

# **State of Loss and Damage Assessment System in the Philippines and Proposed L&D Framework**

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## **Abstract**

The Philippines is most vulnerable to devastating climate-related disasters given the current and projected impacts of climate change. Loss and damage (L&D) is inevitable and it has become a key issue in global discussions on climate change adaptation (CCA) and disaster risk reduction (DRR). In many developing countries like the Philippines, L&D is considered an emerging concept that could enhance the nation's initiatives to address climate change impacts. This study employed review of literature, focus group discussions, round table discussion, and key information interviews to assess the state of L&D system in the Philippines including the process, key actors, gaps and challenges, and ways at improving the current state of the L&D system. It also introduced a framework that shows a cyclic process of reducing or avoiding L&D associated with climate change impacts and increasing resilience by combining both CCA and DRR strategies through seven major components: (1) climate stressor, (2) climate/disaster risk, (3) socioecological system, (4) potential and actual loss and damage assessment, (5) resilience-building, (6) implementation of plans, and (7) monitoring and evaluation. This L&D framework could serve as a tool or approach to planning, policy or decision-making, and providing interventions at different scale and targeting multiple stakeholders.

**Keywords:** adaptation, climate change, disaster risk reduction, loss and damage, Philippines

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## **1 Introduction**

Climate-related disaster events are common in the Philippines. According to the World Risk Report 2016 (Garschagen et al., 2016), it is the third most at risk country worldwide to

disasters based on the vulnerability and exposure to natural hazards of over 170 countries. In the 2015 Global Climate Risk Index (CRI) by Germanwatch (Kreft, Eckstein, Junghans, Kerestan, & Hagen, 2014), it is among the top five most affected countries by extreme weather events from 1994 to 2013. These extreme weather events along with the impacts of slow-onset events have caused losses and damages in the country (Garschagen et al., 2014; World Bank and National Disaster Coordinating Council [NDCC], 2005; World Bank, 2013).

Loss and damage pertains to the “negative effects of climate variability and climate change that people have not been able to cope with or adapt to” (Warner & van der Geest, 2013, p.369). With the projected climatic changes and current efforts in both mitigation and adaptation, loss and damage will continue to persist and may even worsen (Intergovernmental Panel on Climate Change [IPCC], 2014; World Bank, 2013). There is a need to go beyond mitigation and adaptation. The climate change problem is so severe and the efforts are so minimal that the concept of loss and damage must be realized and emphasized.

Loss and damage remains to be a controversial topic in the international discussion especially when it comes to liability and compensation. Nonetheless, notable developments in the discussion on loss and damage have been coming up since its introduction in the United Nations Framework Convention on Climate Change (UNFCCC) 13<sup>th</sup> Conference of Parties (COP) in Bali, Indonesia. The acknowledgement of loss and damage in 2018 as a separate concept from adaptation paved the way for it to be discussed separately and in more detail. A Work Programme on Loss and Damage was then formed in 2010. The urgency of addressing loss and damage was manifested in the establishment of the Warsaw International Mechanism on Loss and Damage in 2013 which allowed the creation of a two-year work plan with nine action areas approved by the COP in 2014.

This study touched on the first and fifth action areas of the Loss and Damage Mechanism which are “Enhance the understanding of how loss and damage associated with the adverse effects of climate change affect particularly vulnerable developing countries, segments of the population that are already vulnerable owing to geography, socioeconomic status, livelihoods, gender, age, indigenous or minority status or disability, and the ecosystems that they depend on, and of how the implementation of approaches to address loss and damage can benefit them” and “Enhance the understanding of the capacity and coordination needs with regard to

preparing for, responding to and building resilience against loss and damage associated with extreme and slow onset events, including through recovery and rehabilitation” respectively (UNFCCC, 2014).

The Philippine Government has recognized the importance of tackling loss and damage 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. Philippines was among the 37% of countries that submitted INDC that mentioned loss and damage (Hoffmeister & Huq, 2015). Loss and damage was recognized by the Philippine Government as a barrier in achieving its national development targets (Government of the Philippines, 2015). This acknowledgement on the issue opens opportunities to advance the discussion at the national level.

Discussion on liability and compensation at the international level has been linked to losses and damages from extreme and slow-onset events related to climate change as calculations and assessment may be used as basis of financial instruments and tools. At the national level, losses and damages are assessed to determine the needs of the affected community. A smooth and efficient assessment system is needed to provide accurate and timely assessment report on the impacts of climate change-related events and disasters. There is an emphasis on the use of loss and damage information as a basis to create and develop plans and tools.

This study reviewed the current state of loss and damage assessment system in the Philippines, and the challenges and opportunities of incorporating loss and damage (L&D) information with climate change adaptation (CCA) and disaster risk reduction (DRR). It also proposed a cyclical and holistic approach on tackling L&D through a framework that links it to CCA and DRR.

