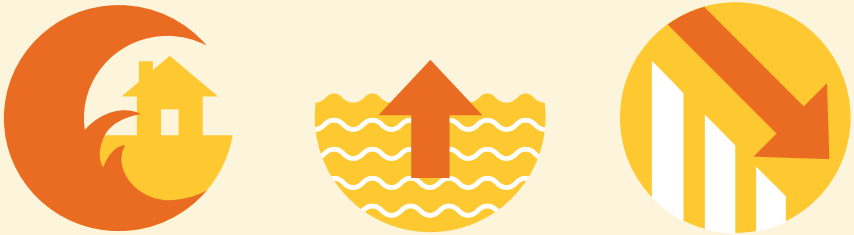
The Links Between Loss and Damage, Climate Change Adaptation, and Disaster Risk Reduction

BRIEFER



Oscar M. Lopez Center
Science for Climate Resilient Communities

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The Links Between Loss and Damage, Climate Change Adaptation, and Disaster Risk Reduction

The series of climate-related disastrous events over the past years call for a stronger climate adaptation action and disaster risk reduction measures to take place. However, studies show that there are climate-related disasters that people cannot cope with despite the existing adaptation and disaster mitigation mechanisms for the affected community. This highlighted the need to better understand the concept of "loss and damage", (L&D) which is recognized in the Philippines as an emerging issue that could enhance the nation's initiatives to address climate change impacts.

In line with this, the Oscar M. Lopez Center developed this briefer to provide some basic information about L&D, and introduce relevant concepts and mechanisms involved in adopting L&D information as an integral component in building back better and the cyclic process to reduce L&D, enhance resilience and reduce vulnerability. This briefer also introduces the L&D Framework that can serve as a tool or approach to planning, policy and intervention. The aim is to help local government units, climate change adaptation (CCA) and disaster risk reduction (DRR) practitioners and other stakeholders in better understanding the L&D concepts and mechanisms so they can integrate these concepts into their existing policies and development plans.

THE CONCEPTS

1 What is loss and damage (L&D)?

In simplified terms, losses and damages are the most common observable negative effects of any event, whether climate-related or not. If something occurs and nothing is lost or damaged after that occurrence, then it is safe to say that the occurrence had no negative impact. In terms of climate-related events, the following definitions of loss and damage are often used or referred to:

- "Negative effects of climate variability and climate change that people have not been able to cope with or adapt to." (Warner et al., 2012)
- "Current or future negative impacts of climate change that will not be addressed by adaptation efforts." (Nishat et al., 2013)
- "The residual costs, which are not avoided through adaptation and mitigation, and which can be further split into economic and non-economic losses." (UNFCCC, 2013)

2 Is there a difference between losses and damages?

Yes. The Office of the Civil Defense (OCD) defines these two concepts as follows:

- Losses refer to the value of unavoidable revenue that was affected after the disaster such as decrease in the production figure due to the reduction of workforces and increase in expenses in the production. Whether public or private, the values of losses are measured in the amount in pre-disaster prices of: foregone income opportunities; higher operating or production costs; and unexpected expenses.
- Damages refer to the value of affected asset such as structures, equipment and other related physical properties (houses, schools, hospitals, and equipment). It also refers to the value of affected assets (physical assets or infrastructure, final goods, raw materials, equipment and other properties).

International definition (Huq, 2014)

- Losses are irrevocable and complete losses that "are lost forever and cannot be brought back once lost". Examples: human lives, habitats, and species.

- Damages refer to harm to something that can be repaired. Examples: damages to roads, buildings or embankments.

3 Is there a difference between the local and international definitions?

In terms of "loss," the local definition seems to be more economic in nature as losses are translated into revenue costs.

4 Are there losses that are non-economic? What is the difference between economic and non-economic losses?

- Economic losses can be understood as the loss of resources, goods and services that are commonly traded in markets.
  Examples: Income and physical assets

- Non-economic losses can be understood as the remainder of items that are not commonly traded in markets.
  Examples: Environment, Individual, Society

THE SIGNIFICANCE OF L&D: INTERNATIONAL AND NATIONAL VIEWS

The importance of L&D has also become a key issue in global discussions on climate change adaptation and disaster risk reduction. At the 19th Conference of Parties of the United Nations Framework Convention on Climate Change (UNFCCC)[1], the urgency of addressing L&D was made manifest in the establishment of the Warsaw International Mechanism on Loss and Damage.

