LOSS AND DAMAGE IN NEPAL

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INTRODUCTION

The negative effects of climate change are already being felt around the world. People across various countries are experiencing disasters such as floods, droughts, landslides, wildfire—all of which are becoming more severe. Such disasters are leading to more loss of life and property and increased migration.

Many of the negative impacts and damages of climate change are unavoidable. In its 5th Assessment Report, the Intergovernmental Panel on Climate Change (IPCC) mentioned that even when world temperature rise is reduced through mitigation, some risks are residual, and damages are unavoidable even with mitigation and adaptation.[1]

Therefore, various countries have been raising the issue of 'Loss and Damage(L&D)' in international climate change negotiations for a long time. The term has been defined as permanent loss and irreparable damage caused by negative impacts of climate change.

Issues related to loss and damage are distinct from previously established frameworks on mitigation efforts that have failed to prevent the continued increase of anthropogenic greenhouse gas emission. Adaptation is now likely to be insufficient to prevent negative impacts from current and future climate change (James et al., 2014).

The United Nations Framework Convention on Climate Change's Subsidiary Body for Implementation (UNFCCC-SBI) defines Loss and Damage (L&D) as "the actual and/or potential manifestation of impacts associated with climate change in developing countries that negatively affect human and natural systems".

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Loss and Damage can be classified as:

Avoided: Those that can and will be avoided due to mitigation and/or adaptation measures.

Unavoided: Those that are and will not be addressed by further mitigation and/or adaptation measures, even though avoidance would be possible.

Unavoidable: Those that cannot be avoided or adapted to through further mitigation and/or adaptation measures, for instance: impacts from slow-onset processes that have kicked-off already, such as sea-level rise and melting of glaciers.[2]

The United Nations Framework Convention on Climate Change (UNFCCC) classified loss and damage as economic and non-economic losses.

Economic Losses:

It is defined as the loss of resources, goods and services commonly traded in the markets. It describes five types of economic loss and damage as business operations, agriculture production, tourism, infrastructure and property.

Non-Economic Losses:

Non-economic losses covers losses and damages that are not easily quantifiable in economic terms. The UNFCCC has categoried non-economic losses into 3 board types viz. Individuals, Soceity and Environment. Each type is further categoried into nine sub-types. These includes human life, health, human mobility, territory, cultutal heritage, indigenous knowledge, societal/cultural identities, biodiversity and ecosystem services. A figure below summarised the UNFCCC classification of Loss and Damage.

[1] *IPCC (2014) Climate Change 2014; Synthesis Report, Intergovernmental Panel on Climate Change.*

[2] *(Mechler, Bouwer, Schinko, Surminski, & Bayer). Loss and Damage from Climate Change: Concept, Methods and Policy Options. Soruce: (UNFCCC, 2017)*