## **2 Methods**

This study was conducted from August 2014 to August 2016 using qualitative research methods such as focus group discussions (FGDs), key informant interviews (KIIs), national

workshop, and round table discussion (RTD). Table 1 summarizes the activities and the participants involved. All activities were documented and audio recorded.

**Table 1** Activities and participants involved

<b>Activity</b>	<b>Number of Participants</b>	<b>Participants</b>
FGD – November 2014	17	Government agencies (Department of Agriculture [DA], National Economic and Development Authority [NEDA], Philippine Statistics Authority [PSA], League of Provinces of the Philippines [LPP]), local government unit, non-government organizations (Oxfam, Earthquakes and Megacities Initiatives [EMI], ChristianAid), and research and academic institutions (University of the Philippines Los Baños [UPLB], Manila Observatory [MO], Dela Salle University [DLSU], International Rice Research Institute [IRRI], Ateneo School of Government [ASoG])
KII – January 2015	1	Director Edgardo J. Ollet, MNSA, Chief of Plans and Programs of OCD-NDRRMC Central Office
Workshop – April 2015	58	Government agencies (OCD-NDRRMC, Climate Change Commission [CCC], NEDA, Special Committee on Climate Change of the House of Representatives, Department of Education [DepEd], DA, Department of Industry [DTI], PSA, LPP, Department of Public Works and Highways [DPWH], Department of Health [DOH], Mines and GeoSciences Bureau [MGB], Housing and Urban Development Coordinating Council [HUDCC], Department of Finance [DOF], Department of Transportation and

		Communication [DOTC], and Philippine National Oil Company Renewables Corporation [PNOC]) local government units, non-government organizations (Philippine Disaster Resilience Foundation [PDRF], Oxfam, United Nations Development Programme [UNDP], and EMI), research and academic institutions (MO, ASoG, and University of the Philippines), and other relevant stakeholders (Energy Development Corporation [EDC], and Metropolitan Waterworks and Sewerage System [MWSS])
RTD – August 2016	10	OCD and EDC

Initial data gathering was done through review of literature and FGD. Seventeen experts from different government agencies, local government unit (LGU), non-government organizations (NGOs), and research and academic institutions were consulted through an FGD regarding the challenges and gaps in loss and damage assessment, and its possible linkages to climate change adaptation and disaster risk reduction. This was done to create an initial assessment on the topic and to confirm how the study should go forward. The first draft of the proposed framework was also presented to the experts for further inputs.

To validate the initial findings from the review of literature and FGD, KII was conducted with the Chief of Plans and Programs of the Office of Civil Defense – National Disaster Risk and Reduction Management Council (OCD-NDRRMC). This was done to ensure that the interpretation from the review of literature and FGD was correct and that there were no contradictions between the initial results of the study from what was really happening and from what was being done by the national government.

Fifty-eight science and policy experts and representatives from various national government agencies, LGUs, NGOs, research and academic institutions, private groups, and other relevant stakeholders were also convened in a form of a national workshop to: (1) present the latest findings of the study and ask for feedback and (2) to discuss gaps, challenges, and opportunities in linking L&D with CCA and DRR in the Philippines.

The last activity that was held was an RTD with staff from the OCD and an observer from EDC. This was done to validate and finalize the results from all the previous activities and to seek for final inputs and comments on the proposed framework.

### **3 State of Loss and Damage Assessment System in the Philippines**

The Philippines has been using the Post-Disaster Needs Assessment (PDNA) as an approach to assess the impacts of various major disasters in the country (e.g. earthquake and flood) since 2009. During typhoon Ondoy and Pepeng (international names: Ketsana and Parma, respectively), PDNA was used to assess the impacts and needs of the affected communities through the request of the Department of Finance to various development partners such as Asian Development Bank (ADB), European Commission, United Nations (UN), and World Bank (WB), among others (World Bank, 2011). The approach used for the assessment of losses and damages was based on the Damage and Loss Assessment (DALA) methodology of the UN Economic Commission for Latin America and the Caribbean (ECLAC). The guidelines that were used along with the DALA methodology for PDNA was constantly being revised by the national government to best fit the context of the Philippines.

#### **3.1 Assessment Flow and Key Actors**

The L&D assessment system in the Philippines generally follows a five-step procedure or stage: (1) planning, (2) assessment, (3) analysis, (4) approval, and (5) action stage. Figure 1 shows the general flow of the L&D assessment system in the Philippines using PDNA and the key actors. The assessment team cannot proceed with in-depth assessment while humanitarian assistance and initial relief and recovery activities are still ongoing. This is to ensure the welfare of the team and prevent disorder caused by anxious victims waiting for relief goods and other forms of help.

