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Community perception of non-economic loss and damage across climate-vulnerable region of Bangladesh: a case of Barisal, Kurigram and Sunamganj

Zahin, Chowdhury Abrar

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Department of Social Science and Humanities

Master of Development Studies (MDS) Program

Master's Thesis

Community Perception of Non-Economic Loss and Damage Across Climate-Vulnerable Region of Bangladesh: A Case of Barisal, Kurigram and Sunamganj

Name : Chowdhury Abrar Zahin
ID : 2412832
Section : 01
Course ID : DST698

Academic Supervisor : Dr. Kazi Mahmudur Rahman
Professor
Department of Social Science and Humanities
School of Liberal Arts and Social Science
Independent University, Bangladesh (IUB)

Date of Submission : 24 September 2026

Evaluation Committee

Supervision Panel

_____	_____
Supervisor	Co-Supervisor/ Internal Examiner
Name:	

Examiners

_____	_____
Internal Examiner 1	Internal Examiner 2
Name:	Name:

_____

External Examiner (_____)

Office Use

_____	_____
Name:	Qudrate Khoda, Ph.D
Program Coordinator	Head of the Department

_____

Prof. M Arshad Momen
Director, Graduate Studies, Research and Industry Relations,

_____

Md. Shahajada Masud Anowarul Haque, Librarian

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List of Abbreviations

Abbreviation	Full Form
AR6	Sixth Assessment Report
C2ES	Center for Climate and Energy Solutions
CGIAR	Consultative Group on International Agricultural Research
COP	Conference of the Parties
ExCom	Executive Committee
FGD	Focus Group Discussion
FRLD	Fund for Responding to Loss and Damage
IGES	Institute for Global Environmental Strategies
IIASA	International Institute for Applied Systems Analysis
IIED	International Institute for Environment and Development
IPCC	Intergovernmental Panel on Climate Change
IUB	Independent University, Bangladesh
KII	Key Informant Interview
L&D	Loss and Damage
MDS	Master of Development Studies
NELD	Non-Economic Loss and Damage
SDG	Sustainable Development Goal
SDGs	Sustainable Development Goals
UN	United Nations
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNU-EHS	United Nations University Institute for Environment and Human Security
WIM	Warsaw International Mechanism for Loss and Damage

Statistical abbreviations and symbols

Symbol/Abbreviation	Meaning
df	Degrees of Freedom
n	Sample Size / Number of Respondents
p	Probability Value / Statistical Significance
χ^2	Chi-Square Statistic

Abstract

Non-Economic Loss and Damage (NELD) has become an important aspect of the impacts of climate change, referring to losses that cannot be easily monetized, such as psychological losses, loss of dignity, loss of cultural identity, loss of social relations, loss of mobility, loss of attachment to place, and loss of environmental values. Although there is rising visibility for Loss and Damage (L&D) in the international policy discourse, current NELD frameworks are largely expert-led and may not adequately capture how communities affected by climate change are experiencing and perceiving their losses and how these losses are prioritized. This study aims to explore community perceptions of NELD in three contrasting climate vulnerable districts of Bangladesh: Barisal, a coastal district with high vulnerability to cyclone; Kurigram, a riverine district with high vulnerability to floods and erosion; and Sunamganj, a haor district with high vulnerability to flash flood.

The study is implemented in an empirical method which is community centered, by analyzing the data obtained through the structured household survey that has been done with 300 respondents as well as the comparative study of data from each area. Descriptive statistics are used to consider the prevalence and distribution of reported dimensions of NELD; chi-square tests are used to assess associations between geographical location and reported forms of loss. Community-derived dimensions are then compared/contrasted with the existing international and academic NELDs to highlight areas of overlap, gaps, and conceptual growth.

The findings show that NELD is multi-dimensional, relational and highly context-specific to the local hazard and livelihood contexts. Psychological distress, dignity, social and cultural disruption, environmental degradation, place-related loss, and uncertainty about future security are linked, and are seen as a series of consequences of climatic hazards for communities. District-level variations that are observable statistically further emphasize the need to look at the NELD assessment within the context of the hazard-scapes. A comparison with other frameworks suggests a very general conceptual similarity and lack of representation for psychosocial, relational, dignity related and future aspects of loss. The study concludes that NELD assessment should be beyond standardized, sectoral categorization and be participatory, contextually sensitive and community informed. The findings offer empirical data for Bangladesh's L&D architecture and inclusive assessment and financing approaches in the Fund for Responding to Loss and Damage (FRLD).

CHAPTER ONE: INTRODUCTION

1.1 Background and Justification

1.1.1 Background of the Study

Climate change is increasingly understood not merely as an environmental phenomenon but as a force that reshapes the material, social, and psychological foundations of human life. While much of the global climate policy architecture has historically concentrated on mitigation and adaptation, a growing body of evidence indicates that a substantial share of climate impacts can neither be prevented through emissions reduction nor fully absorbed through adaptive measures. These residual impacts, commonly referred to as Loss and Damage (L&D), encompass both economic losses, such as destroyed infrastructure, crops, and income, and non-economic losses that resist straightforward monetary valuation: the erosion of cultural heritage, the fraying of social networks, the loss of ancestral land, and the psychological toll of repeated displacement. This latter category, formally termed Non-Economic Loss and Damage (NELD), captures precisely those dimensions of climate harm that are, by definition, not commonly traded in markets and therefore lack an observable price (UNFCCC, 2013; Chandra et al., 2023).

The concept of distinction between economic damage and non-economic damage is analytical in nature but has sparked scholarly discussion. There is some anxiety from some scholars that this bifurcation of the concept of loss and damage into two categories may lead to the view that these are two distinct events that can be measured and financed independently, whereas in reality, the loss of an inundated rice field is often inseparable from the non-economic loss of the farming identity and intergenerational knowledge embedded in the field's particular location (Boyd et al. 2024). For the present study, this debate is important because it indicates that, rather than the more contentious details of the typology, the conceptual foundations of L&D are still in flux, and that a study that starts from the community experience, rather than from a conceptual dichotomy, has something special to offer.

In the last decade, L&D has been gaining increasing institutional recognition within the United Nations Framework Convention on Climate Change (UNFCCC). In 2013, the Warsaw International Mechanism for Loss and Damage was established in the Convention for the first time providing a standing institutional framework on the subject. Article 8 of the Paris Agreement of 2015 then moved the L&D to a new category of climate action, beyond mitigation and

adaptation. More recently, the Santiago Network for Loss and Damage and the Fund for Responding to Loss and Damage (FRLD), established at COP28 in 2023, have started to drive this institutional recognition into tangible assistance and finance in the form of technical support (UNFCCC, n.d.; World Bank, 2024). Notwithstanding this development, NELD is still quite complex when compared to economic NELD. Although existing frameworks acknowledge losses in health, cultural heritage, biodiversity, identity and social cohesion, these frameworks have been created in an international and academic-led way, without sustained engagement with those who suffer these losses (Boyd et al., 2017; McNamara & Jackson, 2019).

The difference between the expert and community experiences of loss is defined as the crux of the present study. While conceptually advanced, existing typologies of NELDs are normally developed in the context of a specific institutional setting; they are the result of technical papers commissioned by treaty bodies, of expert workshops involving academics and/or policy experts, and of literature review that draws on previous expert work – and not the result of a process of open-ended enquiry, reflecting the views of affected people (UNFCCC, 2013; Boyd et al., 2017). The categories that emerge, life, health, mobility, territory, cultural heritage, indigenous knowledge, biodiversity and ecosystem services, are not arbitrary or without empirical basis but they are first abstracted into a particular way of knowing in which loss is named, discrete and is then examined empirically. These categories may thus not accurately represent how affected communities perceive, describe and priorities their own losses (Tschakert et al., 2019).

In brief, it can illuminate why this institutional atmosphere has proved so persistent, as the gap between expert categorization and community experience has proven so persistent. Technical papers, expert briefings, typology-building exercises are generally created in a limited number of institutional contexts, the UNFCCC secretariat in Bonn, the drafting sessions of IPCC scientists nominated from all countries, and a few research institutes and universities, mainly in the Global North) and then spread outwards to national governments and eventually to project-level implementation in vulnerable countries (IIED, 2023). These communities whose losses are ultimately being categorized are seldom represented in these processes, and the language, norms, and rules of these environments are far removed from the oral, narrative, and relational nature of many of the communities involved, in particular, those in rural Bangladesh, who describe their own experience of loss. This institutional distance is not a by-product, but a necessary one, as argued by Jackson et al. (2023): the categories it creates are not just a description of the process from a neutral standpoint but shape which losses become visible, actionable, and fundable in the policy process, and which ones remain effectively unrecognized. It is important to understand this environment to understand why this study is important in being

methodologically innovative in starting with the community rather than with the expert category, and in being fundamental rather than just a repetition of other studies with a different set of participants.

Loss is seldom health loss or cultural loss, or loss of livelihood or loss of hope; it is often a combination of losses, relational, cumulative, and embedded in culture, and the loss of a homestead is not separate from the loss of livelihood, which is not separate from the loss of family relationships and the diminished hope for the future (van Schie et al., 2024; Ayeb-Karlsson et al., 2023). Bangladesh is a case in point in this regard. The nation's vulnerability to climate hazards is not evenly distributed across the country and is often featured among the most climate-vulnerable countries in the world. Cyclones and tidal surge are challenges for coastal districts, erosion and recurrent flooding are challenges for riverine districts and the districts within haor ecosystems face sudden onsets of flash flooding which have the potential to inundate entire unions in hours. The non-economic losses from each of these hazard-scapes are unique and local (Chiba et al., 2017; The Climate Watch, 2026).

This internal diversity within a single country has a methodological implication which will be mentioned throughout this study. The available NELD literature, such as the technical paper published by the UNFCCC in 2013, and the typology by Boyd et al. (2017) were built under the assumption that, in principle, a limited amount of local adaptation is needed to apply a set of categories across a wide range of national contexts, as in the case of small island states and landlocked agrarian economies. At a more manageable scale, and on a local level, Bangladesh's own internal diversity of hazards questions this assumption: if there are interesting differences in non-economic losses at the level of the community, the region, and the haor basin, how much more might vary between communities, regions, and haor basins in different nations, with different language, religion, and policy environments? By studying this question within a national context of Bangladesh, rather than a multi-country context, the study has a number of analytical advantages in that it can keep other factors, such as language, governance structure, national NELD policy environment, constant and thereby focus the study on hazard-scape and local cultural context as the two sources of variation in community understanding.

This geographical and experiential variety is what has motivated the present study to focus on three contrasting geographical areas; Barisal, the coastal south where flooding is a typical feature of the season; Kurigram the north where erosion is a common problem; and Sunamganj, the haor part of the north-east where flooding is an uncommon event during the season. This research starts by posing a different question from most previous NELD scholarships, one that

has been more fundamental: What is the loss signified by communities in a climate-affected region? Inductive analysis of a structured household survey and community narratives collected from key informant interviews and focus group discussions will be used to develop a community-based understanding of NELD that will then be contrasted systematically in this way with other community-based frameworks internationally and in the academic literature that are derived from these three contrasting districts. The results will serve as inputs to the NELD assessment methodologies, national L&D mechanisms and the FRLD (Mongabay India, 2025).

Keeping this enquiry in the context of the larger development of the field is useful to determine what is really on the table. Even early empirical work by the United Nations University Institute for Environment and Human Security across nine vulnerable countries, such as Bangladesh, showed that the categories of losses reported by the communities routinely exceeded and differed from those that would later be codified in the UNFCCC's 2013 technical paper on non-economic losses, indicating that the gap between expert categorization and lived experience is not a new methodological blind-spot, but a feature since the beginning of the field (UNFCCC, 2013). This phenomenon has been confirmed many times since. In the most systematic global synthesis of intangible climate harm to date, Tschakert et al. (2019) note that lived experience of loss is always tied to identity, sense of hope, not exhaustively captured by pre-existing categories. In a similar manner, McNamara and Jackson (2019) found that a majority of loss and damage publications are descriptive, rather than advancing a more sophisticated methodological framework, summarizing the various examples of loss. Together, these results provide empirical and conceptual context for understanding the community-based approach of the present study, rather than as a rejection of the existing NELD scholarship, but as a purposeful exploration of an area that NELD scholarship has pointed to and not yet adequately covered.

This study is theoretically grounded in three related streams of scholarship that provide explanations for the continuance of this disconnect between expert categorization and community experience. Political ecology focuses on the influence of power, institutions and inequality on who has the authority to define loss and whose knowledge is valued in decision making in L&D (Malik et al., 2026). The notion of knowledge co-production de-centers the distinction between “expert” and “local” knowledge, sees community knowledge as enabling the extension or reframing of existing knowledge rather than its confirmation as a post-hoc process (Orlove et al., 2023). While a categorical approach to NELD may be useful, it does not account for the intangible aspects that people experience in their lives and which have been assigned meaning, such as those of loss, identity, dignity, memory, belonging, and grief (De Biasio & Fernandez Velasco, 2026; Hepach & Hartz, 2023). These positions collectively point to a larger

issue of who is recognized as the expert, and what sort of knowledge is recognized as authoritative, and what kind of knowledge can and can't be captured by a purely sectoral, categorical approach to loss.

