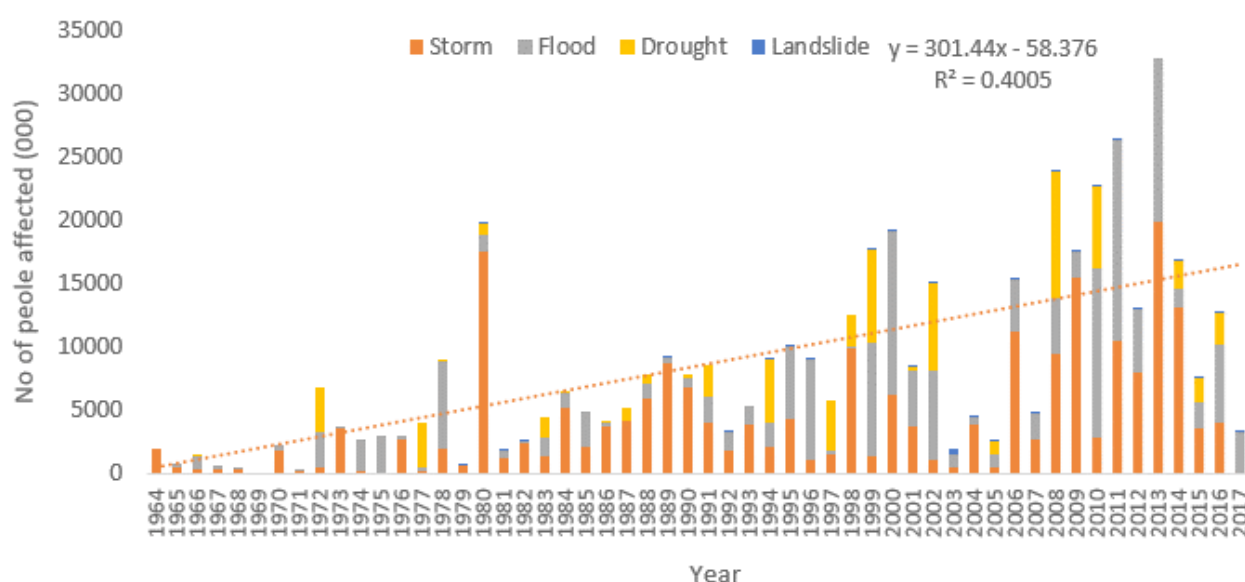


# INTRODUCTION

## Why link DRR and CCA?

The number of climate-related disasters occurring in the Member States (Figure 6) has been increasing over the past several decades.<sup>1</sup> This is partly due to growing populations living in hazard prone-areas and partly due to more intense, severe and longer impacts of climate change. In particular, recent climate projections indicate more severe consequences in terms of the intensification of disasters in the region.<sup>2</sup> Because of this direct effect of climate change on disasters, linking disaster risk reduction (DRR) and climate change adaptation (CCA) becomes a necessity.

DRR and CCA have several overlapping areas, which makes them easy to be integrated in approaches. Both DRR and CCA include vulnerability and risk assessments and they aim to reduce vulnerabilities and improve capacities so that the impacts of disasters are reduced. Both are relevant from national level to local level and need policies, guidelines and laws to affect needed change. Interventions could also have both DRR and CCA benefits. For example, protected forests and wetlands reduce rainwater and sediment runoff as well as consequent flood risk. Forests reduce landslide risk, and coastal forests such as mangroves reduce storm surge risk. These forests and wetlands function not only as a buffer for reducing disaster damage, but also for retaining water resources that helps improve the resilience and adaptive capacity of communities and ecosystems. From this viewpoint, natural resources management, including management of forests, wetlands and water resources, have several essential DRR and CCA functions. These DRR and CCA functions of interventions need to be properly evaluated. Related understandings and principles of DRR and CCA should also be incorporated into various risk assessments and national and local development plans, including land-use plans. Recognizing and