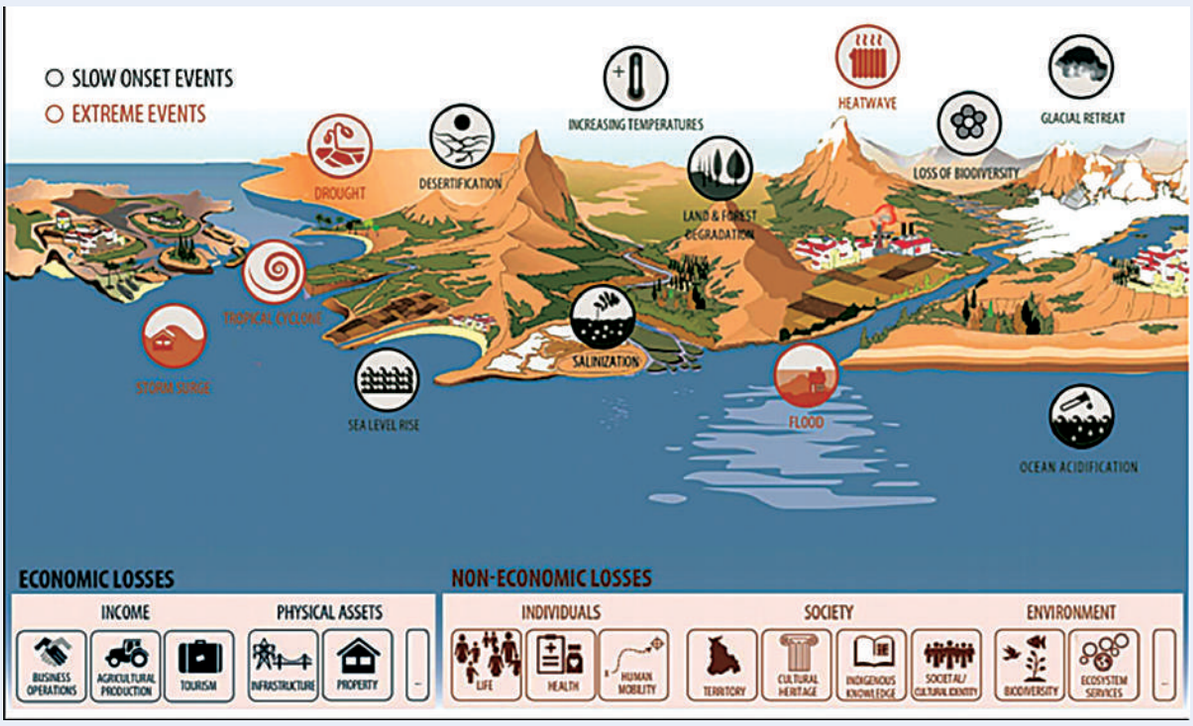

Figure 1: Loss and Damge associated with climate change impacts (UNFCCC, 2018)

ADAPTATION, LOSS AND DAMAGE

Adaptation and Loss and Damage are two important and intertwined terminologies in climate change. Adaptation refers to adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts. It refers to change in processes, practices, and structures to moderate potential damages or to benefit from opportunities associated with climate change (IPCC, 2014). The notion of Loss and Damage starts with the assumption that there is 'a limit to adaptation'. The IPCC classified the limits into 'Hard Adaptation Limit' and 'Soft Adaptation Limit'. As IPCC defines Hard Limit occurs when adaptive actions become infeasible to avoid risk, and hence impacts and risks become unavoidable. Soft Limits arise when technological and socio economic options are not immediately available to avoid risks through adaptive action, meaning that impacts and risks remain unavoidable for the moment.

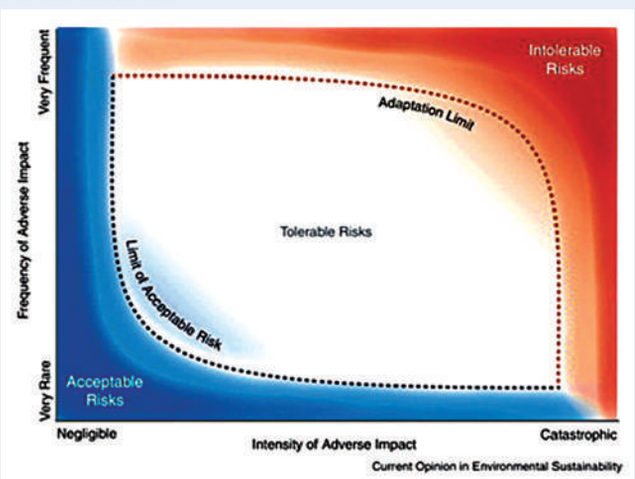

Figure 2: Hard and Soft Limits to Adaptation

There are two approaches to distinguish adaptation, and loss and damage. The 'beyond adaptation' approach defines L&D as actions dealing with the residual, adverse impacts of climate change, which remains even after taking mitigation and adaptation measures. This approach distinguishes L&D from adaptation by focusing on whether the climate-related impacts can be avoided or will be avoided by appropriate measures as 'adaptation' and the impacts cannot be avoided or will not be avoided in the future by mitigation or adaptation as 'Loss and Damage'. In the second approach adaptation involves responses to keep risks within the range of tolerable risk, whereas L&D involves responses to risks that cannot be kept within the range of tolerable risks and so become intolerable. This approach is called 'risk tolerance' approach (Wallimann-Helmer, Meyer, Mintz-Woo, Schinko, & Serdeczny, 2019).

The first approach mainly focuses on the impacts and the measures to deal with unavoided and unavoidable losses and damages, whereas the second approach is about fostering collective decision-making and capacity building to assess climate risk as acceptable, tolerable and intolerable.

Adaptation Constraints is an equally important concept in Loss and Damage. This refers to the factors that make it harder to plan and implement adaptation actions. These constraints include knowledge, awareness and technology; physical constraints; biological constraints; economic and financial constraints; human resources constraints; social and cultural constraints; and governance and institutional constraints (Klein, et., 2014).

LOSS AND DAMAGE IN UNFCCC

Although a breakthrough was achieved in loss and damage negotiations in recent years only, its genesis can be traced to the pre-UNFCCC days. In 1991, the Alliance of Small Island States (AOSIS) proposed compensation and insurance for losses due to sea-level rise.