1.1.2 Justification of the Study

The justification for this study rests on the convergence of four considerations: the growing policy urgency created by the operationalization of the FRLD, a persistent and well-documented conceptual and methodological gap in NELD scholarship, the particular relevance of Bangladesh as a research setting, and the broader ethical and developmental stakes of ensuring that climate finance mechanisms respond to losses as communities themselves define them.

First and foremost, the operationalization of the FRLD at COP28 has shifted a largely conceptual discussion into a concrete problem to be solved. The existing conceptual typologies do not provide on their own an operational basis for determining eligibility and scale of support for a fund that is meant to disburse finance in response to loss and damage (World Bank, 2024). If the methodologies used are not context sensitive and participatory, they are unable to determine which losses are most important to affected populations, leaving non-economic losses difficult to achieve in practice when it comes to real resources. Early work to fill the gap, such as indicator development work undertaken in Bangladesh, Thailand, India and Japan, shows that the challenge is achievable, but the pilots started are limited in scope, and some are still undergoing trials, such as recent pilots in Bangladesh, Fiji and Kenya (Mongabay India, 2025). The need to produce, in the first instance, this sort of locally based evidence that these new forms of finance and assessment seek is a practical justification for the present study.

This is a practical need, given Bangladesh's unique institutional context in the international loss and damage talks. Bangladesh has a particular stake in the way the assessment methodology, finally adopted to form the basis of FRLD, considers the specificities of climate vulnerable populations in Bangladesh, as opposed to categories derived first from other country contexts. A study which is able, with empirical rigor, to show how these conceptions of NELD in Bangladesh match and deviate from the international categories which have been inherited has a direct implication for the effectiveness of negotiating positions and domestic policy tools based on empirical evidence and not inherited assumptions.

Second, the study fills a gap in the conceptual and methodological literature that has been identified by that literature itself and has not been sufficiently explored. The current NELD frameworks offer a solid framework, yet are largely expert-led, sector-based and hard to

implement at the community level (IIED, 2023). These categories may fail to capture important losses, potentially exclude or miss the cultural dimensions of meaning, and can fail to account for the meaning of experience as it exists within communities (Serdeczny et al., 2016; Boyd et al., 2024). Lacking sufficient community input, L&D finance mechanisms can then be constrained in addressing the losses communities experience as most significant. This study is made necessary with force by three related gaps. There has been little conceptual consideration of building an understanding of NELD inductively from community narratives, instead of expert processes (Boyd et al., 2017). Methodologically, it is challenging to quantify NELD; participatory methods that can draw out a community-based understanding without assuming categories are underdeveloped (Tschakert et al., 2017; IGES, n.d.--a). Implementation of NELD in policy has not been followed by implementation of NELD in assessment or financing, which is a challenge now that is central to the design of the FRLD (World Bank, 2024). This research will attempt to bridge these gaps by taking a purposeful step from recognition to community interpretation, from conceptualization to assessment and lastly to operational use.

The methodological design for achieving this purpose is also a part of the justification of the study. The present study makes use of both a large-scale household survey that can provide a sense of the scale and distribution of reported loss, and a qualitative narrative approach that can provide rich meaning, but with difficulty generalizable to a large and diverse study population. The structured household survey component brings a level of statistical confidence that purely qualitative approaches could not, to the analysis of the scale, distribution and hazard-association of non-economic loss, directly addressing the first specific objective identified in section 1.2 of the research, while the qualitative and comparative work carried out in other parts of the study brings a level of context richness that a survey instrument alone could not provide, and allows the analysis of the deeper interpretive questions identified in the research questions of section 1.3 to be achieved. This combination addresses a methodological gap pointed out by Tschakert et al. (2017) and IGES (n.d.-a), each in their own way referring to the fact that participatory methods used to identify NELD have not yet been fully developed to match the sophistication of the typologies they are intended to inform.

Thirdly, the context of the research in Bangladesh is of unique and perhaps unparalleled interest in this study. There are very few countries that have as much prior experience in NELD scholarship as demonstrated by the UNU-EHS case studies and the work of van Schie et al. (2024) on the autonomous community response, and Chiba et al. (2017) with their cross-country comparison with Japan, that have as high internal variation in climate hazard exposure. It is this mix of existing research and ongoing internal scholarship that makes Bangladesh, and the three

contrasting districts explored in this study, such a promising environment for the advancement of the field: there is no lack of scholarship that can be leveraged, but the hazard-scapes of Barisal, Kurigram and Sunamganj are not well-studied nor sufficiently compared in a coordinated way within a single national policy framework. This research is timely and very much needed as existing indicators are still failing to account for non-economic losses in the Bay of Bengal's coastal areas, as seen in ongoing peer-learning activities there (The Climate Watch, 2026).

The choice of Barisal, Kurigram and Sunamganj, instead of other combinations of districts in Bangladesh, is a methodological one which could be viewed briefly at this point. They were selected not because they are the most climate-hazard-prone districts in absolute terms, which is challenging to prove, given the multidimensional nature of climate hazards, but because they collectively cover the three qualitatively different climate hazard-scapes, namely: coastal and cyclone-prone, riverine and erosion-prone, and haor-basin and flash-flood-prone, that together characterize the dominant forms of climate exposure across Bangladesh as a whole. This purposive, hazard-scape-based sampling logic increases the analytical weight of the cross-district comparison at the core of the third secondary research question described in section 1.3.2 by enabling patterns of convergence and divergence in the understanding of communities to be attributed, at least provisionally, to differences in the nature of the hazard experience.

Fourth, and more fundamentally, this study is justified by a set of ethical and developmental considerations, which are not only relevant to the immediate policy utility of this study's findings, but also serve as the basis for such study. Political ecologists have suggested that institutional structures of loss are not an only means of describing loss, but that they are also active mechanisms that determine which losses are seen, acted upon and funded, and which ones are simply not recognized inside the policy process (Jackson et al., 2023). When community knowledge is seen as ancillary, to be folded into established expert classifications, instead of being seen as complementary and co-equivalent with expert knowledge, the assessment and financing mechanisms risk to further marginalize vulnerable voices that L&D finance is designed to un-marginalize (Orlove et al., 2023). A study that focuses on what community says rather than on what they say but is a predetermined classificatory scheme would provide some modest, but concrete, corrective to this process. By doing so, it also addresses a larger question of the localization of global commitments, as community-based evidence of this type goes beyond the FRLD to the larger goal of making global climate and development commitments ‘local’ rather than imposing them on the local community.

This ethical dimension of the study's rationale is supported by phenomenological and knowledge co-production scholarship that warns of subjecting community narrative to the use of it as a data source of richer data for an ultimately expert-authored classification. Phenomenological scholarship maintains that categories of loss should be held accountable to the lived and meaning-making nature of loss and not to the utility of their classification in policymaking (Hepach & Hartz, 2023; De Biasio & Fernandez Velasco, 2026). This concern is extended in the knowledge co-production scholarship, which believes that community and indigenous knowledge systems must not be treated as substitutes for expert knowledge; they should be considered as co-equal and complementary, as able to extend and/or rethink existing concepts, rather than as supplementary evidence to fit into a pre-designed framework, whose basic categories were established beforehand (Orlove et al., 2023). Together these bodies of scholarship warrant the study's deliberate framing as an enquiry into community perception, discussed further in Chapter Two, over against the construction of a further, competing typology: the ethical stakes of this framing choice are not a by-product of the study's design, but an active contributor to it.

All four justifications – policy, scholarly, relevance of Bangladeshi context and moral issues in doing community-based enquiry – combine to make the present study timely and necessary. The next sections outline specific objectives and research questions through which this justification is manifested in a specific programme of research.

1.2 Objectives of the Study

1.2.1 Overarching Aim

The overarching aim of this study is to develop an empirically grounded, community-derived understanding of Non-Economic Loss and Damage across three climate-vulnerable districts of Bangladesh, Barisal, Kurigram, and Sunamganj, and to examine how community conceptualizations complement, challenge, and expand existing international and expert frameworks.

This goal is clearly expressed in the language of understanding and conceptualization, not that of creating a new and competing typology. The study's theoretical orientation, as outlined in Chapter Two, suggests that its task of providing a typology-building might be driven by the desire to produce the very kind of dynamic the study is attempting to challenge: that of the researcher entering a community and exiting with a predetermined classificatory system which the community has not asked for and may not accept as valid and representative of its own

experiences. It thus does not define the aim as a community perception, but rather as a reflection of the perspective of the three communities studied, so that any implications of the study for existing IPCC or UNFCCC or academic frameworks only are the downstream product of the study's enquiry, rather than its starting assumption (Orlove et al., 2023).

1.2.2 Specific Objectives

In pursuit of this aim, the study is guided by the following specific objectives:

1. To quantify the scale, distribution, and hazard-association of non-economic losses reported by climate-affected households across Barisal, Kurigram, and Sunamganj using structured household survey data.
2. To develop recommendations for integrating community-derived understandings of NELD into national assessment methodologies and L&D finance mechanisms relevant to Bangladesh, including the FRLD.

These two goals are intentionally not carried out in parallel. The first provides an empirical, survey-based basis for understanding the distribution of non-economic loss across the three study districts, and its variation with hazard type, constituting an evidence base for describing community perception. The second takes this evidence and the qualitative and interpretive work conducted elsewhere in the study and converts it to concrete guidance to the institutions, ranging from the national-planning level to the operational level in the FRLD. Together, they situate the study in a middle ground between evidence gathering (descriptive) and policy-relevant recommendation (the thrust of this study is as stated in section 1.1.2 above).

It is important to underline clearly that these are more modest than the comprehensive set of activities of which they are a part of the total research plan used in the study, detailed in Chapter Four. The household survey that is used in the first objective is supplemented by key informant interviews, focus group discussions, and community narrative work to provide the qualitative depth needed to understand the meaning of the quantitative patterns and trends in the survey. The two specific objectives outlined here should thus be understood as evaluative benchmarks for the study, the concrete products against which the ultimate success of the study can be measured, and not as an exhaustive list of all of the research activities that the study conducts. What is important is the value of the study to society, not just in quantifying the problem in a survey way, but also in the interpretive, comparative, and 'in action' recommendations required to make the second objective of the study (turning into the understanding of the community into an action plan) possible.

1.3 Research Questions

The study's objectives are operationalized through one primary research question and three secondary research questions, each of which addresses a distinct facet of the relationship between community perception and existing expert frameworks. The primary question captures the study's overarching interpretive ambition, while the secondary questions decompose this ambition into more tractable components, each addressed through a specific combination of the survey and qualitative methods introduced briefly in section 1.1.2 and detailed fully in Chapter Four.

1.3.1 Primary Research Question

How do community understandings of Non-Economic Loss and Damage across Barisal, Kurigram, and Sunamganj complement, challenge, and expand existing expert frameworks?

As the study is framed for the purpose of uncovering possibilities for community and expert understandings rather than assuming them, so each verb in this primary question refers to an alternative potential relationship between the two. Community understanding can be used alongside the existing categories in the UNFCCC or IPCC frameworks, if it supports and expands the existing categories, such as where a family's loss of a burial ground is interpreted as a local example of the category of “cultural heritage.” It could question or reshape potentially built-in categories where community narrative indicates that a discrete category of expert is, in local lived experience, identical to another, as can occur in the case of identity and place attachment, as Tschakert et al. (2019) highlight. And it might extend the frameworks where there are visible forms of loss in the community narrative, such as the abstraction of certain ritual practices linked with the seasonal flooding cycle of a haor that do not neatly fit into any of the frameworks discussed in Chapter Two.

1.3.2 Secondary Research Questions

1. *What forms of climate-related non-economic loss matter most to affected communities, and how are these dimensions interrelated?*
2. *Which community-derived dimensions are already represented within international NELD frameworks, and which are absent or underrepresented?*

3. *How do district-level differences in hazard exposure and livelihood context shape community understandings of NELD across Barisal, Kurigram, and Sunamganj?*

The first secondary question most closely addresses the first specific objective: what communities consider important, and how these categories of loss relate to each other instead of as separate, sector-based categories (Tschakert et al., 2019; van Schie et al., 2024). The answer to this question is largely dependent on the structured household survey, but also on the interpretative depth of the narrative qualitative work as a survey alone cannot indicate how the respondents interpret the relationship among the loss categories.

The second secondary question considers the comparative nature of the study and compares community-derived understanding with the typologies discussed in Chapter Two, including those of the UNFCCC (2013) and Boyd et al. (2017), highlighting areas of convergence, divergence and gaps. This question is addressed largely in a structured comparison exercise, detailed in Chapter Four, in which findings from communities are mapped against the categories identified in the principal expert frameworks that were reviewed in the literature, and where they differ, where there is a dimension of loss, in the community, whether in the psychosocial aspects of anticipatory anxiety before an approaching cyclone season, or in the physical suffering that accompanies a storm.

The third secondary question addresses the cross-district design of a study that considers the coastal, riverine and haor hazard-scapes of Barisal, Kurigram and Sunamganj respectively to yield meaningfully different patterns of community understanding, as found by Chiba et al. (2017) in their study of the cultural and relational specificity of non-economic loss. The response to this question is provided explicitly and by cross-district comparison of results of the survey and narrative material from the qualitative component of this study and this is aimed at identifying patterns of community understanding apparent across different hazard contexts in Bangladesh and different ones apparent across different ecological and livelihood situations of the districts.

The primary and secondary questions give analytical scaffolding for the empirical chapters that follow, and directly inform the theoretical framework presented in Chapter Three and the methodological design outlined in Chapter Four. All the questions are addressed directly in the final chapter of the study, where the answers to the questions and what constraints any answer is explored.