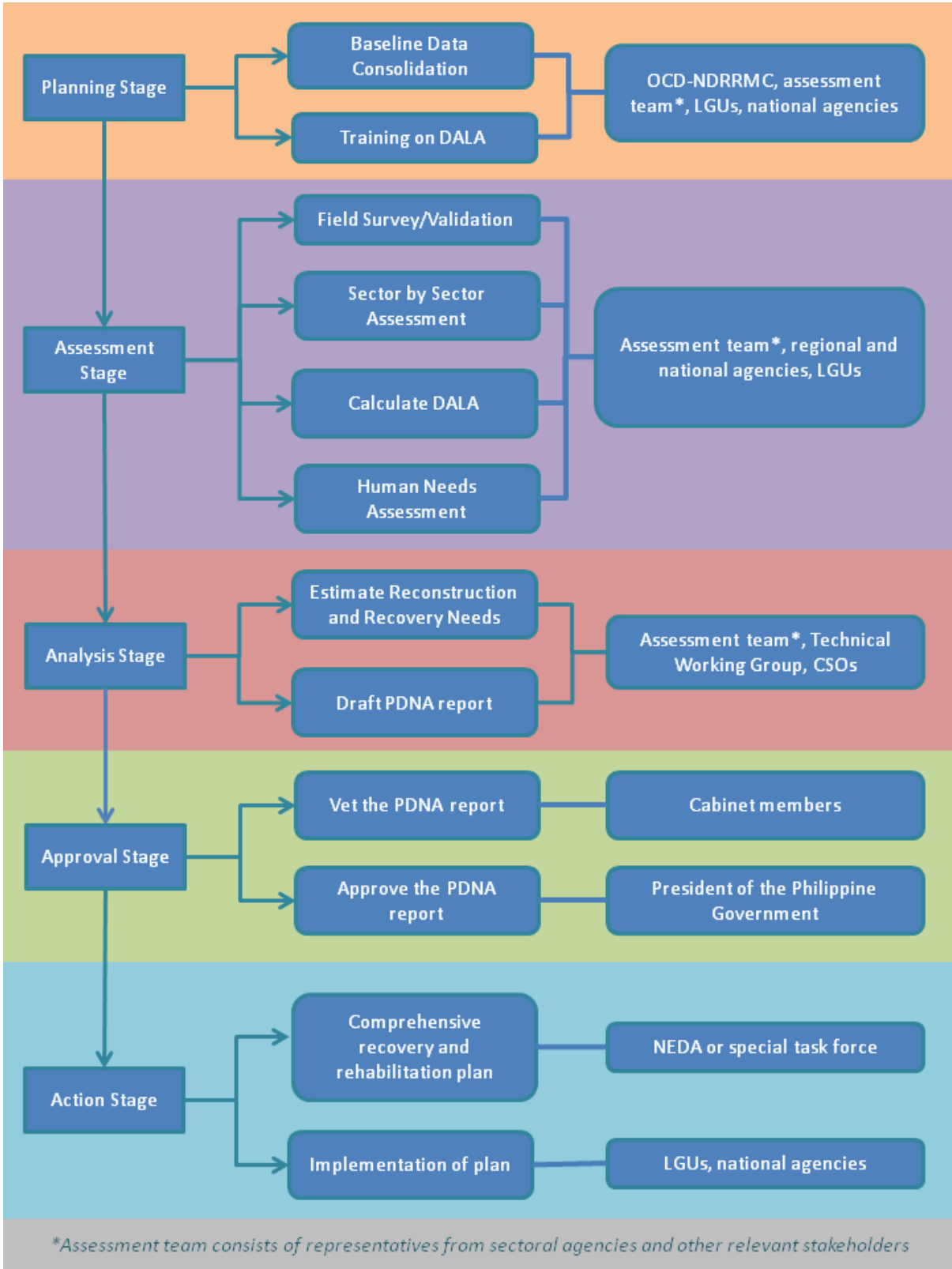
Some humanitarian organizations also conduct assessment. Their gathered data are submitted to the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) to serve as guide in providing the needed aid, usually through financial assistance.

This process is usually applied for disaster events that have a wider geographical scope (e.g. more than one province is affected). For localized or disaster events that have a smaller scope (e.g. a number of municipalities or barangays in one province are affected), assessment reports prepared by various sector offices of the LGU are submitted to their local disaster risk reduction and management officer (LDRRMO) and provincial offices (depending on the scope of the disaster) for consolidation, documentation, and immediate response.