With the adoption of the Kyoto Protocol in 1997, negotiations focused on mitigation. It took 16 years of negotiations on loss and damage to be included in the text of the UNFCCC. In 2007, the 13th Conference of Parties (COP) in Bali, considered loss and damage for the first time in the decision text.

In 2010, during the 16th COP, parties agreed to establish a work programme on the issue of loss and damage due to climate change. In 2013, COP 19 decided to establish the *Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts* (WIM).

The mechanism promotes the implementation of approaches to addressing loss and damage associated with climate change, including extreme events and slow-onset events, in developing countries that are particularly vulnerable to the adverse effects of climate change. WIM led to the formation of a 20-member executive committee, with equal representation of developed and developing countries. The executive committee fulfills three functions:

- Enhancing the knowledge and understanding of comprehensive risk management approaches to addressing loss and damage associated with the adverse effects of climate change, including slow-onset impacts.
- Strengthening dialogue, coordination, coherence and synergies among relevant stakeholders.
- Enhancing action and support, including finance, technology and capacity-building.

(UNFCCC, 2014)

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LOSS AND DAMAGE IN PARIS AGREEMENT

The Paris Agreement recognizes the importance of averting, minimizing and addressing losses and damages through enhanced understanding, action and support. Article 8 of the agreement says that, WIM was subject to the authority and guidance of the Conference of Parties serving as the meeting of the Parties to the Paris Agreement (CMA). The area of cooperation and facilitation to enhance understanding, action and support are:

- Early warning systems
- Emergency preparedness
- Slow-onset events
- Events that may involve irreversible and permanent loss and damage
- Comprehensive risk assessment and management
- Risk insurance facilities, climate risk pooling and other insurance solutions.
- Non-economic losses
- Resilience of communities, livelihood and ecosystem

(UNFCCC, 2016)

The Paris Agreement also mandated WIM to establish a clearing house for risk transfer and a task force on displacement. The clearing house for risk transfer serves as a repository for information on insurance and risk transfer and the task force develops recommendations for integrated approaches to avert, minimize and address displacements related to adverse effects of climate change (UNFCCC, 2016).

During the recently concluded COP 25, WIM was under review and member countries contested its use and efficacy. Developing countries lobbied for separate and dedicated finance for loss and damage issues akin to that for mitigation and adaptation. The COP, however, agreed to consider loss and damage financing under the Green Climate Fund (GCF), but without any obligations on the part of the developed countries to provide additional finance.

It also established the Santiago Network on Loss and Damage to provide technical assistance to developing countries on the issue. Many parties prescribed 'insurance' as a risk transfer measure to deal with the issue. But critical issues such as enhancing the understanding of non-economic losses, and displacement and migration induced by climate change, along with questions on attribution are some of the outstanding issues yet to be settled through negotiations.

LOSS AND DAMAGE MILESTONES IN UNFCCC NEGOTIATIONS

Year	Loss and Damage Milestone in the UNFCCC
1991	AOSIS comes up with a proposal for compensation and insurance for losses
2007 (COP13)	Means to address L&D is launched
2010 (COP16)	Work Programme on L&D is established
2011 (COP17)	Relevant knowledge on L&D is shared and synthesized
2012 (COP18)	Role of the COP in addressing L&D is agreed upon
2013 (COP19)	Warsaw International Mechanism on Loss and Damage (WIM) and its executive committee is established
2014 (COP20)	Work plan and the organization of the executive committee is approved
2015 (COP21)	The Paris Agreement is adopted. It gives the mandate to establish a clearing house for risk transfer and a task force on displacement
2016 (COP22)	First review of WIM is conducted
2017 (COP23)	Fiji Clearing house for Risk Transfer is launched
2018 (COP24)	Task Force recommends integrated approaches to avert, minimise and address displacement
2019 (COP25)	Second review of WIM is conducted and Establishment of Santiago Network on Loss and Damage

Source: (UNFCCC, 2018)

CLIMATE FINANCE IN TERMS OF LOSS AND DAMAGE

According to the UNFCCC, developed countries are to provide financial resources to assist developing countries in tackling negative impacts of climate change. With the frequency of extreme events increasing, countries require additional finance to fund adaptation and mitigation actions to address climate change.

Climate finance is channeled into developing countries through various means such as mechanisms under the UNFCCC and outside of it. Such mechanisms are used to provide funds for climate actions in the developing countries. To address financing requirement of the developing countries the Adaptation Fund was established under the Kyoto Protocol. Similarly, Global Environment Facility (GEF) and Green Climate Fund (GCF) serves as the financial mechanism to the UNFCCC. Under the GEF, the two dedicated funds the Least Developed Countries Fund (LCDF) and the Special Climate Change Fund (SCCF) have also been established. The GCF is the biggest dedicated climate fund under UNFCCC. However, it does not deal with the issues related to loss and damage.