CHAPTER TWO: LITERATURE REVIEW

The chapter places the present study in the context of the existing knowledge base on Loss and Damage (L&D) and Non-Economic Loss and Damage (NELD). It starts with an overview of how L&D developed into an institutional aspect of the United Nations Framework Convention on Climate Change (UNFCCC) and then focuses on the conceptual and empirical development of NELD as a field of enquiry. The chapter then reviews the existing typologies of NELD, comparing the different approaches of institutions and scholars in categorizing NELD, and highlighting areas of overlap and difference between the approaches. It then offers a sustained critique of the expert-centered, sectoral, and top-down nature of these frameworks, suggesting they share similar limitations as found in the wider Sustainable Development Goal (SDG) localization literature, and that a community-centered understanding could have a similarly catalytic role for both agendas. The chapter ends by weaving the strands together in the specific research gap this study seeks to fill, and by articulating the rationale for this study's design approach as an examination of community perception of NELD instead of the development of a new, rival typology.

The chapter has been arranged in such a way that each section is an extension of the previous one. As discussed in section 2.1, the evolution and trajectory of NELD scholarship can't be explained without considering the negotiating history of the UNFCCC's loss and damage architecture, which places the institution and politics in which it has emerged. Next, in Section 2.2, from institutions to concepts, the definition of NELD is explored, its growing salience for both scholars and policy makers and its enduring conceptual weaknesses. In section 2.3, the typologies that emerge from this process are examined comparatively in detail, with particular focus on the sources that are most directly relevant to this study, before they are subjected to sustained critique along five interdependent dimensions in section 2.4 and placed in the parallel literature on SDG localization. The chapter concludes with the distillation of this discussion in Section 2.5, which lists four specific gaps, conceptual, methodological, operational and framing-related, that collectively motivate not only the research questions introduced in Chapter 1, but also the theoretical framework developed in Chapter 3.

2.1 Evolution of Loss and Damage

Loss and Damage was not a unified idea, but rather emerged over the years, sometimes quite controversially, from decades of advocacy by the climate-vulnerable developing nations. Back

in 1991, it was the Alliance of Small Island States who first suggested the creation of an international mechanism to respond to the unavoidable impacts of climate change – one based on an insurance-style pool to pay compensation to the Small Island States in the face of sea-level rise. The idea lay dormant in the discussions for nearly 20 years, competing for prominence with debates on targets for mitigation and provision for adaptation funding. The Bali Action Plan of 2007 explicitly mentioned the "disaster reduction strategies" and risk management approaches, and the Cancun Adaptation Framework of 2010 further included a work programme on "consider approaches to address loss and damage" in the context of particularly vulnerable developing countries, where L&D has finally caught institutional momentum. The work programme was not a policy tool, or even a policy as such, but an admission that the current mitigation and adaptation framework was not enough, as impacts were already unavoidable.

The Warsaw International Mechanism for Loss and Damage (WIM) was founded in COP19 2013, as the first institutional structure to address L&D under the Convention. It had an Executive Committee (ExCom) which was entrusted with the duties of advancing the knowledge and understanding of comprehensive approaches to risk management; increasing dialogue and coordination among relevant parties; and improving action and support, particularly financial, technological, and capacity building, in response to loss and damage (UNFCCC, n.d.). The WIM did not find a solution to the underlying political conflict between vulnerable countries demanding compensation and the historically high-emitting countries who would be wary of assuming liability, but it did offer a forum to continue technical work on an ongoing basis, such as the 2013 technical paper on non-economic losses (discussed in section 2.2).

In 2015, in the Paris Agreement, Article 8 was introduced as an international legally binding instrument, and for the first time, L&D was considered as a separate pillar of climate action, alongside mitigation and adaptation, rather than being bundled into either one or the other. There is an express reference to "the importance of averting, minimizing and addressing loss and damage associated with the adverse effects of climate change" in Article 8, which contains a clear call to action for Parties to work together on "early warning systems, emergency preparedness, slow-onset events and non-economic losses," among other specific areas. A small group of Parties, fearing future liability or compensation, insisted on the accompanying decision text (paragraph 51), which read: Article 8 "does not involve or provide a basis for any liability or compensation". This clarification has had a lasting impact on the scope of ambition that can be addressed in the UNFCCC process for L&D (C2ES, 2024).

The institutional development in the second half of the 2010s and early 2020s took significant strides. The Santiago Network for Loss and Damage was created at COP25 in 2019 to facilitate technical assistance to developing countries to prevent, reduce and deal with L&D, but has not been active to date until COP27 in 2022, when the Network was agreed on in its institutional arrangements and a host structure was decided. The one most important step in the history of the L&D agenda was taken in the same COP27 session, when the Parties, after many years of opposition by more affluent Parties, finally agreed to set up a dedicated Fund for Responding to Loss and Damage (FRLD). Details of its operations have been negotiated over the following year, and the Fund was formally operationalized at COP28 in 2023 with the World Bank as interim trustee and host (World Bank, 2024). The Fund's Board met for the first time in 2024 (UNFCCC, 2024), and disagreements over the amount, source, and certainty of climate finance funding in general were a recurring issue at COP29 in Baku (CGIAR, 2024; IIASA, 2024), where L&D funding remained contentious. Following this, it was pointed out that while the Fund's launch was a breakthrough, it was a long way to the predictability and certainty of disbursed and sustainable funding for vulnerable communities (South, 2024).

At the time of COP30, the institutional structure for L&D was already much more advanced than it had been five years before, but there was still no clarity on how to scale L&D, what kinds of access it would allow, and what forms of losses it would count as supportable (EESI, 2025; Earth.). Org, 2026). The "next chapter" for L&D is not about more institution-building but rather building assessment methodologies, national systems and community-level evidence base to put the Fund and the Santiago Network into practice (UNDP 2025; CGIAR 2025; Loss and Damage Collaboration 2025). The practical implications of NELD assessment methodology and therefore the present study become concrete rather than merely conceptual, as institutions are now in place to facilitate support, and tools are now in the beginning stages of developing how and what is to be supported, in particular in cases where losses cannot be easily monetized (cities-and-regions.org, 2025a, 2025b; UN News, 2025; International Relations Review, 2026).

The length of time it took for this institutional pathway to develop merits some brief comment as it has influenced the nature of the NELD literature discussed later in this chapter. The liability and compensation concerns raised in the negotiating history highlighted by the Center for Climate and Energy Solutions, including in the lead-up to Paris, are the reasons why there was so much opposition from industrialized Parties to a dedicated loss and damage mechanism for a significant part of the 2000s and early 2010s (C2ES, 2024). This political prudence had an immediate methodological impact, as the early technical discussions of loss and damage, including the 2013 technical paper on non-economic losses, referenced in section 2.2, were

conducted in a non-claims-based manner, and were deliberately descriptive and analytical. This produced a body of foundational work which classified various types of loss in significant conceptual detail, but which did little to explain the implications for entitlement to support any experience of loss. That silence lasted nearly 10 years, and the fact that today only a few tools exist to determine who is eligible for assistance from the FRLD and on what grounds (World Bank, 2024; South, 2024) is a testament to it.

This is part of a similar trend as demonstrated in the example of the Santiago Network's sluggish beginning. The Network was established in principle at COP25 in 2019 but took little shape for three years until there was a secretariat, funding to implement it and a clear mandate for what technical assistance would look like to a country that wants to understand or respond to loss and damage. The Network's activation at COP27 came at the same time as and was likely overshadowed by the much more politically charged breakthrough on the Fund, to the extent that the Network's contribution is often seen as an add-on to Fund operations rather than being a stand-alone piece of L&D architecture. This is important for the current study because the Santiago Network, rather than the Fund, is closer to the ground in being a body with the capacity to create the type of assessment methodology that this research hopes to contribute to, and because the members of this Network remain institutionally thin.

Some background on the negotiated history of the Fund is also in order, as it helps explain why NELD has had difficulties getting a good foot in the door within the final design of the Fund. The primary debate during COP27 negotiations was whether a fund is needed at all, and who should contribute to it and who should benefit from it, rather than the actual question of the fund itself (C2ES, 2024). Non-economic losses played only a minor part in this debate, appearing only in principle on the list of losses that the Fund was responsible for, but not being discussed in detail in terms of what losses were covered by the agreement, as it were easier to discuss the economic losses, which are more easily quantifiable. In the same vein, at COP28, the modalities for operation of the Fund provide general categories of eligible activity but not the sort of granular details on non-economic loss that would give a national government or community-based organization confidence in its ability to draft a proposal that can be funded. (World Bank, 2024) The implications for the type of research this study explores is that non-economic loss is only indirectly felt but is explicitly recognized at each level of the L&D architecture under review above – and, in South's (2024) memorable words, one of the least resolved aspects of an already only partially resolved funding and allocation process.

Coalitions of civil society and researchers too have been significant on many occasions, though understated, in this institutional history, often providing the technical and evidentiary foundations that individual Parties had neither the capacity nor the interest in creating on their own. The Loss and Damage Collaboration, a loose group of researchers, advocates, and negotiators from the Global North and South, has served as a black box of technical analysis on issues like the kind that eventually went into the design of the Fund, and its post-COP30 evaluation of the Fund includes the lack of agreed methodologies for assessing non-economic loss as one of the most important unfinished parts of the Fund's implementation agenda (Loss and Damage Collaboration, 2025). The present study is not aimed at directly influencing the above-described political negotiations, but rather at providing just the type of locally based methodological evidence that civil society and academic research can provide, which has been called for by the political negotiating process in the above-mentioned bodies, the Loss and Damage Collaboration, specifically, and the Santiago Network.

2.2 Evolution of NELD

The term "Non-Economic Loss and Damage" has become part of the UNFCCC lexicon as a residual, and the 2013 technical paper requested as part of the UNFCCC work programme on loss and damage defines non-economic losses as "the remainder of items not defined as economic items," that is, losses to goods, services and relationships that are not commonly traded on markets and therefore do not have an observable price (UNFCCC, 2013). However, this negative definition, which is useful as a starting point, has defined the trajectory of much of the field since then, in that since NELD is about what they lack rather than what they possess, the category has always been at risk of becoming a residue pool to which analytically and experientially different phenomena are added, often just because none will easily fit onto a balance sheet.

By examining the ways in which this movement has developed over the next ten years, it becomes clear that the movement is doing a lot of work to make up for the lack of a robust definition of its own beginnings. Following the 2013 technical paper, the majority of publications were more of a taxonomic exercise and the eight categories of substance detailed in the paper were listed and illustrated with little investigation into how those categories relate to each other or to a wider theory of value. From around 2013 onwards, the field moved towards a more empirical approach, as discussed in the case study work of the UNU-EHS, but it was not until the mid-to-late 2010s that the more explicitly critical literature reviewed in section 2.4, with Boyd et al. (2017) the first among them, started treating categorizing as a process that needs to be justified, not just

inherited from the technical paper published in 2013 and applied without further thought. When Tschakert et al. (2019) conducted a systematic review of intangible harm across the globe, the study had moved on in several respects: First, the focus on community narrative was elevated to the status of key data source in and of itself, not merely as a form of filling in the details of pre-established categories. The community perception framing developed fully in section 2.5 can best be understood as a continuation of this, not a break from it: each wave of NELD scholarship has moved a little bit further away from the original expert-constructed, residual definition and a little bit closer to a definition based on the experiences of those who feel the loss of climate change themselves.

The empirical base for research on NELD comes before the technical paper's recognition of NELD. Under the auspices of the Loss and Damage in Vulnerable Countries Initiative, UNFCCC researchers at the United Nations University Institute for Environment and Human Security (UNU-EHS) carried out a series of local-level case studies in nine vulnerable countries including Bangladesh, Bhutan, Burkina Faso, Ethiopia, the Gambia, Kenya, Micronesia, Mozambique and Nepal. A synthesis by Warner and van der Geest (2013) identified losses that communities faced in cases of drought, flood, cyclone, which were not of economic nature, but rather losses of social networks, ancestral burial place, etc., and which were not seen in the then prevalent economic framing of the literature on loss and damage. In a well-documented case, for instance, an ancient fort in an atoll state in the Pacific was destroyed by the government to protect the atoll from erosion and coastal damage, but with no compensation from any market transaction, it was reported that the government had lost the cultural heritage and collective identity of the atoll state people (UNU-EHS, as cited by Warner & van der Geest, 2013). The present study is relevant to this body of work as it indicates that community-derived concepts of non-economic loss are not only substantially earlier than the UNFCCC's own conceptualization but also appeared to inspire the UNFCCC's conceptualization.

The use of this empirical basis in the IPCC assessment cycle has been variable. While references to loss and damage were more frequent in the academic literature than in the IPCC's Fifth Assessment Report (Fifth Assessment Report), van der Geest and Warner (2020) conducted a text-mining analysis of the IPCC's Fifth Assessment Report that revealed that references to loss and damage, and to non-economic loss specifically, were much less frequent and widely dispersed within the report than the literature on the subject would suggest was warranted, reflecting a persistent gap between what field-based research has already documented and what the most authoritative global synthesis of climate science has absorbed. The Sixth Assessment Report tackled this issue partially: Chapter 8 of the Working Group II contribution places loss and

damage, with its non-economic aspects, in a wider context of poverty, livelihoods and sustainable development and specifically includes impacts on life, health, mobility, territory, cultural heritage, indigenous knowledge, biodiversity and identity as examples of loss beyond traditional economic accounting (IPCC, 2022). This placement is analytically important because the IPCC, by placing NELD in a chapter on poverty and sustainable development instead of regarding it as a technical category on its own, implicitly recognizes that non-economic loss is not distinguishable from the larger development and equity issues addressed by the SDGs, issues that are explored again in section 2.4 below.