5 What is the Warsaw International Mechanism on L&D?

It is a mechanism established at the 19th Conference of the Parties meeting of the UNFCCC[1] in 2013 in Warsaw, Poland. It aims to address L&D associated with impacts of climate change, including extreme events and slow-onset events, in developing countries that are particularly vulnerable. It has three main functions:

[1]The United Nations Framework Convention on Climate Change (UNFCCC) is an international environmental treaty negotiated at the Earth Summit in Rio de Janeiro on 3-14 June 1992, then entered into force on 21 March 1994. The UNFCCC objective is to "stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system".

- Enhancing knowledge and understanding of comprehensive risk management approaches.
- Strengthening dialogue, coordination, coherence and synergies among relevant stakeholders.
- Enhancing action and support including finance, technology and capacity-building.

6 How is the Philippine Government responding to this?

The Philippine Government has recognized the importance of tackling L&D by including a separate section from 'adaptation' in its Intended Nationally Determined Contributions (INDCs). INDC is a term used under the UNFCCC for country commitments in reducing greenhouse gas emissions. Countries who are signatories to the UNFCCC were asked to publish their INDCs in the lead up to the 2015 United Nations Climate Change Conference held in Paris, France in December 2015.

7 What does the Philippines' INDC say about L&D?

- The basic foundation for prioritizing adaptation measures is to ensure that L&D from climate change and extreme events are minimized to ensure achievement of national development targets. This is done through building capacities and enhancing resilience to avoid and mitigate losses in a sustainable manner.

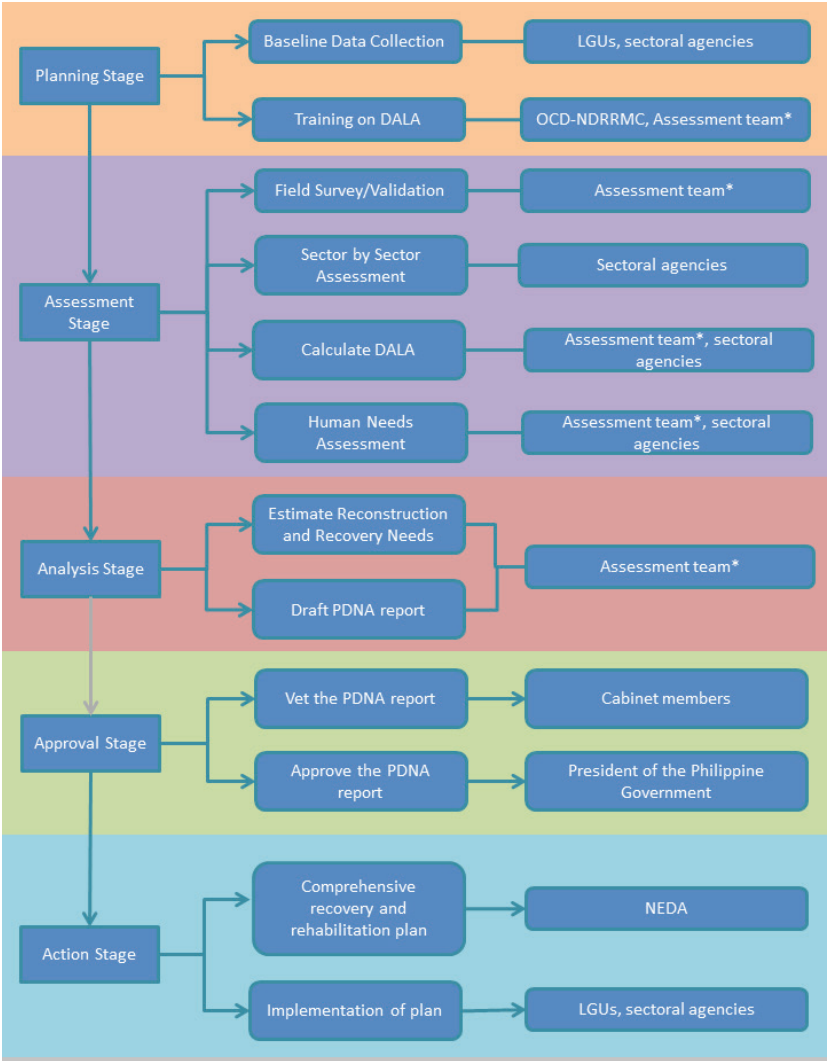
- The Philippine INDC assumes that L&D from climate change and extreme events will not require diversion of substantial resources for rehabilitation and reconstruction, thereby adversely affecting the country's capacity to meet national development targets as well as its mitigation commitments.