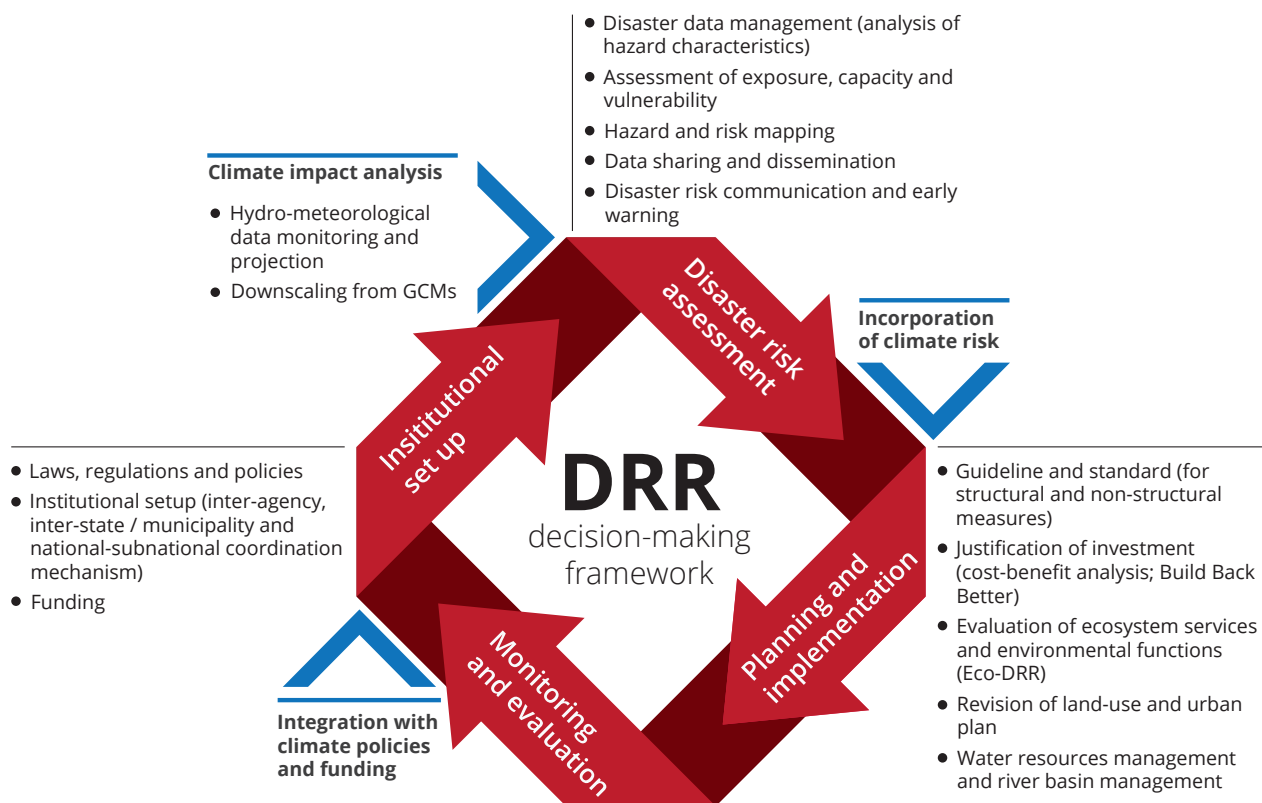


**Figure 6.** Trend in the number of disaster-affected people in ASEAN (prepared by the project team)

Data Source: EM-DAT, 2017

1 EM-DAT. 2017. The International Disaster Database. Brussels, Belgium: Centre for Research on the Epidemiology of Disasters. Available at [http://emdat.be/emdat\\_db/](http://emdat.be/emdat_db/)

2 The World Bank. 2013. Turn Down the Heat: Climate Extremes, Regional Impacts, and the Case for Resilience. Washington DC, USA. Available at <http://documents.worldbank.org/curated/en/975911468163736818/Turn-down-the-heat-climate-extremes-regional-impacts-and-the-case-for-resilience-full-report>



**Figure 7.** DRR decision-making framework with CCA coupling points

Source: JICA Project Team

maximizing such multiple functions essentially integrates DRR and CCA into interventions at all levels.

Recognizing the above discussed needs, synergies and compatibility, incorporating CCA considerations in every aspect of the DRR cycle is essential for reducing overall disaster risks and maximising the investment of limited resources into climate change. The DRR cycle (Figure 7) can be viewed in four components: a) setting up of appropriate institutions; b) assessing disaster risks; c) strategic planning and implementation; and d) monitoring and evaluation of the interventions at regular intervals. The necessary processes include climate impact analysis in disaster risk assessments, development plans, programs and projects; developing guidelines that will help various stakeholders to achieve the necessary integration; and putting in place appropriate institutional management and funding systems so that the additional costs and capacity needs, if any, associated with such integration, are addressed. Such integration would have to take place from the national to the ground level with ultimate success felt in overall risk reduction.

## Identification of good practices

As a part of the JICA-funded project on 'Strengthening Institutional and Policy Framework

on Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) Integration (CN20), the Project Team has identified a number of good practices on DRR and CCA integration in the Member States through interviews with government officials and field visits. This selection of good practices reflects the nature of the quick study, which was around two weeks in most countries, while lesser, between two and eight days, in some countries. The team selected practices that have DRR and CCA synergies. Importantly, these practices are transferable, applicable, and a good reference for all the Member States. A range of practices were selected for storms, floods, droughts and landslides, which include practices that integrated downscaled climate projections into risk assessments, and practices coordinating DRR and CCA policies, management strategies and funding systems. While not all practices have fully integrated DRR and CCA, they still have a potential to be promoted in the end due to the high proportion of DRR and CCA benefits they bring compared to business-as-usual practices.