During the next ten years, scholarly interest in NELD grew significantly. In Boyd et al. (2017), the concept of loss and damage is less a substantive category of loss, and more as an example of how even the process of topologizing a loss is a value-laden one—whereas competing stakeholder groups, such as insurers as well as loss-affected communities, have different logics of loss conceptualization. The literature review by McNamara and Jackson (2019) of 122 loss and damage publications was descriptive, listing examples of loss instead of building a stronger theoretical or methodological framework for grasping its nature, meanings, and perceptions by the people who live it, whereas Serdeczny et al. (2016) provided an early policy-oriented synthesis expressly focused on how to translate the developing academic consensus into research priorities for the UNFCCC process. With much of the case evidence from around the world, Tschakert, et al. (2019) addressed this exact gap and provided what is to date the most systematic empirical study of intangible climate loss, synthesizing evidence from lived experience to argue that lived experience of loss often goes beyond identity and sense of place to encompass hope, and can span across, rather than within, the sectoral typologies that institutional typologies tend to impose.

This literature is used to highlight the importance of the NELD and its conceptual weaknesses. It matters, first, because non-economic losses can be more significant to the affected population than economic losses that are the main focus of most damage assessments in developing countries, precisely because non-economic losses are often irreversible – a destroyed harvest may be replanted, but not a drowned graveyard, an extinguished oral tradition or a fractured community network can be readily restored (UNFCCC, 2013). Second, because the FRLD and the wider L&D finance structure outlined in section 2.1 now needs some basis to make its decisions on who should and should not receive support and what the conditions will be for this support, the conceptual clarity, or lack of, of NELD scholarship is a direct consequence of who gets support and under what terms (World Bank, 2024). But its drawbacks are still significant. The lack of a market price also doesn't simply mean that it is a technical inconvenience, because

the valuation and measurement of something that was never meant to be sold in the first place is difficult without a standard. The distribution of data is heavily skewed, with most of them coming from a few well-studied countries and hazard types, and the categories created in one cultural and hazard context can only be moved somewhat to another context. Most importantly, as the subsequent two sections elaborate, the community engagement of the field has been extractive, not dialogic; that is, the process of community engagement has been one in which the researcher comes with the categories, and looks for evidence to confirm them, rather than leaving them to emerge from what communities describe as lost.

A brief note is in order here on terminology, and why it has been difficult to get the field away from its original definition. Writing shortly after the technical paper's publication, Barnett et al. (2016) assert that climate scholarship requires nothing less than a “science of loss” – a line of enquiry that would be able to take seriously the loss of what is lost to climate change, which is often something that is intrinsically valuable to a person or community in and of itself, not for any instrumental role it plays in delivering, say, welfare gains. Similarly, Preston (2017) poses a parallel philosophical argument that argues that many of the issues that face NELD assessment are not simply technical challenges that need to be overcome with a better methodology but are really in commensurabilities between two or more types of value: for instance, when a sacred place is destroyed, one cannot capture the loss with any single metric, however well crafted. The philosophical interventions are relevant to the present study in that they warn against considering the conceptual and methodological lacunae identified below as problems that might be solved later with a strong enough typology; some of the methodological challenges, on this reading, are inherent to the subject matter itself, and are not to be taken as a reason to avoid an approach that, like the one taken here, focuses on understanding how communities themselves make sense of incommensurable losses rather than on creating a definitive and exhaustive typology.

Since the original 2013 technical paper, which mentioned psychosocial and mental aspects of loss briefly in the "health" section, NELD scholarship has also evolved to include these additional aspects. A pattern emerges in the reports of anxiety, solastalgia, complicated grief due to environmental changes across the global literature, as these experiences are consistently reported in radically different cultural and geographic contexts ranging from the Canadian Arctic to the small island states, suggesting that psychosocial harm may be one of the more universal, but less measured, dimensions of non-economic loss. This body of literature on mental health is linked to Chandra et al.'s (2023) analysis of the NELD policy responses in the Pacific Small Island Developing States (SIDS), which reveals that psychosocial impacts are often identified in

national and regional policy documents, but without any indicator or assessment tool that captures them over time, they remain formally recognized and are thus largely invisible in practice. This ongoing lack, over 10 years since the initial technical paper first identified health as a category of non-economic loss, is itself a worthy example of the more general operational criticism put forth in section 2.4 - "naming" a category is certainly not the same as developing the ability to observe it.

This is a very significant conceptual richness and operational poverty in a country as was Bangladesh. Bangladesh is also one of the most studied countries in the global NELD literature, is featured in the original UNU-EHS case studies of nine countries (Warner & van der Geest, 2013) and in a cross-country comparison study with Japan (Chiba et al., 2017); it is one of two countries included in the detailed study of Bangladesh literature that follows in section 2.3 (van Schie et al., 2023, 2024), and one of the countries for which the practical consequences of getting NELD assessment right are greatest, due to its vulnerability to cyclones, riverine erosion and haor basin flash flooding in different parts of the same small country. That is why this study – especially the three districts of Barisal, Kurigram, and Sunamganj – that have been studied before yet still have gaps that can be bridged through further research and development is a productive environment in which to pursue the community perception approach developed in this chapter.

2.3 Existing Typologies

There are several typologies that overlap in NELD literature, and have been created by different institutions, for various purposes and at different stages of the field's development. This section provides a brief survey of the principal typologies, and in particular the sources that are most central to the conceptual development of the present study, before it is compared with the intersection and difference of these typologies.

2.3.1 The UNFCCC Technical Paper Typology

The basic typology is described in the technical paper on non-economic losses from the 2013 UNFCCC conference, which categorizes the non-economic losses into three domains related to the location of the loss – private individuals, society, and the environment. It identifies the following 8 substantive categories within these domains: loss of life, health, human mobility (principally displacement), territory, cultural heritage, indigenous and local knowledge, biodiversity, ecosystem services (UNFCCC, 2013). It has been a robust typology and its categories can be found, in slightly different forms, in almost all subsequent typologies, such as the summary, which continues to organize knowledge products and activities on the Executive

Committee webpage of the Warsaw International Mechanism on non-economic losses (UNFCCC, n.d.-b) broadly along the same typology. The very framing of the paper recognizes that the list is ‘not a complete list of non-economic losses' (UNFCCC, 2013, para. This was a “caveat” (46), that has been heard much more strongly by later critics (section 2.4) than the later institutional life of the paper might indicate.

2.3.2 IPCC Framings

The IPCC's discussion of NELD, in section 2.2, does not seek to create a new typology instead it integrates and reconfigures the categories of the UNFCCC into its overall poverty, livelihoods and sustainable development approach (IPCC, 2022). Critical analysis of these views of NELD during the IPCC assessment cycles indicates that the categories have evolved slightly across the assessment cycles and that some categories, like ecosystem services, have been paid significantly more attention than others, such as social cohesion, which have been comparatively under-theorized throughout the cycles (see the ResearchGate hosted analysis entitled "Conceptions of Non-Economic Loss and Damage in the IPCC"). This 'flip-flop' between assessment cycles is itself instructive, as it implies that the most authoritative scientific synthesis body in the field has not yet reached a stable, internally consistent typology, reducing the argument that any one available typology should be seen as definitive.

2.3.3 Climate Analytics and Policy-Advocacy Framing

Climate Analytics' policy briefing, "Non-Economic Loss and Damage: Addressing the Forgotten Side of Climate Change Impacts," takes a more explicit advocacy framing, and argues that the science and the negotiations have been dominated by the economic losses, with a need to make more concerted efforts in national adaptation planning and eventual allocation criteria of the FRLD to include the non-economic losses. This briefing does not introduce new substantive categories, but mostly reiterates the UNFCCC's typology, but interprets the policy significance of it in a new way – demonstrating a wider trend in the literature of the stability of the underlying categories despite changes in the arguments that they carry.

2.3.4 Typology of Perspectives, as described by Boyd et al. (2017)

A conceptually different contribution is that of Boyd et al. (2017), which does not specify the types of loss, but rather the types of the perspective on loss and damage, that is, value-based, method-oriented, and political approach to the notion of loss and damage, as well as to its subjects. This typology has proved especially powerful in the critical literature reviewed in section 2.4 because it reveals what the substantive typology of the UNFCCC – loss by category – does not made

explicit: assumptions about who knows what and who does not and about how loss is to be measured, compared, aggregated. A related conceptual chapter places NELD in the wider context of the scholarship on loss and damage, and how the field was initially dominated by the economic modelling perspective before growing to a richer, but still fragmentary, consideration of the non-market dimensions of loss (Springer, 2018 chapter mentioned in the broader literature).

2.3.5 Empirically Grounded Typologies from Bangladesh

Of relevance to the present research are two studies with specific reference to the Bangladesh context: one by van Schie et al. (2024) which builds on communities' own responses to loss and is hosted by the Lund University research repository, and another by the LSE based on the accounts of external responses to loss, yet with Bangladesh-specific content. Their results indicate that community coping responses fall into two broad categories: restoring relational-cultural continuity and replacing material resources, with the former being at least as salient as the latter, and that these categories are only roughly correspond able to the UNFCCC's narrowly defined categories. A related study, ‘Centering Local Values in Assessing and Addressing Climate-Related Losses and Damages’ which was a study case in Durgapur Upazilla, Bangladesh, provides a more intentional approach by asking about local value systems as a starting point for classification, instead of testing pre-established value systems against local experience (van Schie et al., 2023). The methodologically significant findings from both the studies are also applicable to the present research because they prove that typology building with a values-first or experience-first approach is also possible and fruitful in the context of Bangladesh.

2.3.6 Cross-Country and Regional Typologies

Chiba et al. (2017) have found a comparative typology that spans the entire cards of Bangladesh and Japan and thereby questioned the fundamental difference between NELD in the Global North and Global South; in both countries, the perception of NELD is formed through relational and cultural logics that cross the formal sector boundary. McNamara et al. (2021) come up with a broadly similar typology for the Pacific Islands, once more with community-reported losses grouped around place attachment, cultural continuity, and social cohesion that are not fully predicted by the original eight categories of the UNFCCC. The Institute for Global Environmental Strategies (IGES) has since formulated some of the few truly operational indicator sets for NELD, based on fieldwork in Bangladesh, Thailand, India and Japan, which translate typological categories into measurable, locally-adapted indicators (IGES, n.d.-a, n.d.-b) – a process that is

discussed further in section 2.4, as an example of attempted operationalization, which is still quite restricted.

2.3.7 The subjective and narrative typologies

The last strand, typology building, is completely devoid of the language of discrete categories and more focused on narrative and subjectivity-based approaches. Given the above, Jackson (2023), in studying environmental subjectivities and experiences of climate extreme-driven loss and damage in northern Australia, observes that community members often tell their own stories of loss in ways that do not neatly fit into any of the above categories, for example, a decrease in their ability to pass on a way of relating to land and season to their children, a way of loss that cuts across each of the above listed UNFCCC frameworks but does not fit neatly into each of them. Another empirical base for the conclusion is found by Ayeb-Karlsson et al. (2023) who introduced the storytelling methodology in section 2.2, taken from a set of narratives of loss in the three countries of Bangladesh, Fiji and Vanuatu, and conclude that narratives of community loss are framed less with reference to the typologies of institutions, and more with reference to a few common themes that cut across very different hazard contexts: dignity, purpose, belonging and hope. These subjective and narrative methods are also not necessarily in competition with the more structured typologies mentioned above but rather do so reveal a shortcoming shared by all of them: any typology created from named, discrete categories will, by its very nature, have difficulty representing losses felt as diffuse, cumulative, and unable to be separated by community members. Table 1 summarizes the principal typologies reviewed in this section, organized by their underlying basis, and highlights the domains around which they converge.

Table 1: Principal typologies reviewed

Typology / Source	Basis	Core Domains Identified	Scale / Context
UNFCCC Technical Paper (2013)	Expert / literature review	Life, health, mobility, territory, cultural heritage, indigenous knowledge, biodiversity, ecosystem services	Global, developing countries
IPCC AR6 WGII Ch.8 (2022)	Expert synthesis	As above, embedded within poverty, livelihoods and sustainable development framing	Global
Boyd et al. (2017)	Expert / conceptual	Typology of perspectives (value, distributional, methodological, political), not of loss types	Global / cross-cutting
Warner & van der Geest (2013), UNU-EHS	Empirical, mixed methods	Social networks, cultural heritage, identity, alongside material loss	9 vulnerable countries incl. Bangladesh

Typology / Source	Basis	Core Domains Identified	Scale / Context
van Schie et al. (2024)	Empirical, community-derived	Relational and cultural continuity, autonomous coping responses	Bangladesh
van Schie et al. (2023)	Empirical, values-first	Locally elicited value systems as basis for categorization	Durgapur Upazilla, Bangladesh
Chiba et al. (2017)	Comparative, mixed methods	Relational and cultural logic cutting across sectoral categories	Bangladesh and Japan
McNamara et al. (2021)	Empirical	Place attachment, cultural continuity, social cohesion	Pacific Islands
IGES (n.d.-a, n.d.-b)	Applied / indicator development	Operational indicators derived from UNFCCC categories	Bangladesh, Thailand, India, Japan

When combined, these typologies show significant overlap at the level of general domain - most typologies, whether derived from experts or empirical grounds, include at least parts of the domains of non-economic loss, such as health, mobility/displacement, place/territory, culture/identity, biodiversity/ecosystems, and social cohesion. They differ about three issues which are particularly relevant to the present study. First, they come from different sources: literature synthesis and expert elicitation (expert frameworks, like the UNFCCC technical paper, or the IPCC chapters); and fieldwork and community testimony (community-based studies, such as those by van Schie et al. (2023, 2024) and Chiba et al. (2017) across countries). Second, they vary in granularity and boundedness; expert frameworks typically represent discrete, named categories that are (at least conceptually) separable, while empirically based work shows that losses in communities are often interdependent and cascading, rather than bounded. Third, and most importantly for the section 2.4, they have different audiences: institutional typologies are geared at accessibility to policy processes, negotiators and finance mechanisms, while community-driven studies are geared at faithfulness to lived experience, even if this means that the categories are not mutually exclusive or tidy in a way that the policy process may prefer.