CURRENT STATE OF L&D IN THE PHILIPPINES

Since 2009, the country has been using the Post-Disaster Needs Assessment (PDNA) as an approach to assess the L&D and the impacts of various major disasters in the country (e.g. earthquake, and flood). It follows a structured process and guidelines and was based on the Damage and Loss Assessment (DALA) methodology of the UN Economic Commission for Latin America and the Caribbean (ECLAC). The guidelines, along with the DALA methodology for PDNA, are constantly being revised by the national government to best fit the context of the Philippines.

8 What is the current flow of L&D assessment in the Philippines?

The L&D assessment system in the Philippines generally follows a five-step or stage procedure: (1) planning, (2) assessment, (3) analysis, (4) approval, and (5) action. The Figure below shows the general flow of the L&D assessment system in the Philippines, using PDNA, and the key actors.



LINKING L&D-CCA-DRR

9 Why is there a need to link L&D with CCA and DRR?

It is important to promote and support a development agenda that is climate-sensitive and disaster resilient. With the projected climatic changes and current efforts in both mitigation and adaptation, L&D will continue to persist and may even worsen.

10 How is this link manifested in policy/the Philippines?

There is no one policy, document or other that establishes the link clearly. At present, these concepts are still treated separately in different legal instruments, such as the *Philippine Climate Change Act*, the *Philippine Disaster Risk Reduction and Management Act*, among others.

11 How does the Philippine Climate Change Act of 2009 define CCA?

CCA is the adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.

12 What is the definition of DRR based on the Philippine Disaster Risk Reduction and Management Act of 2010?

DRR is the concept and practice of reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters, including through reduced exposures to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events.

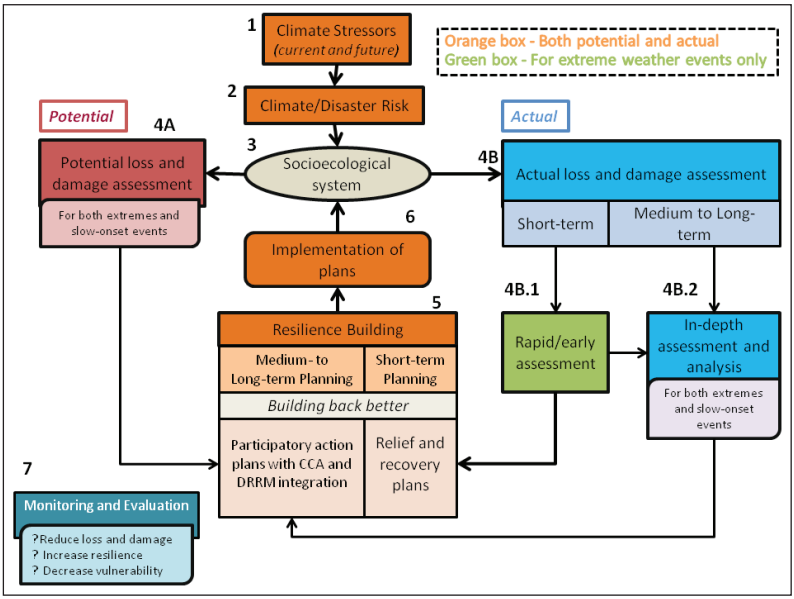
13 How do we link L&D, CCC and DRR?

We can link L&D, CCA and DRR through a framework. Oscar M Lopez Center has developed an L&D Framework (to be defined below).

14 What is the L&D Framework?

It is a framework that shows a cyclic process of reducing or avoiding L&D associated with climate change impacts and increasing resilience by combining both climate change adaptation and disaster risk reduction strategies through these 7 major components: climate stressors, climate/disaster risk,

socioecological system, potential and actual L&D assessments, resilience-building as incorporated in the planning process, implementation, and monitoring and evaluation.