### **3.2 Challenges in and Recommendations for the Loss and Damage Assessment System**

The Philippines has a L&D assessment system as incorporated in the Republic Act (RA) 10121 or the *Philippine Disaster Risk Reduction and Management Act of 2010* which aimed to create a holistic approach on disaster management in the country. While the existing L&D assessment system was adopted from a more general but internationally-used kind of system, the tool has to be continuously improved to fit the Philippine context.

Since the first time the Philippine Government conducted a post-disaster survey using the PDNA (2011 Sendong; 2<sup>nd</sup> – 2012 Pablo; 3<sup>rd</sup> – 2013 Yolanda), the Office of Civil Defense – National Disaster Risk Reduction and Management Council (OCD-NDRRMC) has been actively modifying the module used in the training of the assessment teams. However, there are still some gaps, issues, and needs to be addressed on the tool and the system as a whole. Table 2 shows the issues on the loss and damage system in the Philippines based on various interviews and consultations.



**Figure 1** General flow of the loss and damage assessment system in the Philippines and the key actors involved.



**Table 2** Summary of issues on the loss and damage system in the Philippines

<b>Issues</b>	<b>Factors which make these issues persist</b>	<b>Results because of the issues</b>	<b>Current efforts or strategies</b>
Lack of awareness of government units on the tool being used	Frequent changing of staff – poor compliance on the law that dictates that there should be plantilla positions for one DRRM Officer and three DRRM staff	Tool not efficiently used	Regular trainings – training of trainers (cascading training)
Lack of a standardized process	Challenges in harmonization of reports because of local dynamics and priorities	Data mismatch	Prepared guidance note; ensuring adherence to agency mandate
Lack of baseline data and projected damages and losses	Outdated data - census is conducted only every five years; lack of digital back up database system	Over- or underestimation of post-disaster data	Creation of information management – technical working group (IM-TWG) composed of different agencies lead by DSWD – mapping of population, hazards, etc.

Capability of national government to properly distribute resources	Implementation challenges; misallocation of resources; absorptive capacity of agencies; procurement process	Improper distribution of resources; some affected areas do not get the relief they needed	Medium- & long-term planning
Poor governance, especially on implementation of institutional arrangements	Individualized implementing of programs and creation of many ad hoc committees; lack of financial resources	Misguided actions; wrong prioritization	Trying to revive the 2011 Memorandum of Understanding (MOU) with Climate Change Commission (CCC) to create a joint work program for DRRM-CCA
Slow assessment system	Lack of baseline data; absorptive capacity of LGUs	Relief, recovery and rehabilitation are delayed	Creation of information management – technical working group (IM-TWG) composed of different agencies
Assessors are victims themselves	Absence of welfare provision for DRRM officers and staff; no insurance and hazard pay	Delayed assessment of needs	Proposal of a magna carta for DRRM

Data loss and absence of integrated data from various sectors	Lack of baseline and digital back up data; Paper-based documentation	No basis for comparative analysis of data	Creation of information management – technical working group (IM-TWG) composed of different agencies
Tool has temporal limitations; focused on short-term and direct impacts	Short-term and direct impacts are the strength of the tool; non-economic loss and damage is present but not comprehensive	Difficulty in assigning value to non-economic and consequential/ long-term losses	Continuous review and efforts to improve the tool

Given the list, it is clear that the main issues that need to be addressed are on standardization, data needs, capacity building, partnership, and governance. On **standardization**, there is a need for a uniform set of guidelines and data requirements that is clearly understood by the relevant officials. There should also be a standardization of a data management system and establishment of a national data repository for both print and digital data. There has to be a standard metrics for collecting information not just at the national level but at the local level as well. It will be useful to have a common template across sectors for seamless consolidation - with terms, measurements, etc. that are recognized and acknowledged by all. Forms and templates should have clear definitions, instructions, and guides that is understandable even at the barangay level. Units of measurements and scales must be set. Proper archiving of raw data should be ensured so that validators can refer back to the data if needed. The database can be customized on a per site basis but there should have entries that are common at every barangays for faster consolidation at the municipal, city, provincial, and regional levels.

In terms of **data needs**, preparation of updated baseline data (e.g. census data), valuation of assets and other resources, and modeling of projections on losses and damages must be prioritized. An updated baseline or pre-disaster statistics on a community allows for easier

and faster validation since the data for comparison and computation are available. Meanwhile, projections on possible extent of loss and damage can help in planning and budget allocation. All of these data should be available in print and digital copies in a national data repository; thus allowing for an easier access to a comprehensive database of all the available data.