This trend of convergence at the broad domain level and continued divergence at the level of basis, granularity, and audience is not just the result of a still young domain that hasn't yet reached the stage of converging on a single “right” answer. It is more usefully considered as a kind of "boundary object" that is sufficiently "stable" to carry a consistent meaning between various "social worlds" (e.g., a negotiating floor at a COP, an IPCC draft session, a village meeting in Kurigram), but sufficiently "flexible" to be adapted and locally interpreted in each world. NELD operates in just that manner. In the loose sense of the term, losses of tradition, practice, and collective memory, such as the disruption of a boat-racing festival tied to a certain water level,

are what all three of the above refer to as "cultural heritage," yet this loss of memory might strike a treaty negotiator from the UNFCCC's abstract category list as illegible for the loss. Why so many overlapping frameworks are still produced, none of which supplants the others, is better understood if conceived of as boundary objects, with each doing the flexible work that a boundary object is supposed to do and the divergence noted above more a sign of the term's conceptual success than of failure. It also gives an explanation as to why it need not, and does not try to, resolve the divergence by creating one final definitive typology of its own, but instead, to document carefully the ways in which the boundary object is being locally interpreted within three specific districts of Bangladesh, as seen through the lens of the community perception framing developed in section 2.5.

2.4 Critiques

The typologies considered in section 2.3, while useful in giving early institutional form to a nebulous concept, have been subject to a sustained and increasingly pointed critique across five interrelated dimensions: that contemporary frameworks are largely expert driven, sectoral, top-down, poorly operationalized and structurally weak in their inclusion of community voice. In the following section each of these critiques is elaborated in turn, before connecting them to a parallel and largely under-explored body of critique concerning the localization of the Sustainable Development Goals.

2.4.1 Expert-Driven Categorization

Even the most conscious of typologies today admits its own expert origins. Boyd et al. (2017) show here that their typology of perspectives is similarly the result of a specific expert point of view; it was not elicited in an open-ended way with an identified group of people, but rather in a structured process with a limited and specific group of stakeholders. The UNFCCC technical paper is even more explicit: it is not a piece of primary field research, but, instead, a literature review and critical analysis (UNFCCC, 2013). As McNamara and Jackson (2019) summarize in a review of 122 publications, the result is a field that had what it takes to be one of the most firmly established in its foundational categories, with most of the empirical work that could challenge these against ground-level reality having been done before.

2.4.2 Sectoral Fragmentation

A closely related issue is the sectoral structure found in almost all institutional typologies. These frameworks suggest the loss can be meaningfully disaggregated according to the same categories used to make up government ministries and donor funding streams, which implies a

separation of the loss that is not necessarily granted. Such an assumption is directly contested by Tschakert et al. (2019), who provide an empirical example of how the experience of loss is always relational, transcending boundaries of identity, sense of place and hope. Perhaps more significantly, the conclusions of van Schie et al. (2023, 2024), who asked the Bangladesh community members what they lost, are similar in terms of the interconnectedness of losses, with a loss of land being followed by a loss of livelihood, and a loss of livelihood followed by a loss of family and community relationships, and so on.

This sectoral disintegration is not just a descriptive nuisance, but it is relevant for the future of the disbursement of the FRLD when it is implemented in practice. There is a structural tendency in a funding mechanism organized around discrete sectors to fund discrete-sector interventions, even when the loss that the community itself tells the story of is multiple and no single-sector intervention is likely to be capable of addressing the loss. A case in point is Chandra et al. (2023) who found that psychosocial effects were mentioned in the policy documents of Pacific SIDS, but were rarely made operational, as they do not neatly fall into anyone implementing ministry or donor funding line and are therefore often neglected when it comes to funding. Exactly this kind of siloed, sector-by-sector response to a phenomenon that is, on the ground, thoroughly interconnected is a "harmful dichotomy" in a way, precisely because separating loss and damage into these two categories is analytically convenient, as Boyd et al. (2024) make this same argument at the level of the economic-versus-non-economic distinction itself.

2.4.3 Top-Down Design and Weak Southern Voice

The IUF's knowledge-gap review 2023 may be the clearest articulation of this critique, claiming that NELD frameworks are mostly developed by institutions based in the Global North and tested only sporadically at the interface of the Global South communities they are said to serve (IIED, 2023). This is not only about geographic representation but also has consequences in terms of analysis. In this section, we highlight the dimensions of loss, of dignity, of purpose, and of belonging, among others, that are often overlooked or entirely missing from the institutional classifications studied in section 2.3 and that Ayeb-Karlsson and associates (2023) discover in communities throughout Asia-Pacific, as they uncover these dimensions through storytelling. The study indicates that the top-down design process is not only liable to overlook certain losses by default, but it may also be structurally inclined to overlook just the kind of loss that is most difficult to translate into the categories of the bureaucracy and economy that the top-down process is designed to serve.

2.4.4 Poor Operationalization

Although there is a good amount of conceptual work that has gone into typologies, there has been a significant lag in developing assessment tools that can be used to inform resource allocation. The field remains largely descriptive rather than operational, as McNamara and Jackson (2019) point out; there are categories of loss identified and illustrated but not methods that can be replicated to measure or compare them. This gap is faced directly in the FRLD's own design process as a fund that is meant to allocate finance must have some operational foundation to determine eligibility and size of support, but the existing conceptual typologies cannot alone provide this (World Bank, 2024). The IGES indicator work reported in section 2.3 is one of the few consistent efforts to fill this gap, although its geographical reach is limited to four countries, it is nonetheless useful. Its geographic reach, although limited, is four countries, and can be useful, but it is one of the few consistent attempts to fill this gap, and a globally applicable operational framework would require more (IGES n.d.-a and n.d.-b). There is a useful, if underutilized, diagnostic in the locally led adaptation literature that can help to explain why operationalizing is so challenging. The principles for locally led adaptation outlined by the International Institute for Environment and Development (IIED) require affected communities to have devolved decision-making power over the use of adaptation resources, not to be consulted after the prioritization of adaptation resources has been done (IIED, n.d.). If this principle is applied to NELD, it suggests that operationalization should not only involve developing improved indicators for categories, but it should also involve communities in determining which categories should have indicators. In parallel, the work on locally led adaptation by the World Resources Institute (WRI) finds that adaptation projects based on locally informed priorities are routinely outcompeted by projects based on externally imposed frameworks in terms of effectiveness, not because the prioritized actions are more scientifically sound, but because they are more likely to be implemented by the people whose support any adaptation or loss and damage response requires. As seen here, the shortcomings of existing NELD typologies are not an issue apart from their expert-driven, top-down nature, discussed in section 2.4.1 and 2.4.3. It is almost a tautology that a framework which is not community-authored in its categories has little chance of being community-owned when the time comes to put them into operation.

2.4.5 Weak Community Voice and the Politics of Categorization

The most theoretical dimension of critique is to see the limited engagement with community voice as an intrinsic part of loss and damage governance, not an accidental shortfall to be rectified through additional fieldwork. As Jackson et al. (2023) argue, the expanding institutional

structure of loss is a new form of governmentality: a set of categories, procedures, and claims to knowledge that is not just a description of loss but is a process that actively generates what loss is, what can be seen and acted upon, and what cannot. This critique can be read through a political ecology lens, one that foregrounds how the position of power and institution determines whose knowledge is recognized as evidence, and the fact that the current institutional power and agency of community voice within NELD is not an oversight awaiting correction but an outcome of who currently has the authority to define loss in the first place (Malik et al., 2026). Orlove et al. (2023) further elaborate this argument in a positive way, suggesting that other ways of knowing, such as community knowledge and indigenous knowledge, should not be considered a less worthy type of knowledge that is added on top of expert knowledge but that should be regarded as a complementary, coequal, and interrelated way of knowing alongside expert knowledge. Phenomenological scholarship provides a complementary but separate corrective, which calls for categories of loss to remain accountable to the lived and meaningful nature of loss itself and not the most convenient way of categorizing it (Hepach & Hartz, 2023; De Biasio & Fernandez Velasco, 2026). A related, and largely unspoken aspect of weak community voice is whose voice is heard in the community. But women's experiences of non-economic loss are often intricately connected with, and exacerbated by, gender-based violence and intra-household power dynamics, which a gender-neutral survey instrument is unlikely to reveal unless it is specifically designed to do so, according to Ayeb-Karlsson et al. (2023). The discovery here serves as a warning against assuming that the issue of "community voice" is one and the same and that a sufficiently participatory methodology will "capture" it. A typology, or perception study, that seeks to involve household heads – in much of rural Bangladesh, these are still predominantly male – risks repeating the cycle it aims to break, but on a smaller scale – some members of the community speaking for the rest. This concern has direct methodological implications for this study, which is dealt with in the sampling strategy developed in Chapter 4. These five critiques, the expert-led classification, the sectoral differentiation, the top-down design, the operationalization issues and the lack of community voice, come together as five facets of a single pattern: existing NELD frameworks have been designed to be made sense of and acted upon within international policy processes, but not necessarily within the communities those processes are supposed to serve. The frameworks analyzed in section 2.3 are not worthless; all of the eight original categories of the UNFCCC were central to providing early institutional form to a phenomenon that was not well understood prior to 2013, and the IPCC's synthesis has evolved over time, and the typology of perspectives by Boyd et al. (2017) has contributed significantly. The criticism, instead, is that it is not always, if ever, a set of categories that is

optimally suitable for the people who are going through the losses, one that captures the situation as they understand it, when it is an institutional use. Instead, the critique is that when this is an institutional use, it is not a set of categories which is optimally suited to the people going through the losses, a set of categories which capture the situation as they understand it. The parallel SDG localization literature, which is reviewed next, helps to make sense of this disconnect between institutional legibility and lived fidelity, and it may be helpful in addressing it.

2.4.6 A Parallel Critique: SDG Localizations as Catalyst

The NELD field documents are not the only ones to demonstrate such a criticism pattern in respect of SDGs; a body of literature exists outside of them, but not always directly discussed with them. Fuldauer et al. (2022) show how all 169 SDG targets are under threat to a greater or lesser extent, and stress that any SDG-oriented approach to adaptation action will be unable to achieve truly sustainable development without the voices of local, marginalized and indigenous communities being explicitly and structurally included – not just consulted after a global approach is developed. This is essentially a criticism that has been made against NELD typologies (IIED 2023, Ayeb-Karlsson et al. 2023, Jackson et al. 2023) – frameworks created at a global or national level, no matter how technically advanced they are, fail to perform at their peak level when they are not rooted in the local reality from the beginning. NELD scholarship has thus far only dealt with this common issue indirectly, and the SDG localization literature provides a positive answer. SDG localization: The process of making the SDGs and SD indicators local by considering local risk profiles, local priorities and local capacities, with the understanding that SD risks are often of a global nature, but meaningful resilience is built at the community and district level (as illustrated in the analysis of flood vulnerable districts in South Asia). When a community-level vulnerability profile is available, it has proven to be a more material basis to inform risk-informed adaptation action that has both national goals and community goals, as it will provide a more accurate "riskscape" for policymakers than will national aggregates alone. The implications of the concerns of this present study would be straightforward: if SDG localization has an effect as a catalyst, making an otherwise global agenda locally actionable, then a similar process of NELD localization (focusing the non-economic loss assessment in the community's perception instead of through pre-established expert categories) can serve a similar catalytic function for the L&D agenda. It is no exaggeration to say that this is a literal comparison. The community-based approach to NELD in the present study can logically be seen as addressing two agendas, working alongside each other and in coordination: the NELD assessment methodology the UN system is increasingly demanding of L&D finance mechanisms

and the production of a type of locally grounded evidence that the SDGs localization scholarship calls for, in order to turn global sustainable development commitments into locally meaningful and locally owned action. This synergy can be more precisely expressed with reference to specific goals. Both SDG 1 (No poverty) and SDG 13 (Climate action) are implicitly referred to in the districts discussed in the current study, as the poor consequences of the lack of economic opportunities, that climate shocks led to, reinforce the dynamics of poverty, e.g. by cutting off access to the informal credit and labor sharing arrangements that rural households in Bangladesh often use to recover from a bad harvest or damaged house (Warner and van der Geest 2013). SDG 16 (Peace, Justice and Strong Institutions), however, is involved because of the critique of governmentality of the exclusionary, unaccountable nature of decision-making exposed by Jackson et al. (2023): institutions which categorize loss without the meaningful involvement of the communities they are supposed to represent risk to become what SDG 16 explicitly commits governments to avoiding. Fuldauer et al. (2022) makes the more general argument that the substantial majority of the 169 SDG targets are at risk of not being met if climate risk is not addressed in the near term, and that the progress towards meeting them requires a different type of adaptation planning – one that explicitly considers local, marginalized and indigenous experiences and views rather than sectoral modelling. One practical way of providing the sort of local perspective that the literature on SDG localization and the loss and damage governmentality critique identifies as lacking is to develop an approach to NELD based on community perception, as is done in this study.