15 *What are the components of the L&D Framework?*

1-3: Climate stressors (current and future), climate/disaster risks, and socioecological system

The framework puts emphasis on considering the climate stressors under current and future climate (#1). Depending on the stressors, the extent of the climate change impact and magnitude of the disaster in a given socioecological system will vary (#2 and #3).

4A: Potential L&D

Under the "potential" pathway (#4A), the framework suggests determining the potential L&D information (red box) for both slow- and rapid-onset events through various methods such as valuation of resources, cost-benefit analysis, and scenario building among others. As an example, this step hopes to answer questions similar to "What is the potential L&D to the current socioecological system if a typhoon of a certain intensity and severity hits this area?" or "If the sea level rises at a certain rate, what is the potential L&D to the coastal areas in ten years?"

4B: Actual L&D: 4B.1 rapid/early assessment (short-term), and 4B.2 in-depth assessment and analysis (medium- to long-term)

While the "actual" pathway is not encouraged, every climate change impact and disaster should be considered as an opportunity to build back better and learn from the experiences. L&D assessment is a critical component of this framework where L&D information from existing slow-onset and rapid-onset events (green box for extreme weather events only) are gathered, collated, processed, and analyzed. The two-pronged approach includes rapid/early assessment, and in-depth assessment and analysis (#4B.1 and #4B.2).

5: Resilience-Building

The L&D information generated from the rapid/early assessment is used for short-term planning for relief and recovery purposes and for provision of immediate assistance (#5). Meanwhile, information from in-depth analysis and L&D modeling should feed into action plans, as basis for new CCA and DRRM plans or as assessments of existing ones towards building back better communities and ecosystems. The framework stresses the need for a participatory action planning that looks into the medium- to long-term plans. At this stage, the line of questioning may include: Are the current strategies or policies being used still applicable and effective? Is there a need to create or introduce new strategies, or is an improvement of existing ones sufficient? The information will serve as evidence-based inputs when creating, and monitoring/evaluating medium- to long-term action plans. The creation of the action plans with L&D, CCA and DRRM integration has its own detailed process or system, and is not reflected in the framework but the participatory approach is emphasized for its importance in decision-making to ensure sense of ownership and active involvement of stakeholders.

6: Implementation of plans

Under #5, the short-, medium-, and long-term plans are done not just to recover from the impacts but to build back better from what used to be the current state and function of the system. Implementation of plans (#6) should contribute not just to the recovery of the socioecological system but also to improve the system against future climate impacts and disasters. However, it is acknowledged that the implementation of such plans is still a challenge especially if these are not among the top priority of the governing authorities.

7: Monitoring and evaluation

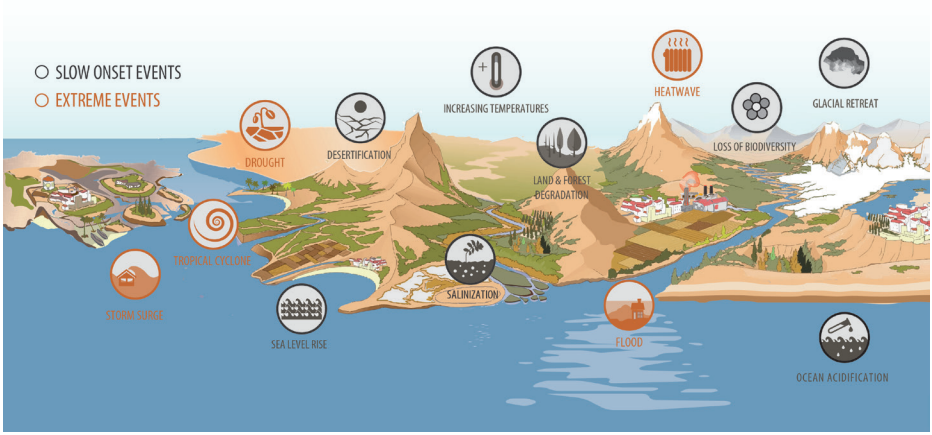
Monitoring and evaluation (#7) is as critical as all the other components in the framework and should be done at every step of the cyclic process.

Active monitoring and evaluation through a set of indicators is required to make sure that the gaps and issues in the system will be tackled. The improved socioecological system could still be affected by the impacts of the climate stressors therefore monitoring and evaluation of both the step-wise and whole process is always essential. In this cycle, the ultimate goal is to continuously reduce loss and damage, increase the resiliency of the system, and decrease its vulnerability to the continuing and future impacts of climate change.