Another approach that is needed is **capacity building**. Local government units and national agencies must be trained on a regular basis, especially on post-disaster assessments. LGUs particularly should be regularly trained since there is an issue on the frequent change of staff – which results to low absorptive capacity of the LGUs due to frequent and poor transfer of knowledge. If they are familiar on what the tool needs, they can create a pre-disaster database that can be updated regularly for easier post-disaster data collection and comparative analysis. Field enumerators and databases encoders should also be trained on data gathering and encoding. This will increase their knowledge and skills on using the tool. Without proper training, standardized tools will still be inefficient.

Moreover, maintenance of local experts should also be prioritized. New skills and knowledge learned from the trainings will be wasted if these experts will leave. They should be provided competitive incentives and opportunities to prevent them from accepting tempting offers from other institutions. Another attempt that can be made is to explore on technology. A number of available technologies must be explored, tested, and improved to facilitate the recording and transmittal of information and assistance. Use of crowd sourcing is getting a lot of attention and is being used by media to provide rapid assessment and processed information. This can be linked to the current system at the LGUs and national agencies and be hooked to already existing Information, Communication and Technology (ICT)-based data gathering tools.

**Partnership** between and among government units, sectors, and other relevant stakeholders is also an effective strategy to strengthen the assessment system. Through proper coordination and communication, many mishaps that are due to misunderstanding and uninformed actions can be prevented. If the guidelines or directives are properly transmitted between levels of governance, there will be uniformity and easy transmittal of information. Moreover, strong partnerships especially between neighboring communities can also help in

building a secure loss and damage assessment system. Neighboring communities can act as support when their affected partner community needs help in post-disaster assessment. Their connection can also be used for active sharing of best practices particularly on disaster risk reduction and climate change adaptation strategies. National agencies and LGUs can also look for organizations that can provide technical and/or financial support and partner with them. However, it must be ensured that the national agencies and LGUs will not compromise their own agenda just to seek for assistance.

On the **governance** aspect, the most basic need is for the officials to have a strong political will. People will follow and cooperate if good leaders will demonstrate strong will. Implementation of policies, programs, and projects will also be more effective. In addition to that, there should also be a regular review of the functions, roles, performance and work processes of OCD-NDRRMC and related stakeholders. It would be useful to assess these areas for further improvement (e.g. human resources, equipment and facilities, operational protocols and procedures, governance, etc.) given the most recent experiences and projected changes. The changing climate and worsening disasters require monitoring, evaluation and continuous improvement of the current operations. The OCD-NDRRMC cannot do the daunting tasks alone, and part of strengthening their efforts should be establishing stronger links with other stakeholders including the private/business group and local communities. Internally, proper delegation of tasks to capable and skilled staff and officers must be ensured so that services can be delivered efficiently and on a timely matter.

Other issues and identified solutions:

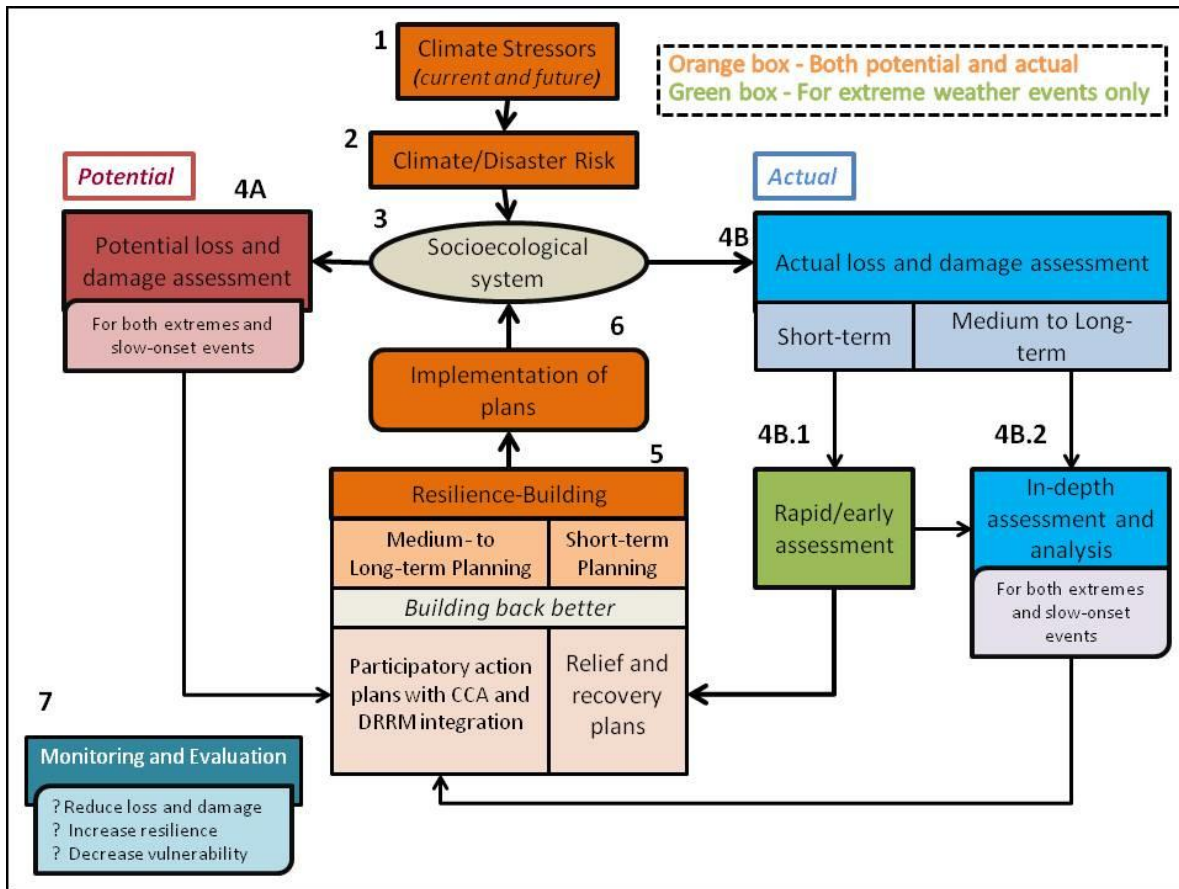
- Communication during and after a disaster – Since communication lines are most likely to be down because of the disaster, telephones, cellular phones, and internet are not reliable modes of communications. **Solution:** invest on satellite phones
- Accessibility of affected areas – When roads are impassable due to several reasons like felled trees or flooded waters, there will be a delay in the assessment. Delayed assessments will lead to delayed actions. **Solution:** invest on equipment such as chainsaw, boats, etc.