2.5 Research Gap

The literature reviewed in this chapter coalesces around three interrelated gaps which support the need for the present study, plus yet another gap, a more fundamental one, with regards to how the study itself should be conceptually framed.

However, before looking at each of these gaps separately, it is helpful to say explicitly what has been established by the weight of these four sections (2.1 – 2.4). As demonstrated in Section 2.1, the institutional context for addressing loss and damage, from the Warsaw International Mechanism (WIM) to the Fund for Responding to Loss and Damage (Fund), has ripened to the point where evidence grounded in local contexts is not only academically desirable, but operationally essential. As shown in Section 2.2, the conceptual category of NELD, which was empirically anticipated by UNU-EHS fieldwork more than 10 years prior to the UNFCCC's own technical paper, is defined in the negative, as ‘that which is not accounted for economically’, a definition that has held up to now because it is so open, but which has also done little to

discipline what constitutes a legitimate or well-evaded instance of non-economic loss. Building on this basic typology, Section 2.3 found that the typologies share commonalities at the level of broad domains, health, mobility, territory, culture, biodiversity and social cohesion are explored in almost every framework examined, but the differences in typologies were stark in terms of basis, granularity and audience; with smaller typologies focusing primarily on community and expert typologies falling short in their faithfulness to lived experience, particularly in Bangladesh and the Pacific. This chapter has then demonstrated in section 2.4 that this trend of divergence is not accidental but could be mapped back to five specific, interconnected failures of categorization: that it is dominated by expert elicitation, that it creates artificial boundaries across sectors, that it is geographically and institutionally distant from the communities most affected in the Global South, that it remains conceptually rich yet operationally inaccessible, and that it is politically shaped to exclude those it purports to target.

The first gap is conceptual. After two decades of typology-building, starting with the UNFCCC's initial typology in 2013, via Boyd et al.'s (2017) typology of perspectives, until the IPCC's variable treatment over assessment cycles, remarkably little of this work has taken place inductively from community narrative, rather than deductively from expert literature and elicitation (Boyd et al., 2017; UNFCCC, 2013). Where such inductive community based work exists, particularly the work of van Schie et al. (2023, 2024) in Bangladesh, and in the Pacific, by McNamara et al. (2021), this work is geographically constrained and has yet to be extended to a systematic cross-district comparison within a single country with markedly different hazard-scapes, which is precisely the focus of the present study across the three districts of Barisal, Kurigram and Sunamganj. This conceptual gap is complicated by additional philosophical issues raised by Barnett et al. (2016) and Preston (2017) (as outlined in section 2.2): if some of these non-economic losses are indeed incommensurable with one another, then it may be that a conceptual framework that treats each of these categories as comparably weighted, or comparably-measurable, misrepresent the very phenomenon it is attempting to describe. One practical way to accommodate this incommensurability without having to resolve the issue a priori is to use a community perception-centered approach, where communities can themselves identify which losses are most significant and why.

The second gap is methodological. The participatory and mixed methods approach, which can elicit categories derived from the community itself without imposing categories from the outside, have been comparatively underdeveloped due to the resistance of NELD in section 2.2. The few studies that have tried to do this (primarily in Bangladesh and the Pacific) offer useful

methodological precedent but have infrequently integrated the methodological strengths of structured household survey data (the ability to establish a scale and distribution of loss reported) with the narrative depth of qualitative inquiry in a single design. This blend is at the heart of the method employed in the current study. It is also important to note that the gender aspect in community voice that was raised in section 2.4.5 is only methodologically explored in a few studies, and most of the NELD data collected at the household level, including a lot of the case study work in the UNU-EHS, has not been systematically disaggregated by gender, leaving open the possibility that available empirical typologies, even if grounded in other aspects of community voice, still under-represent women's experience of non-economic loss specifically.

The third gap is in operation. Substantial work remains to be done in translating the NELD categories into criteria which can be used to inform the FRLD's emerging allocation decisions, as described in section 2.4. This gap is more urgent now than ever, particularly since the Fund has started operationalization, and this gap becomes an active impediment in the ways that climate finance support can effectively reach the communities the Fund was designed to support (South, 2024; UNDP, 2025). The operational gap identified in section 2.4.4 from the literature on locally led adaptation provides proof that this gap cannot be addressed by indicators alone or by the development of indicators for current categories; it demands something more: a devolution of some measure of categorical authority to the communities whose losses are being assessed, which a top-down indicator-development exercise, however well-intentioned, cannot straightforwardly provide.

The fourth, most fundamental, gap relates to how the research to fill the first three gaps ought to be framed. A large portion of the critique in section 2.4, as well as Jackson et al. (2023)'s discussion of the governmentality of loss and damage categorization and Orlove et al. (2023)'s discussion on the treatment of community knowledge as co-equal with expert knowledge, suggests that there is a danger in producing yet another typology, even if inductively derived, of creating a researcher that enters a community and then leaves with a typology that the community didn't request and may not recognize as representative of how they actually understand their experience. This is why the current research aims to make a contribution as an inquiry into the perception of non-economic loss and damage in the community, rather than as a process of creating an alternative or a correcting typology. This is not a purely semantic difference. A typology-building study entails that the researcher is the final judge, the final arbiter, as it were, in deciding which classes belong to which types, even if the raw material for the classification is community narrative. A perception-centered study, on the other hand, places

the role of the researcher in the process of comprehending how communities themselves are comprehending, telling, and prioritizing their own losses, and the analytical work in the context is not one of categorizing but of describing and interpreting. This is more aligned with the argument for diverse-knowledge-systems put forward by Orlove et al. (2023), and more directly addresses the SDG localization parallel developed in section 2.4.6: whereas SDG localizations are valuable exactly because they depart from existing global indicators and view local risk perception as a starting point for action, a study focused on community perception of NELD views local understanding as the object of enquiry in itself, and then considers what implications this might have for existing expert frameworks, IPCC categories, and future FRLD allocation criteria, as a downstream consequence of the enquiry rather than a starting premise.

2.6 Theoretical Framework

Existing typologies of Non-Economic Loss and Damage (NELD), from the UNFCCC's (2013) foundational technical paper to Boyd et al.'s (2017) typology of loss and damage perspectives, were developed primarily through expert literature synthesis and elicitation rather than through sustained engagement with the communities who experience such losses directly. This produces a conceptual gap between the official classification of loss and its lived experience. To address this gap, the current study is guided by an integrated theoretical framework that combines three complementary lenses, namely political ecology, knowledge coproduction and phenomenology, which together interrogate who has the authority to define loss, whose knowledge is considered valid evidence, and how loss is subjectively experienced and given meaning. Figure 1 illustrates this framework and shows how the three lenses lead to a community-centered understanding of NELD, which is then developed into a community-derived typology and compared against expert frameworks.

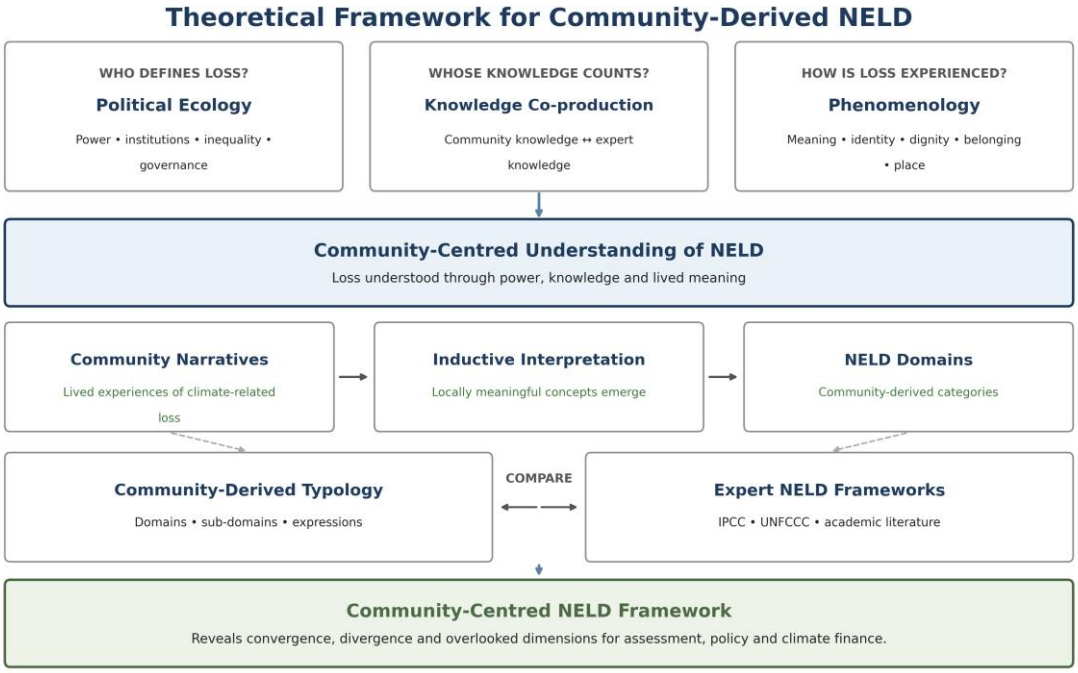

Figure 1: Theoretical framework for community-derived NELD, integrating political ecology, knowledge co-production, and phenomenology (Source: Created by the author)

Political Ecology: Who Defines Loss?

Political ecology provides the first lens focusing on authority: who has the authority to determine what is lost and worth naming, measuring, and funding. Political ecology has explored how categorization, as itself a political process, is involved in the production of environmental knowledge and decisions, and how power, institutions, and inequality affect these processes (Malik et al., 2026). When applied to NELD, the eight categories outlined in the UNFCCC (2013) technical paper, life, health, mobility, territory, cultural heritage, indigenous knowledge, biodiversity, and ecosystem services, are not only a value-free list of those things' climate change takes from us. They are the outcome of a specific institutional process, which takes place predominantly among negotiators, scientists, and policy specialists outside the communities most involved, and they thus reflect the assumptions of that process regarding what can be measured, compared, and funded. This is relevant to the present study, as it reshapes the research question. In addition to asking what losses occur, a political ecology perspective asks who has historically been privileged in the process of framing losses, as well as what is at stake in terms of access to Loss and Damage finance, including the Fund for Responding to Loss and Damage (FRLD), when the framing of loss is different from what community's experience. This is a direct extension of this lens, the institutional architecture of loss and damage is not only a description of losses but is also a form of governmentality, actively shaping both what losses

become visible and what losses become fundable; this is why community understanding is treated as the starting point for enquiry rather than supplementary evidence to be layered onto existing expert categories, as per Jackson et al. (2023).

Knowledge Co-production: Whose Knowledge Counts?

The second lens, knowledge co-production, questions the notion that expert and community knowledge exist on a hierarchy of validation and/or correction. Co-production, by contrast, recognizes that different forms of knowledge can be complementary, enriching, and even subversive and challenging to existing knowledge, on an equal footing (Orlove et al., 2023). This is a substantial rather than just a procedural claim: it suggests that if a community's story indicates a form of loss, like the loss of dignity that comes with relying on relief, which is not captured simply by one of the available categories of experts, the proper response is not to press the community's story into one of these boxes, but to take it as evidence that our own categories are incomplete. This lens functions most directly in the framework in Figure 1, where community narratives are inductively interpreted to create concepts that are meaningful at a local level, before comparing them to expert frameworks. This sequencing decision, to look at international frameworks latter in the analysis, is directly a methodological result of taking a co-production stance: introducing expert categories earlier in the analysis would risk putting them on the pedestal to which community knowledge is compared – the hierarchy that this lens explicitly rejects.

Phenomenology: How Is Loss Experienced?

The third lens, phenomenology, moves the focus from institutional classification to that of lived, subjective experience. Phenomenological scholarship argues that loss must be experienced and understood in terms of how it is felt and given meaning, loss of identity, dignity, memory, belonging, loss of sense of place, grief, instead of how it is most convenient to classify it for policy purposes (Hepach & Hartz, 2023; De Biasio & Fernandez Velasco, 2026). This lens is crucial to the present research since many of the aspects of NELD, which are most relevant to affected households, are not fully conveyed by the name of a category alone such as a sense of future insecurity, a feeling of loss of dignity or control, or the feeling that accompanies a loss of ancestral lands. They need sensitivity to the significance a household gives to their loss, which may vary even between two individuals who have been through the same outwardly similar event. This lens is directly supported by the lived experience of loss linked to identity, place and hope that consistently runs across categories in Tschakert et al.'s (2019) systematic analysis of climate related intangible harm. In Fig. 1, phenomenology enables the 'how is loss experienced?'

question to be brought into play alongside the 'who defines loss?', and 'whose knowledge counts?', so that the community-centered understanding of NELD is not only categorized and authorized, but also meaningful. This perspective has another methodological consequence. If loss is not simply reported, but encountered, the instruments should be amenable to narration, beyond the pre-coded option. The use of storytelling techniques to bring out aspects of loss that were not captured by closed-ended survey items (Ayeb-Karlsson et al., 2023) represents one way in which a phenomenological approach can be manifested in research design and is this same obligation to the phenomenological approach that will guide use of open-ended narrative items later in this study to complement the structured survey items.

