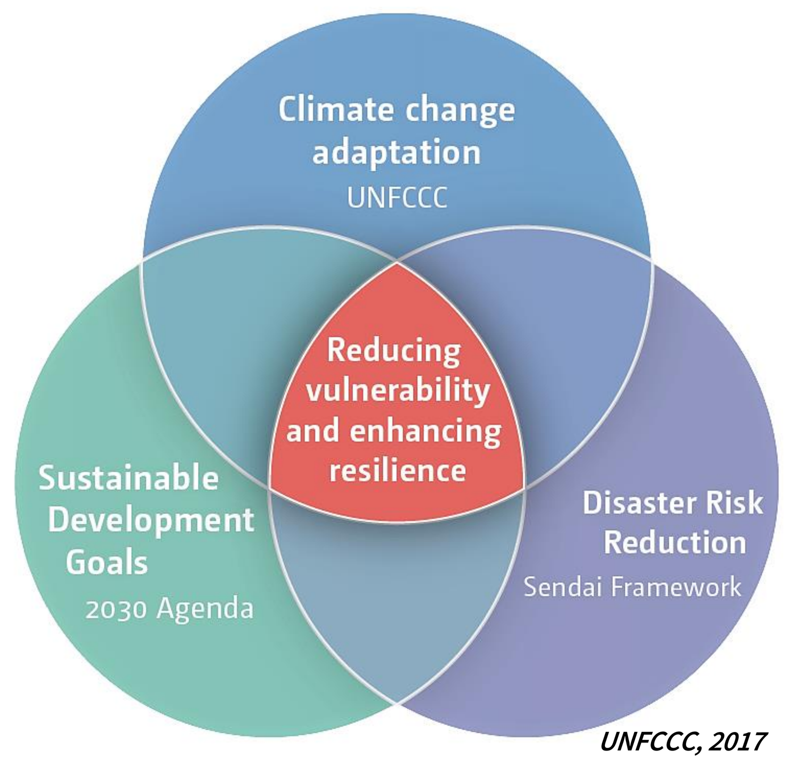
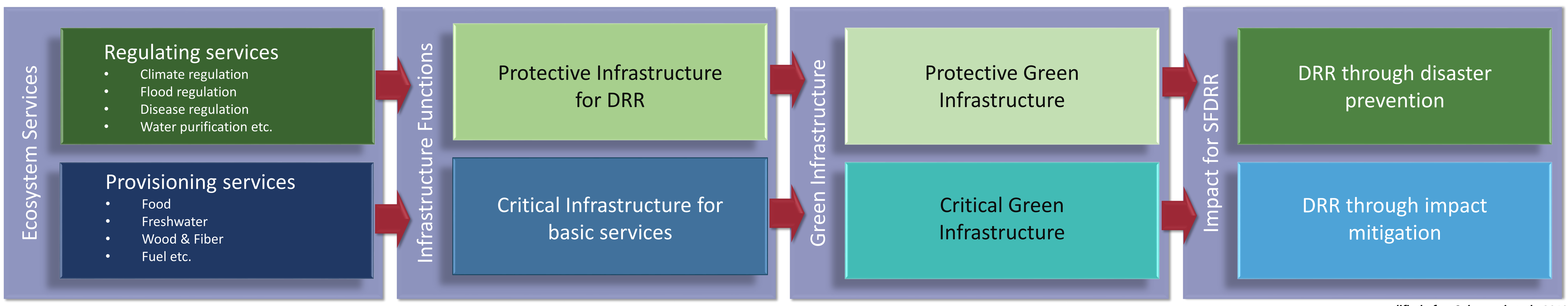


BACKGROUND

There are many opportunities to support integration between adaptation and disaster risk reduction. The management of ecosystems has been identified as one core opportunity for motivating such integration (UNFCCC, 2017). Uptake of ecosystem-based measures in National Adaptation Plans and National Disaster Risk Reduction Plans implies the monitoring and reporting of ecosystem losses due to disasters and the progress made towards their implementation. This poster explores opportunities for using already existing reporting options in the Sendai Framework Monitor (SFM) to generate data, which could also be useful for the global stocktake according to Article 14 of the Paris Agreement (UN, 2015).

The Sendai Framework for Disaster Risk Reduction (SFDRR) emphasizes the need to address underlying causes of disaster risk and to prevent the emergence of new risks, in addition to disaster preparedness. In the SFM countries can use critical or protective Green Infrastructure (GI) solutions as entry points for DRR. GI is defined as "strategically planned network of natural and semi-natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services such as water purification, air quality, space for recreation, climate mitigation and adaptation, and management of wet weather impacts that provides many community benefits" (UNISDR, 2017; p. 96). The monitoring of losses related to GI is possible under indicator *C-5 on direct economic loss resulting from damaged or destroyed Critical Infrastructure (CI) attributed to disasters* and indicator *D-4 on the number of other destroyed or damaged CI units and facilities attributed to disasters* in the SFM (Sebesvari et al., 2019).