- Distribution of climate and disaster data – There are already a lot of existing information on climate and disaster but its accessibility still seems to be a problem. **Solution:** transparency and aggressive information dissemination

In the end, damages and losses have already been borne, what is needed is to build back better. Rehabilitation efforts must be geared towards better systems that are adaptive to current problems, responsive to future challenges, and centered to sustainable development. This requires adjustment of the physical, social, natural, technological, institutional, and economic factors and mechanisms.

#### **4 Proposed Framework to Link Loss and Damage with CCA and DRR**

The proposed framework for the L&D system in the Philippines is shown in Figure 2. This framework aims not just to quantify losses and damages brought about by climate-related disasters and assess the recovery needs of communities but also to create a holistic approach in viewing the importance of both potential and actual L&D knowledge for policy-making and effective action. It also highlights the importance of the assessment in creating strategic resiliency plans. It shows that L&D assessment does not start and end in the assessment part but is actually a cycle that intends to minimize or prevent further loss and damage, improve the resiliency of the people and reduce their vulnerability to future climate-related disasters. This is essential since L&D is not solely caused by the impacts of climate change and other disasters but also the capability, or lack thereof, of a community to adapt and prevent it from happening (Warner & van der Geest, 2013).



**Figure 2** Proposed loss and damage framework for the Philippines

When (2) climate/disaster risk of (1) climate stressors affects an (3) socioecological system, (4B) assessment is done to determine the actual losses and damages the system experienced. This assessment is being done in two stages: (4B.1) rapid/early assessment and (4B.2) in-depth assessment and analysis. The rapid assessment is done immediately to gather information for the immediate needs of the system such as (5: short-term) relief and recovery plans. It is done usually for extreme weather events only. In-depth assessment, as its name suggests, gathers in-depth information on the system for reconstruction and rehabilitation plans. It is applicable for both extreme weather events and slow-onset events, though the tools will vary. These plans are (5: medium- to long-term) participatory action plans integrated with CCA and DRRM measures. Both plans are geared towards building back better in order to build resilience.

Meanwhile, it is inevitable that climate stressors will have an impact to the system. In order to be better prepared on the possible results, (4A) assessment of the potential loss and damage can be done. Various methodologies can be utilized such as scenario-building, valuation of resources, and cost-benefit analysis, among others. The results of this assessment can also serve as basis for participatory action plans with CCA and DRRM integration that are aimed for medium- to long-term implementation.

Moreover, given the amount of information that can be extracted from an in-depth L&D assessment, opportunities for more research and development and action plans are feasible. The challenge now is to properly implement and monitor the plans. If these are properly executed, it is expected that future losses and damages will be reduced, if not prevented. Moreover, this should result to a less vulnerable and more resilient socioecological system.

Since CCA and DRR strategies are now required to be integrated in development action plans, maximizing the use of L&D information for the improvement of CCA and DRR strategies should be prioritized. However, for this to be efficient and successful, smooth integration of these strategies must take place first.