Integration: A Community-Centered Understanding of NELD

The three lenses are not used in isolation but "converge" (as illustrated in the upper section of Figure 1) on a single, integrated conception of NELD as something formed by power, knowledge and lived meaning simultaneously. This is a purposeful integration. A purely political ecological approach runs the danger of creating a purely structural critique of expert institutions without providing an opportunity to gain access to community understanding. An all-knowledge framework based on knowledge co-production alone is a framework that cannot consider the nature of why certain knowledge claims have historically been privileged over others. An institutionally un-situated phenomenological approach is at risk of describing individual experience in a rich way without recognizing the institutional and stakes involved in categorization, which make it consequential in the first place. Together, the three lenses enable the study to pose the question: what are the ways the climate-affected communities in Barisal, Kurigram and Sunamganj understand, narrate and priorities their own non-economic losses, and what does it tell us about who has the power to define loss, who knows, and how well existing frames of understanding reflect lived meaning? This positioning is also an integrated one, which explains the choice of terminology that recurs throughout this research. The study does not view itself as a competing or corrective typology, but rather as an exploration of the community perception of NELD. Despite the use of community narrative to create a classification, the typology-building study places the researcher in the final role of arbiter of classification. A perception centered study, consistent with co-production and phenomenological commitments outlined above, rather puts the researcher in a position of interpretation of how people in their communities already understand, narrate and priorities their own losses, and sets any implications for current expert frameworks as a downstream outcome of this enquiry, rather than as a starting point. The loss and damage of literature is still largely descriptive, and this framing aims to fill that gap, as demonstrated by McNamara and Jackson's (2019) review.

From Framework to Method

The bottom part of Figure 1 is an analytical sequence based on this integrated theoretical stance. By collecting community narratives in the open-ended items of the household survey and, in a more comprehensive design, through key informant interviews and focus group discussions, community narratives are first inductively interpreted, which allows locally meaningful concepts to emerge without being captured in predefined categories. These concepts are then grouped into NELD domains and incorporated into a community-developed typology, which is formatted as domain, sub-domain, community expression and indicator. It is only at this very last stage that the typology generated is compared with expert NELD typologies, such as the UNFCCC (2013) technical paper and Boyd et al. (2017) typology, and the classification system employed differentiates convergence, partial convergence, community-derived addition, and underrepresentation. The progression from theory to people's stories of the community, to typology, to comparison, means that the three theoretical lenses are not just a back story but are indeed put to work in the analysis of the data. Political ecology is "operationalized" in the determination to begin with the community's own story as the first body of evidence rather than a body of expert literature. Knowledge co-production is translated into a conscious decision to avoid comparing expert's category with the community-derived typology until the end of the process. The operationalization of the phenomenon is through the use of open-ended items with meaning-oriented questions along with structured closed questions in the survey. These operational decisions lead to a community-centered NELD framework, which forms the backbone for the rest of this study and is used throughout the analysis to explain how this framework complements, challenges and extends the expert-based frameworks discussed in the literature.

CHAPTER THREE: METHODOLOGY

This chapter sets out the methodological approach used to investigate community perception of Non-Economic Loss and Damage (NELD) across three climate-vulnerable districts of Bangladesh. It begins by describing the study area, including the rationale for its selection, its precise geographic location, and the occupational composition of the surveyed population. It then details the sampling procedure, moving from the conceptual framework that underpins the research design, through questionnaire design and survey technique, to the sample unit, data collection method, data analysis strategy, and, finally, the process of preparation and submission. Throughout, the chapter draws on the theoretical positioning developed in the preceding chapters, particularly the emphasis on community-derived understanding over expert-imposed typology, to justify the specific methodological choices made at each stage.

3.1 Study Area

3.1.1 Selection of the Study Area

The three study districts (Barisal, Kurigram, and Sunamganj) were proposed: first, they were randomly sampled to represent the entire country; second, they were selected based on hazard-scape sampling logic. This follows the practice of meaningful cross-context comparison in the prior NELD literature, which has mostly involved the careful selection of contrasting instances and not necessarily the representative sampling of cases across the country, due to the labor-intensive nature of collecting community-level NELD data (Chiba et al., 2017; McNamara et al., 2021). Bangladesh was selected as the national context for this study because it was both a context in which there is a strong base of NELD scholarship, including an initial case study effort from the United Nations University Institute for Environment and Human Security (Warner & van der Geest, 2013), and one in which the internal climatic and geographic diversity is unusually well suited to the within-country comparative design used in this study.

The three districts were chosen because in Bangladesh they together cover the three qualitatively different climate hazard-scapes. Barisal is the coastal delta where cyclones and tidal surges occur, Kurigram is the riverine region in the north that is regularly flooded and riverbank eroded by the river Brahmaputra, and Sunamganj is a haor (wetland basin) region in the north-east that experiences sudden-on-set flash floods. The design decision to select the patterns of convergence and divergence in the understanding of communities in a purposive manner also

aligns with political ecology's framework that situates knowledge claims within their socio-ecological context (Malik et al., 2026).

3.1.2 Location of the Study Area

A total of six Upazilas (sub-districts) were selected in three Upazilas namely Barisal Sadar, Mehendiganj in Barisal district; Rowmari, Rajibpur in Kurigram district; Tahirpur, Bishwambarpur in Sunamganj district for data collection. Barisal district is in the south-central coastal zone of Bangladesh (22.7°N, 90.4°E) in the Ganges-Brahmaputra-Meghna delta region with low-lying topography, and with direct access to cyclonic storms entering from the Bay of Bengal and the extensive river and canal network. The Kurigram district is situated in the far north of Bangladesh at the latitude of 25.6 N and longitude of 89.8 E, at the active floodplain of the river Brahmaputra (Jamuna) where some of the highest riverbank erosion rates in the country are found due to migration of the river channel with seasons. Sunamganj district is in the northeast section of Bangladesh (25.1 ° N, 91.1 ° E) in the haor basin, a low-lying wetland depression which is flooded seasonally and has become more vulnerable to early, sudden onset flash flooding as a result of pre-monsoon rainfall in the adjoining Meghalaya hills.

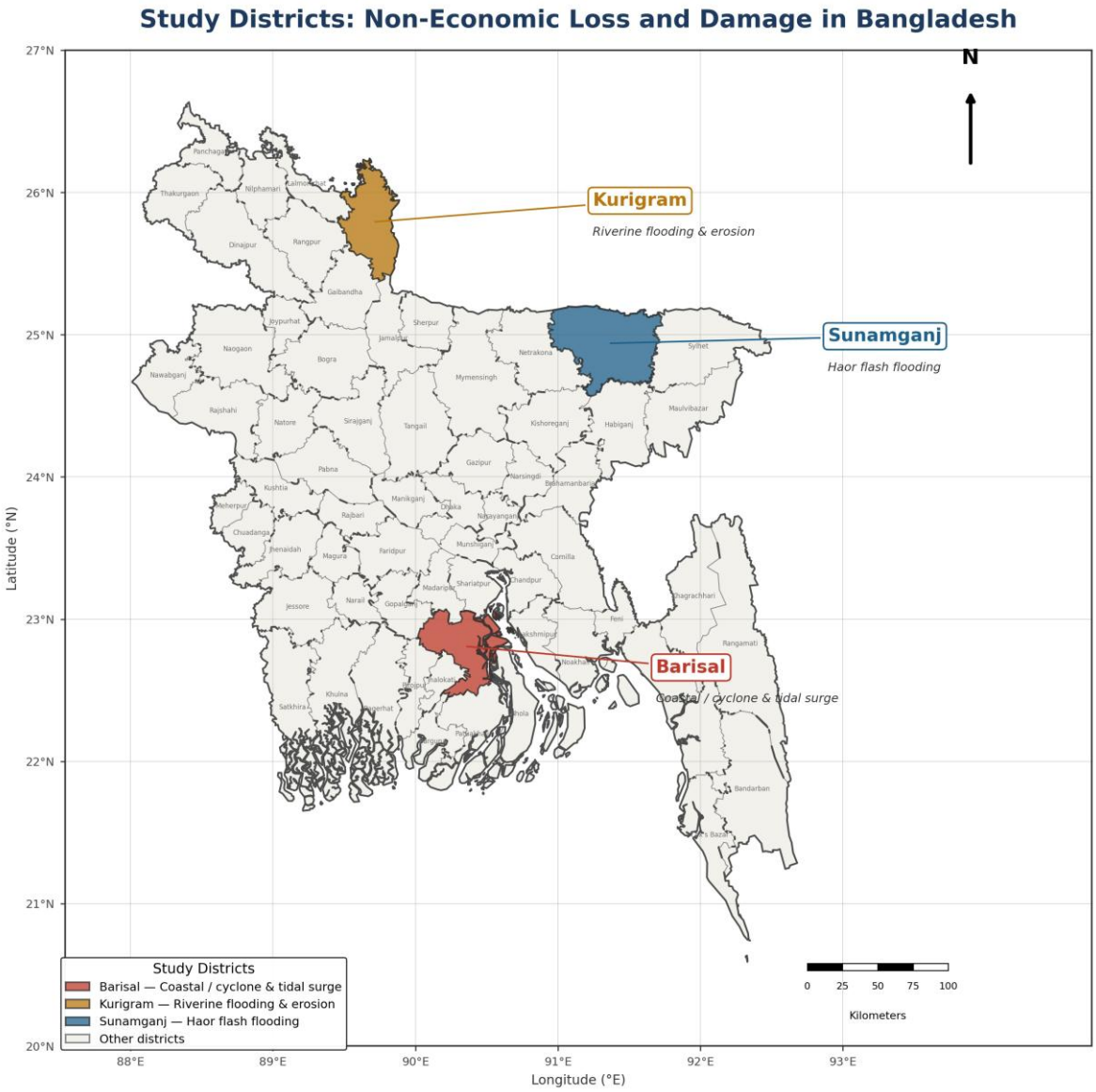

Figure 2: Location of the three study districts, Barisal, Kurigram, and Sunamganj, and their representative hazard-scapes within Bangladesh (Source: Created by the author)

The three districts are also geographically distant from each other, in the southern coastal belt, the northern floodplain and the north-eastern wetland basin of the country as shown in Figure 2. This geographic dispersion was also part of the design to maximize the potential for hazard exposure represented by a single national study while maintaining constantly the larger national policy context, language and culture that all three districts share. The map was created based on administrative boundary data following the conventions of Bangladesh Bureau of Statistics, while household survey geoponics was recorded at the point of data collection in Barisal during the survey using handheld GPS-enabled phones, and the same to be done in Kurigram and Sunamganj in the next.

3.1.3 Occupational Composition

The occupational composition of surveyed households reflects the distinct livelihood systems that each hazard-scape supports and, in turn, shapes the specific pathways through which non-economic loss is likely to be experienced. Across the full sample (N = 300), agriculture was the single most commonly reported primary livelihood (31.0 per cent), followed by fishing (20.3 per cent), wage labor (18.0 per cent), small business ownership (13.3 per cent), livestock rearing (10.7 per cent), service employment (4.3 per cent), and other occupations (2.3 per cent).

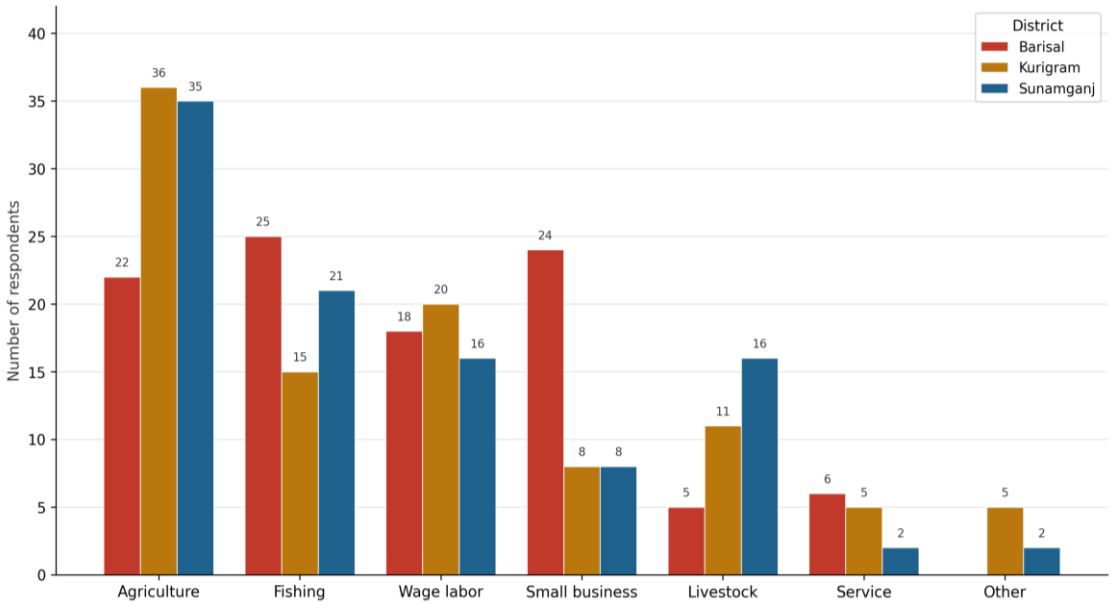

Figure 3: Occupational composition of survey respondents by district (N = 300) (Source: Created by the author)

As Figure 3 shows, this overall distribution masks considerable district-level variation that closely tracks each area's dominant hazard-scape. In Barisal, fishing (25 respondents) and small business ownership (24 respondents) were reported at notably higher rates than in the other two districts, reflecting the coastal district's proximity to estuarine and marine fishing grounds and its more developed local market infrastructure. In Kurigram, agriculture (36 respondents) and wage labor (20 respondents) dominated, consistent with the district's char land and floodplain farming economy, in which erosion-displaced agricultural laborers frequently move into casual wage work as a coping strategy. In Sunamganj, agriculture (35 respondents) and fishing (21 respondents) were both prominent, reflecting the haor basin's dual dependence on seasonal boro rice cultivation and the extensive fish stocks the wetland supports for much of the year.