There is no dedicated mechanism to finance loss and damage. The existing mechanism only focus on adaptation and mitigation actions. The COP 25 decided to explore L&D financing through Green Climate Fund. However, no substatial progress has been made yet. "The disaster risk reduction finance, development finance and humanitarian assistance, which may partially complement adaptation finance has been addressing loss and damage issues so far" (UNFCCC, 2019).

LOSS AND DAMAGE IN NEPAL

In Nepal, incidence of climate-induced disasters such as flood, landslide, thunder strikes, fire, windstorm, avalanche, hailstorm, glacial lake outburst flood, and cold waves has been on the rise. These disasters are causing losses and damages of human life and property. Between 2017 and 2018, a total of 968 people lost their lives to disasters—most of them to floods, landslides, thunder strikes and fire. The total economic loss caused by disasters during the period is estimated at about Rs. 6.83 billion[4] (GoN, 2019). According to the Ministry of Home Affairs, in Bara and Parsa the gale-force winds (also believed to be the first-ever tornado in Nepal) claimed 28 lives, 1,155 injured, 1,452 houses completely damaged and 1,373 houses partially damaged on 31 March 2019.[5]

Figure 3: Landslide in Rasuwa District. Photo Credit: PRC

The list of such events is comprehensive. Every year, such disasters trigger losses and damages in Nepal. This calls for urgency for action to address the issue along with measures for disaster risk reduction.

Case 1: Jure Landslide

In 2014, a massive landslide in Jure of Sindhupalchowk district killed 156 people. A total of 478 families were affected[6] (GoN & DPNet-Nepal, 2015). Similarly, about 165 houses were destroyed and 37 partially damaged. The landslide created 55m high land in the Sunkoshi River and damaged infrastructure such as the Arniko Highway, schools, poultry firms, bridges and hydropower stations.

Research by the Institute for Environment and Human Security, the United Nation University showed that more than half of the 234 households surveyed will most likely never recover from the impacts of the landslide. Only 16 per cent of them have been able to bounce back. The research also showed that about 78 per cent of the affected people adopted three or more measures to cope with the impacts of landslides--around 58 per cent adapted migration as an adaptive measure. (Van Der Geest, K. & Schindler, M. 92016)

[3] *UNFCCC (2019) Elaboration of the source of and modalities for accessing financial support for addressing loss and damage, United Nations Framework Convention on Climate Change, FCCC/TP/2019/1, June 2019*

[4] *GoN (2019). Nepal Disaster Report 2019, Ministry of Home Affairs, Government of Nepal (GoN).*

[5] *http://drrportal.gov.np/9*

Case 2: Nepal flood 2017

In 2017, Nepal experienced incessant rainfall that had severe effects in 35 districts--18 of them were worst affected. The flood destroyed or partially damaged more than 190,000 houses displacing tens of thousands of people. Around 134 people died and 1.6 million people were affected (MoHA, 2017).

The post-flood recovery need assessment identified nine important sectors: housing, health, education, agriculture, livestock, irrigation, transport, water and sanitation and energy. It estimated losses of around Rs 60,716.6 (USD 584.7million)--almost 3 per cent of Nepal's GDP. The total recovery need was estimated at Rs 73,224.8 (USD 705.1 million). (GoN, 2017)

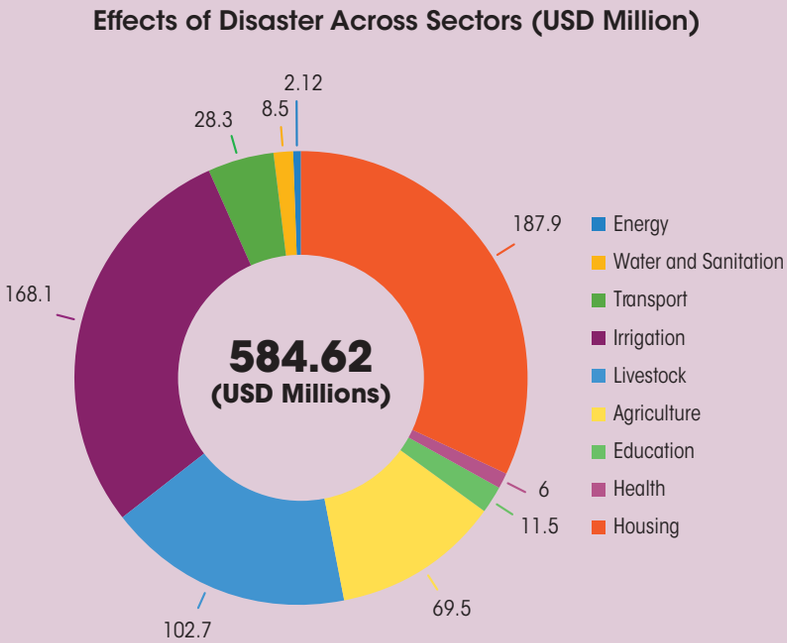

Figure 4: The chart shows the total economic losses across sectors by flood in 2017.