Acknowledging the importance of loss and damage information for improving CCA and DRR strategies, some participants during the national workshop listed various ways on how loss and damage data can be of relevance to the development of these strategies (See Table 3). Results show that participants recognize that L&D information acts as the scientific basis for action plans.

**Table 3** Ways on which L&D information can be of relevance to CCA and DRR

<b>Sectors</b>	<b>Relevant in the following, among others:</b>
Department of Health	Infrastructure, manpower, logistics
Department of Agriculture	Targeting CCA and DRR measures, to assess gaps in production, growth and development
Department of Trade and Industry	Information to respond to: requirement type and extent of intervention
National Economic	Providing sense of direction (what to prioritize, evaluation of



<b>Sectors</b>	<b>Relevant in the following, among others:</b>
Development Authority	effectiveness, design infrastructure)
Department of Finance	Identification of appropriate model and instruments; justification of viability, to quantify budget requirement for economic recovery and reconstruction
Department of Public Works and Highways	Flood control and management
Housing and Urban Development Coordinating Council	(Re)settlement purposes
Others	Basis for upgrading of codes, setting up new establishments, delineating expansion areas, and monitoring progress in carrying out recovery and reconstruction programs

Despite these opportunities to use loss and damage information for CCA and DRR, roadblocks are inevitable. Stakeholders identified various gaps and challenges in achieving enhanced CCA and DRR strategies. The top three reasons are as follows:

- Poor execution of existing policies – The Philippines is at the top in terms of existing climate change policies. Aside from the several environmental laws, the country has a Climate Change Act, DRRM law, and most recently, the Act creating the People’s Survival Fund (PSF). All these laws are great guides to create resilient Filipino communities. However, what are lacking are aggressive leaders that will make sure that all of these laws are properly executed. The officials in charge are given a big opportunity to help the country and all they need to do is to follow the guide that is already there. The problem is having strong laws but weak implementation. Even with rich information on loss and damage, CCA and DRR strategies will not improve and be of no use if not well executed.
- Unclear delegation of tasks – Given the amount of tasks for each government agency and unit to handle climate change issues aside from their own responsibilities, efficient delegation of tasks is required. The roles and responsibilities of each agency and unit

especially in preparation for disasters should be reviewed to avoid overlapping and/or overloading of tasks.

- “Individualized” implementation of harmonized CCA and DRR plans and projects – The usual attack on policies, programs, and projects (3Ps) is to create them specifically for their province, city, municipality, or barangay. However, in the case of climate change, its impacts are not restricted by political boundaries. The problem comes in when these 3Ps are specific to a community without considering the neighboring communities. There should be an overarching geographic program for CCA and DRRM with consideration on river-basin or watershed concepts.

In the table below (Table 4) are the issues in the CCA-DRR integration with the corresponding factor/s that allow these issues to persist, and the current efforts or strategies being implemented by the government to address them.

**Table 4** Factors why the issues in the CCA-DRR integration exist and the efforts of the government to address them

<b>Issues</b>	<b>Factors which make these issues persist</b>	<b>Current efforts or strategies</b>
Poor execution of existing policies	Existence of conceptual integration but not operational; lack of financial resources/sustainable financing to fully implement CCA and DRMM plans; poor access to resources (e.g. PSF, Green Fund); poor access to fund due to lack of CCA and DRRM plans (LCAP, LDRRMP); no intention to scale-up projects; Cabinet cluster is hanging	Joint advisory membership (but OCD cannot convene with CCC yet; Trying to revive the 2011 MOU with CCC to create a joint work program for DRRM-CCA; Review project-based activities for potential scaling up (e.g. Hazards Mapping and Assessment for Effective Community-Based Disaster Risk Management [READY] project, Project Climate Twin Phoenix)
Unclear delegation of tasks	Poor compliance/execution	Policy for the local chief

	of policies; no/lacking focal point person on CCA-DRR; different interpretation in trying to localize national plans;	executive to appoint staff; training of DRRMOs on CCA
“Individualized” implementation of harmonized CCA and DRR plans and projects	Required by law for each agency to create their own plans; support are coming from various organizations thus usually their own agenda are being followed; capacity to create and implement plans	Trying to revive the 2011 MOU with CCC to create a joint work program for DRRM-CCA

## 5 Conclusion and Recommendation

The loss and damage assessment in the Philippines already follows a structured process and guidelines. However, the problem lies when political dynamics and priorities come into place. Standardization, data needs, capacity building, partnership, and governance are also among existing issues that are present in the system. In all these issues, lack of financial resources is a major factor. These issues should be addressed in order to have a smooth and efficient system. Listed below (Table 5) is the summary of research and policy recommendations.