CONCEPTUALIZATION OF GREEN INFRASTRUCTURE FOR THE SFDRR



modified after Sebesvari et al., 2019

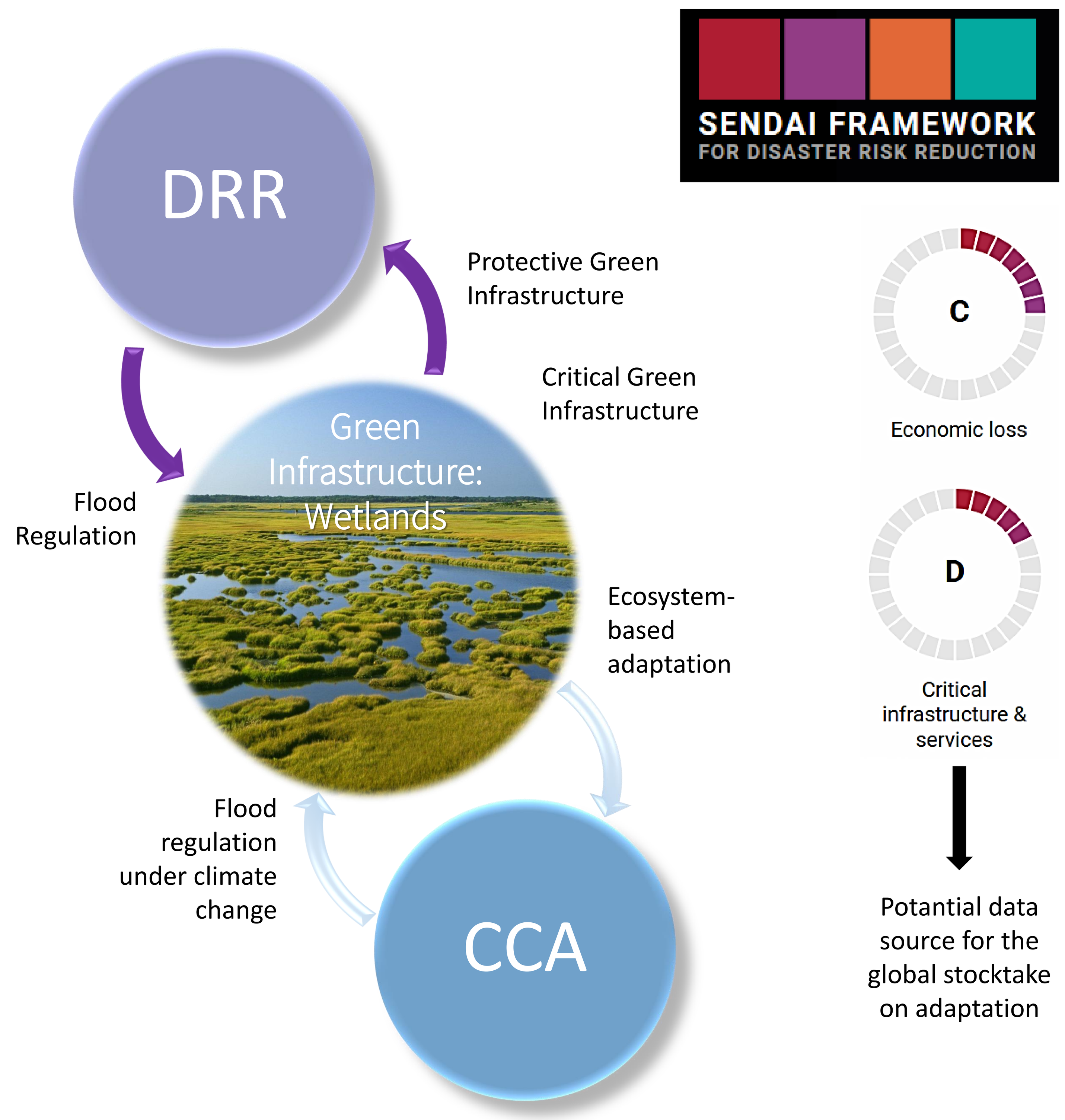
BRIDGING THE SFM WITH ADAPTATION: THE CASE OF WETLANDS AS CRITICAL GREEN INFRASTRUCTURE

Wetlands, such as areas of marsh, fen, peatland or water (Ramsar, 2016) provide a great variety of ecosystem services (Russi et al., 2013; Thorslund et al., 2017). A wetland may contributes to both hazard attenuation (due to their water retention and flow regulation capacity) and the supply of freshwater (due to their water purification quality), both so-called *societal basic services*, as defined in the SFM, which helps to reduce vulnerability (Sebesvari et al., 2019). Additionally, wetlands play a key role for climate change adaptation and mitigation (Ramsar, 2016). Therefore, reporting losses and damages related to wetlands as GI in the SFM through indicators C5 and D4, represents an opportunity to use this data in the future simultaneously to progress monitoring in adaptation in relation to climate related hazards (e.g. floods and droughts) in areas vulnerable to climate change impacts.

LA NIÑA 2010 – 2011: THE ROLE OF COLOMBIA'S WETLANDS

Colombia was severely affected by extreme rainfall events caused by La Niña of late 2010 - early 2011, which resulted in the generation of extensive floods. According to CEPAL (2013) these floods affected around 31% of the Colombian territory and were considered as one of the most intense during the last 40 years. Data from DesInventar, the SFM's database, reported the loss of almost 150,000 hectares of crops and woods (70% of the total losses) and around 54,000 units of livestock (99.9% of the total losses) (UNISDR, 2019).

Scientific research showed that wetland degradation was one of the main underlying drivers of these flood events, because the wetland capacity to regulate water, was severely affected by degradation (Ricaurte et al., 2017). These flood events triggered interest of national policy makers in better understanding the role of wetlands for reducing flood impacts. This example highlights the political will and relevance of monitoring wetlands in Colombia and advocates for their treatment as GI in the SFM understanding not just their vital role in disaster risk reduction (DRR) but also the co-benefits for climate change adaptation (CCA) in a tropical country were the frequency of climate related hazards is increasing (the climate scenarios for Colombia predict an increase in the average temperature between 2° and 4° C by 2070; UNDP, 2010).



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