Figure 5 : Flood damaged agriculture land and settlement in 2017. Photo Credit: Kathamndu Post

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Table 1: Number of death due to disaster in last 8 years (2011-2018)

YEAR	NUMBER OF DEATH
2011	505
2012	389
2013	399
2014	518
2015	296
2016	446
2017	514
2018	344

Source: NEOC, 2019

Note: The above data includes the number of death due to avalanches, cold waves, epidemic, fire, flood, landslide, heavy rain, thunderstorm, thunderbolt, flash flood, hailstone.

NATIONAL POLICY AND INSTITUTIONAL CONTEXT

The concept of loss and damage is relatively new in the climate change policy discourse in Nepal. As limited references have been made to the concept in legal and official texts, this emphasizes the need for research to enhance the understanding of the issue. Sometimes, adaptation is confused with loss and damage.

The National Climate Change Policy 2019 has warned of increased climate-induced losses in the future. The policy primarily focuses on adaptation and mitigation as key measures to address climate change across eight vulnerable sectors (GoN, 2019). The policy has not internalized the core concept of loss and damage (beyond adaptation) and the majority of the prescriptive actions largely contribute to adaptation and mitigation. Few actions like insurance, social security, post-disaster resettlement and reconstruction have been linked to the concept. But there is no clarity on whether these actions are targeted at contributing to building adaptation or to addressing the issues related to loss and damages.

The policy has only made a mention of the need for regular assessment and maintenance of a database of climate-induced financial and non-financial loss and damage in different regions and development sectors. Nepal's Nationally Determined Contributions (NDC) document included a provision for research and study on climate-induced loss and damages together with scientific and academic communities (GoN, 2016).

Similarly, to deal with disasters the government has formulated different policies. While in 2017, the Disaster Risk Reduction and Management Act was introduced, the Disaster Risk Reduction National Policy was formulated in 2018 aiming to reduce losses caused by disasters to life and property, health, livelihoods and production, physical and social infrastructure, and cultural and environmental heritage (GoN, 2018).

The Local Government Operation Act 2017 has identified the roles and responsibilities of local governments. The 15th periodic plan has, meanwhile, prioritized disaster management.

The Ministry of Forests and Environment is the responsible government agency to deal with activities related to climate change. It is Nepal's focal agency for the UNFCCC and the IPCC.

Nepal's constitution has envisioned a clear institutional architecture for disaster risk reduction at all tiers of government. These institutions have been assigned roles and responsibilities related to disaster risk reduction actions. The Ministry of Home Affairs is the focal government agency responsible for disaster risk reduction at the federal level. The government has also formed the National Disaster Risk Reduction and Management Authority to coordinate disaster-related activities in the country.

It is high time climate change, DRR and humanitarian actors started working together to study climate-induced loss and damage in the country. Experience and knowledge of DRR and humanitarian actors will be critical for building an understanding of loss and damage.

CONCLUSION

Nepal is one of the countries most vulnerable to impacts of climate change. Climate change threatens people's livelihood, infrastructure and development practices. Extreme events such as flood, landslide, thunderbolts, and droughts render people more vulnerable. With low capacity to adapt, Nepal faces devastating disasters every year.

Most of the disasters cannot be overcome by adaptation practices. Discussion on loss and damage as part of climate change discourse is in its initial stage. Several aspects associated the concept such as non-economic loss and damage, slow-onset disasters and others are still evolving.

In its plans, policies and activities, Nepal is prioritizing adaptation as the key to addressing climate change. But with increasing avoidable losses and damages, Nepal needs to internalize the concept of loss and damage while formulating plans and policies. Together with this, the proper institutional arrangement is also becoming important to deal with the issues which can be integrated into DRR mechanisms.

To reduce the impacts of extremes events, Nepal needs to strengthen its hydrological and meteorological forecasting system. Coordination among national institutions working in climate change and DRR should be developed. Nepal should develop an effective mechanism to access and mobilize financial resources to tackle climate change that will address adaptation and mitigation as well as loss and damage.

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