**Table 5** Summary of research, development, and policy recommendations

<b>Research and Development</b>
<ul style="list-style-type: none"> <li>• Provincial training every three years (making sure that there is a consensus on the terms, measurements, etc. that are used)</li> <li>• Updating of baseline data (e.g. census data, assets and other resources, hazards)</li> <li>• Projection of losses and damages for various scenarios</li> <li>• National assessment tool for impacts of slow onset events</li> <li>• Comprehensive tool for non-economic loss and damage</li> </ul>

- Review of existing technologies on loss and damage assessment to come up with the most fitting one that can be mainstreamed
- National/regional/provincial data repository / data management system – print and digital collection of available data

**Policy**

- Strict implementation of One DRRM Officer – 3 DRRM staff per LGU
- Apprehension for poor adherence to guidelines in report submission
- Studies or programs of various non-government organizations or private sectors must undergo review and approval from the LGU for easier evaluation and monitoring; regular reporting and submission of results should be done so that they will be useful to the LGU
- Creation of a joint work program for OCD and CCC for DRR-CCA integrated plans
- Setting up of partnership mechanisms among cities or provinces that can aid each other during times of disasters
- Review of implementing rules and regulations (e.g. functions, roles of relevant offices and officials) of existing laws to make sure that they are still relevant, appropriate, and being followed

Moreover, results of the consultation revealed that various government agencies and relevant stakeholders acknowledged the essence and relevance of using L&D information, especially for planning and development. They also acknowledged that L&D information could be used to improve existing CCA and DRR strategies. However, there were some issues on the integration of CCA and DRR that must be tackled. In order to fully utilize L&D information for planning and improvement of CCA and DRR strategies, proper and guided actions must be undertaken to fill the existing gaps. Meanwhile, the proposed framework could serve as the foundation or basis of creating an integrated plan or program on L&D-CCA-DRR. Other countries or regions may build on this framework in coming up with more comprehensive and wider-scope strategies towards a collaborative and international platform that will feed into the UNFCCC Warsaw International Mechanism on L&D.

The lessons learned from this study demonstrate a case on understanding how L&D associated with the adverse effects of climate change can affect vulnerable developing

countries like the Philippines and how the implementation of approaches to address L&D can benefit the country—one of the UNFCCC L&D Mechanism action areas. Other countries, similar to the Philippines, who are facing issues and challenges with the L&D assessment system or without any existing system yet can greatly benefit from this case. As the topic of L&D is becoming mainstream and its components are continuously being defined and refined by the international community, it is necessary that these issues are addressed and a deeper understanding on the role of L&D in the current climate change-related systems is realized. Even the discussions on the role of L&D in liability and compensation at the UNFCCC negotiations require the L&D system and its components to be properly working. Otherwise, the case for liability and compensation would be weak.

## References

- Garschagen, M., Hagenlocher, M., Comes, M., Dubbert, M., Sabelfeld, R., Lee, Y. J., ... Birkmann, J. (2016). *World Risk Report 2016*. Berlin. Retrieved from <http://collections.unu.edu/view/UNU:5763#viewMetadata>
- Government of the Philippines. (2015). *Intended Nationally Determined Contributions (Philippines)*.
- Hoffmeister, V., & Huq, S. (2015, December). Loss and Damage in INDCs. *ICCCAD Policy Brief*, 8.
- Intergovernmental Panel on Climate Change. (2014). *Climate Change 2014 Synthesis Report Summary Chapter for Policymakers*.
- Kreft, S., Eckstein, D., Junghans, L., Kerestan, C., & Hagen, U. (2014). *Global climate risk index 2015: Who suffers most from extreme weather events? Weather-related loss events in 2013 and 1994 to 2013*. Bonn. Retrieved from <https://germanwatch.org/en/download/7170.pdf>
- United Nations Framework Convention on Climate Change. (2014). *Report of the executive committee of the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts*.
- Warner, K., & van der Geest, K. (2013). Loss and damage from climate change: local-level evidence from nine vulnerable countries. *International Journal of Global Warming*, 5(4), 367–386. <http://doi.org/Doi.10.1504/Ijgw.2013.057289>
- World Bank. (2011). *Philippines - Typhoons Ondoy and Pepeng: post-disaster needs*

*assessment: Executive summary*. Washington, DC. Retrieved from <http://documents.worldbank.org/curated/en/2011/01/15115760/philippines-typhoons-ondoy-pepeng-post-disaster-needs-assessment-vol-1-3-executive-summary>

World Bank. (2013). *GETTING A GRIP ... on Climate Change in the Philippines: Executive Report*. Washington, DC.

World Bank and National Disaster Coordinating Council. (2005). *Natural Disaster Risk Management in the Philippines: Enhancing Poverty Alleviation Through Disaster Reduction*, 1–62.

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