16 How do we differentiate slow-onset events vs. extreme events?

- *Slow-onset events develop gradually through incremental changes occurring over many years or from an increased frequency or intensity of recurring events*

- *Rapid onset/extreme events may be a single, discrete event that occurs in a matter of days or even hours*



(Source: UNFCCC)

17 What are the challenges in addressing L&D and in linking L&D, CCA and DRR? How can they be addressed?

The Oscar M. Lopez Center conducted a series of consultations and workshops with the OCD National Disaster Risk, Reduction and Management Council (NDRRMC), local government units (LGUs) of Pila, Laguna and Ormoc, Leyte, and representatives from the academe, various national government agencies,

non-government organizations and private groups. One of the objectives of these series of consultations and workshops is to identify the challenges and recommendations in addressing L&D and in linking L&D, CCA and DRR.

The key challenges and recommendations that emerged are as follows:

Challenges	**Recommendations to address the challenges**
Data	
Data-related concerns are one of the most prevailing challenges identified in terms of data usefulness, data accessibility and sharing, tools or methods to gather data and database management system.	• Develop baseline data • Develop a system for building an L&D inventory • Develop a more open policy on data sharing • Develop standard and unified tools and methods in data gathering
Governance	
Governance-related issues were identified as rooted in problems on policy development, implementation, monitoring and evaluation and political will.	• Mainstream L&D info in CLUPs through a policy • Streamline policy and policy implementation • Mandate LGUs to come up with a resiliency plan that integrates Local Climate Change Action Plan, Disaster Risk Reduction and Management Plan (DRRMP) and L&D
Translation	
There is difficulty in translating the scientific knowledge in a form that can be understood, used and applied by target stakeholders for climate and disaster actions.	• Develop a mechanism aimed at translating technical information into formats that are useful to policy makers, planners, and LGUs

Funding

This refers to lack of allocation and financial resources for various L&D-CCA-DRR related activities.

- Allocate funds to generate knowledge and building knowledge databases
- Reach out to private sectors
- Pool funds from other sources other than Local DRRMP fund

Sector-Specific Risk Assessment

The absence of sector-specific risk assessment was identified as a challenge particularly for the practitioners and development planners since the lack of enough sector-specific inputs and comprehensive framework on assessing risk per sector will make it difficult for them to create and implement a sound risk management plan.

- Come up with a comprehensive sector specific risk assessment framework
- Strengthen public-private partnership to create synergies in conducting sector-specific risk assessments

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Technical Capacity

The application and use of L&D framework as tool and approach to implement CCA and DRR strategies will not work in the absence of technical capacity to understand and mainstream the concepts of L&D, CCA and DRR in various policies and development plans. Thus, the lack of enough technical capacity among development planners and policy makers is a big challenge in the L&D system.

- Build LGU's capacity to understand and translate science-based info into their specific contexts
- Maximize the facility of the Local Government Academy (LGA)[2]

[2] One of the main roles of the LGA is to provide training for the local government sector. LGA runs the national training center of the Department of the Interior and Local Government that are used for in-service trainings, orientation courses, seminars, workshops and conferences.

This briefer is a knowledge product produced by the Oscar M. Lopez Center under the project "Assessing the linkages between climate change adaptataion (CCA), disaster risk reduction (DRR), and loss and damage (L&D): Case studies in the low-lying coastal cities of Cambodia, Indonesia, Philippines, Thailand and Vietnam" funded by the Asia-Pacific Network for Global Change Research.

About the Oscar M. Lopez Center

The Oscar M. Lopez Center, a non-profit organization principled on climate science, commits itself to enhancing the climate disaster resilience of society through science, innovation and strategic networks.

Founded in 2012, The OML Center was established as a response to an apparent research gap that was alarmingly disproportionate to the climate-related risks and vulnerabilities of the Philippines. The first of its kind in the country, it continues to be the only privately funded research institution dedicated to enabling solutions for climate change adaptation.

www.omlopezcenter.org

About the Asia-Pacific Network for Global Change Research

APN is an inter-governmental network which aims to investigate changes in the earth's life support systems, and their implications for sustainable development and to promote policy-oriented research and capacity building activities related to global change in the Asia-Pacific region.

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