## Categorization

Selected good practices are presented in six categories using the framework presented in the Table 1, largely derived from the framing concept

**Table 1.** Categories for DRR and CCA integration

Key words from the aims and specific objectives of the CN20 Project <sup>3</sup>	Categories		Priorities for Action of the Sendai Framework for DRR
Umbrella laws and regulations	Institutional setup	Laws, regulations and policies	Priority 2
Institutional and policy framework			
Relationships between national agencies responsible for DRR and CCA		Institutional arrangement	
Partnership in linking DRR and CCA at all levels			
Joint funding mechanism		Financial arrangement	
Participatory risk assessment		Risk assessment	Priority 1
Integrated planning of DRR and CCA		Planning and implementation	Priority 3
Support joint training and meetings		Capacity building	Priority 1-4

Source: JICA Project Team

set by the project. These six categories also correspond to the Priorities of Action of the Sendai Framework for DRR. Each of these categories are described in Table 2.

### Description of good practices

The description of good practices include the following structure: a) general description of the practice; b) climate hazards addressed by the practice; c) DRR and CCA benefits; and d) scalability potential. The scalability potential was described in terms of a) acceptability (social and political); b) economic viability and sustainability; and c) institutional and policy needs. The description was developed based on direct consultations with relevant stakeholders or expert judgement from the project team whenever necessary.

- **Description of practice:** Provides a brief narrative on what constitutes the practice and its design elements, if any, to provide a comprehensive view to the reader. Due to page limitations of the publication, only a brief account of the practice was provided.
- **Climate hazards addressed by the practice:** Provides an idea if the practice is specific to address specific hazards or can be applicable to a range of hazards.
- **DRR and CCA benefits:** Describes important DRR and CCA benefits offered by the practice,

both qualitatively and quantitatively wherever available.

- **Scalability potential:** Scalability potential of the practice depends on the practice itself and the enabling environment within which a particular practice operates. Hence descriptions were provided on specific bottlenecks, if any, that may hinder the scaling up of a particular practice. It also provides an idea about possible geographical areas as to where a particular practice could be scaled up.
  - **Social and political acceptability:** Describes specific social and political factors that may hinder the general acceptability of a practice to come into being.
  - **Economic viability and sustainability:** Describes factors affecting a particular practice's economic viability and sustainability as cost is an important consideration for the uptake of the practice and its long-term sustainability.
  - **Institutional and policy needs:** Support from existing institutions and policies are important determinants for a practice to perform well.

<sup>3</sup> For more details on the CN20, please refer to: <https://www.drrandcca.com/>

**Table 2.** Description of six categories of good practices presented in this publication

Category	Description
Laws, regulations and policies	Identifies those national policies, strategies and plans that incorporates and promotes DRR and CCA integration
Institutional arrangement	<p>Presents good practices pertaining to</p> <ul style="list-style-type: none"> <li>• Examples of integration of horizontal (i.e. ministries/agencies) and vertical (i.e. national, district, municipality to village/community) DRM systems.</li> <li>• Examples where climate change-related risks are well considered among the DRR agencies related to flood, storm, landslide and drought risk reduction in terms of prevention and mitigation (including investments) as well as water resources management, including river basin management and river management.</li> <li>• Examples of CCA agencies and national climate change committees and related coordination systems among DRM and DRR agencies</li> </ul>
Financial arrangement	Presents good funding practices for promotion of DRR and CCA
Risk assessment	<p>Presents cases pertaining to</p> <ul style="list-style-type: none"> <li>• Disaster data that is systematically collected and analysed</li> <li>• Well established meteorological observation systems that analyse climate change impacts on rainfall etc.</li> <li>• Hazard and risk maps for storm, flood, landslide and drought are prepared for the country and regions/provinces levels; including those that incorporate climate change impacts; and good practices in dissemination and use of hazard and risk maps leading to their integration in development and land-use plans</li> </ul>
Planning and implementation	<p>Presents cases pertaining to</p> <ul style="list-style-type: none"> <li>• Formulation and implementation of DRR plans, including structural and non-structural measures, incorporating climate change risks; or those DRR plans that have high potential for integration of climate change risks with a stage-wise implementation</li> <li>• Development and use of guideline and standard that help promote integrating climate change risks into DRR plans</li> </ul>
Capacity building	Good practices pertaining to training of relevant officials and stakeholders for integrating DRM, DRR and CCA

Source: JICA Project Team