This occupational patterning is directly relevant to the study's substantive concerns, since livelihood type has been shown elsewhere in the NELD literature to mediate both the specific forms of non-economic loss reported and the coping strategies households employ in response

(Chandra et al., 2023; van Schie et al., 2024). A fishing-dependent household in Barisal, for instance, is likely to experience the loss of traditional ecological knowledge about fish migration patterns differently, and to weigh it differently relative to other losses, than an agriculture-dependent household in Kurigram experiencing the loss of ancestral farmland to riverbank erosion. The occupational composition documented here therefore provides essential context for interpreting the district-level differences in community understanding examined in the study's third secondary research question and is treated as a key stratifying variable throughout the sampling procedure described in the remainder of this chapter.

3.2 Sampling Procedure

The sampling method used for this study is sequential explanatory mixed methods that start with a structured household survey and then followed by qualitative engagement to explain and enrich the evidence of the scale and distribution of non-economic loss reported. This overall methodological process is summarized in Figure 4 and is described in detail in the subsections that follow.

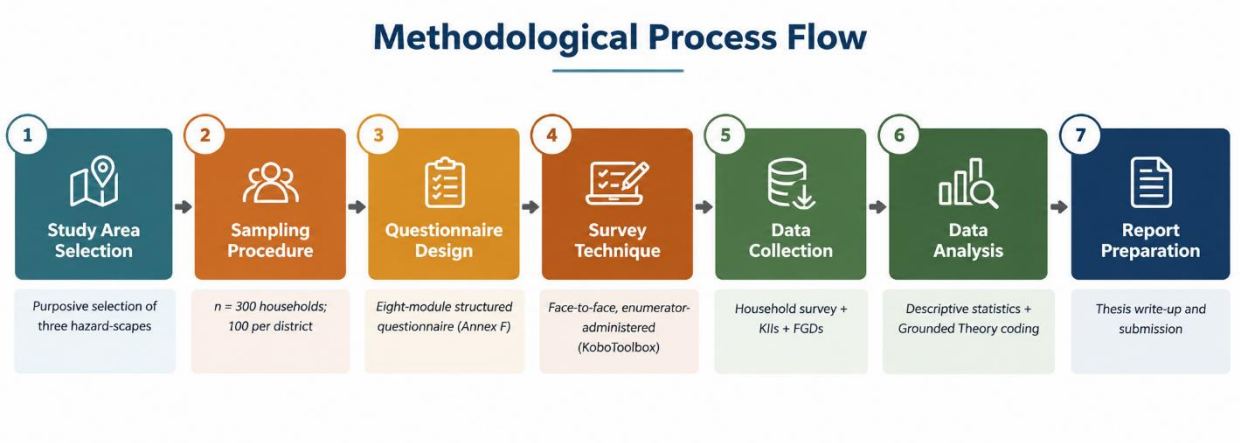

Figure 4: Methodological process flow, from study area selection to report preparation (AI-Generated)

3.2.1 Conceptualization

The conceptual framework used in this study deliberately diverges from the simplified and straight-forward linkage between climate hazard and non-economic loss implicit in many of the previous NELD literature (UNFCCC, 2013; Boyd et al., 2017). The study refutes the idea that NELD is an automatic product of hazard exposure and instead looks at loss in a relational way; a pathway in which environmental changes are filtered and negotiated by lived experience, given meaning, and interpreted collectively by the community before they come to be expressed in the specific domains of loss that are captured in existing typologies.

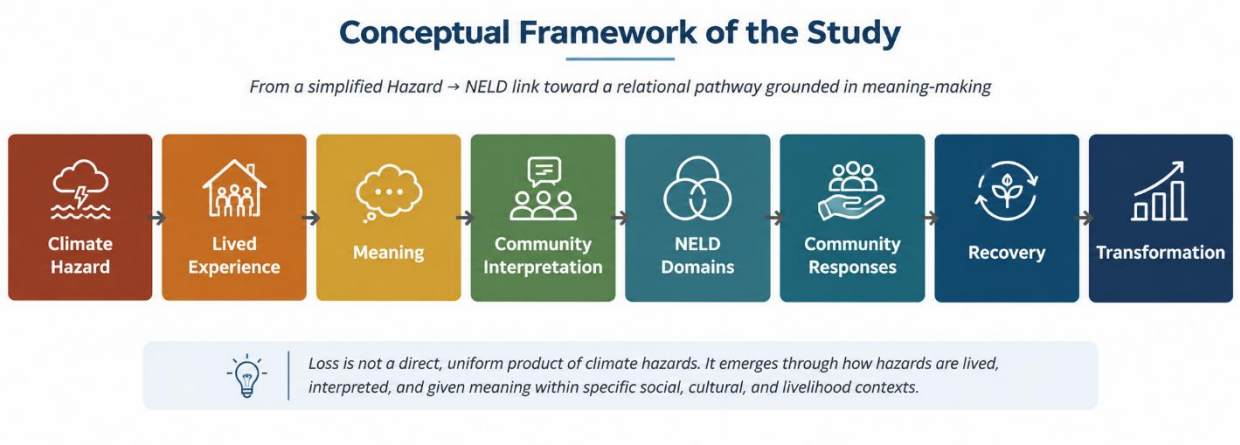

Figure 5: Conceptual framework of the study: from climate hazard to community-centered understanding of NELD (AI-Generated)

The framework is comprised of eight interconnected stages, as shown in Figure 5. The lived experience, first, is a climate hazard, cyclone, riverbank erosion or flash flooding – for us, the embodied, immediate experience of the event (Hepach & Hartz, 2023). This experience of life is then given significance and meaning, and it is this significance and meaning that has a real impact on identity, dignity and sense of place, rather than it being a neutral material fact (De Biasio & Fernandez Velasco, 2026). Meaning making does not happen alone, rather, it is a socially situated process of collective interpretation in which individual experiences are shared, compared, and given a common vocabulary, in line with the literature on knowledge co-production that emphasizes community understanding as an active, socially constructed process rather than an expertly provided reflection of categories (Orlove et al., 2023). Only at this point can the substantive categories of loss become discernible (NELD domains), followed by community responses, the coping and adaptive strategies household/settlement engage in, and second, impacts on their recovery trajectory, and, in some instances, on their longer-term trajectory of transformation of livelihood or settlement.

The conceptualization of this study has direct implications for the operationalization of the variables in the study questionnaire (see section 3.2.2). Unlike instruments that have previously been developed by experts, which only asked respondents to choose from a limited set of loss categories (e.g. UNFCCC, 2013), the questionnaire is structured to both elicit structured and comparable data to inform the development of a scale and distribution of loss categories, and elicit open-ended data to provide meaning-making and interpretation of the stages of the loss framework, as Tschakert et al. (2019) demonstrated, lived experience of loss frequently exceeds predetermined categorical boundaries, and Ayeb-Karlsson et al. (2023) showed, the narrative elicitation can reveal dimensions of loss, dignity, purpose, belonging, that closed-ended instruments may not have captured.

3.2.2 Questionnaire Design

The household survey questionnaire is translated from the original English draft and back translated into Bangla for conceptual equivalence, consists of 8 modules (Annex F). The eight modules include, in order: (A) respondent and household profile (gender, age, primary livelihood, length of residence); (B) hazard exposure (type, frequency and displacement consequences of climate-related hazards experienced over the past decade); (C) non-economic losses experienced (a multiple-response item covering eleven substantive domains derived from the UNFCCC (2013) technical paper and subsequent scholarly typologies (Boyd et al., 2017), as well as a follow-up item asking respondents to indicate the three most significant non-economic losses and an open "other, please specify" option); (D) perceived intensity of loss to belonging, tradition, community cohesion, identity, psychological wellbeing, dignity, and hope for the future (seven 5-point Likert-scale items); (E) perceived interconnection between different forms of loss (open-ended item asking respondents to describe in their own words which losses they consider most closely connected, and why This design intentionally used a mixture of close-ended questions to generate frequencies and cross-tabulations necessary for the first specific objective of the study, along with open-ended questions at strategic points throughout the instrument, such as in module E, G and H, to see the community's narrative in the respondents' own words, and not in pre-coded categories.

The closed-ended modules (A–D) reflect the more easily categorizable dimensions of hazard exposure and reported loss, while the open-ended modules (E, G, and H) are specifically designed to capture the meaning-making and community interpretation stages of the conceptual framework, that would not be captured by a purely closed-ended instrument, by construction. (Tschakert et al., 2019). As is standard practice for many household survey instruments deployed in a second language, the instrument was initially tested with a limited number of respondents in Barisal, and minor adjustments were made to the wording of the questions and translations of the questions in line with the pilot feedback received.

3.2.3 Questionnaire Survey Technique

The survey was carried out using face-to-face, household surveys with handheld tablets on the Kobo Toolbox mobile data collection platform, collected in the field and synced to a secure server at the end of each day of data collection, where they were entered into a structured digital form. There were three major reasons for selecting face-to-face administration over self-administered or telephone administration. Face-to-face administration was selected for three major reasons. First: ensures that all respondents – both literate and non-literate – can

participate fully and can ask questions on the wording of the questions when required. Second, the face-to-face administration process enables us to capture all the detail of an open-ended response and thereby maintain the narrative detail that is fundamental to the qualitative aspects of the conceptual framework, otherwise lost or shortened in a self-administered digital form. Third, the geographic coordinates of each interview can be recorded at the point of data collection as part of the in-person administration, which enables analysis of the data in the map shown in Figure 3.1.

3.2.4 Sample Unit

For the household survey the unit of analysis is the individual household, one adult member of the household being the respondent (usually, but not always, the head of household) and chosen to represent a representative cross section of each of the households surveyed, with reference to gender, age and livelihood characteristics rather than a typical demographic profile. A total sample of 300 households was selected, evenly distributed in six sub-samples, each of 50 households, in Barisal Sadar, Mehendiganj, Rowmari, Rajibpur, Tahirpur and Bishwambarpur of each of the three study districts. This sample distribution is summarized in Table 2.

Table 2: Household survey sample distribution across study districts and upazilas

District	Upazila	Households (n)	District Total
Barisal	Barisal Sadar	50	**100**
	Mehendiganj	50	
Kurigram	Rowmari	50	**100**
	Rajibpur	50	
Sunamganj	Tahirpur	50	**100**
	Bishwambarpur	50	
Total	**6 upazilas**	**—**	**300**

Households were selected within each upazila in a purposive sample aiming to account for the diversity of perception within each hazard-scape in these areas rather than to generate strictly representative population estimates, reflecting the focus of the study on capturing the range of community perception within each hazard-scape. The 300-household target was determined by reference to other participatory NELD assessments which have found that sample sizes in this range enable reliable patterns to be established in the frequency of reported losses within the resource constraints of a single researcher thesis project (IGES, n.d.-a). A purposive sub-sample of survey respondents and community leaders within this same sampling frame were also

selected for the key informant interviews and focus group discussions outlined in section 3.2.5 and sampling continued until thematic saturation was considered to have been achieved.

3.2.5 Data Collection Method

Various data collection methods, including structured household surveys, Semi-Structured Interviews (SSIs), Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs) were used to collect data on NELD and damage distribution and the meanings attached to these experiences. Using a triangulated method, the quantitative patterns obtained from the household surveys were interpreted through contributions from individual experiences, community narratives, and institutional perspectives (Charmaz, 2006; Corbin & Strauss, 2015).

There were four interrelated data collection components: typology, climate-related hazards, losses and damages, and autonomous responses. The study encompassed Barisal, Kurigram and Sunamganj context which were respectively coastal, riverine and haor. All in all, the total number of household surveys conducted is 300 out of which 100 surveys were conducted in each district. The surveys were conducted in person at the respondent's home or at a mutually agreed site and normally took 15-25 minutes. To complement the survey, SSIs also provided participants with an opportunity to discuss in-depth their personal experiences and household situations, and their local experiences of loss.

Data Collection Methods by Study Area and Research Component

Study Area (District)	Typology	Climate-related hazards	Losses and damages	Autonomous responses
Barisal (Coastal)	100 Household Surveys 20 SSIs 4 FGDs (2 per upazila)	100 Household Surveys 8 KIIs 2 FGDs (1 per upazila)	8 KIIs 2 FGDs (1 per upazila)	8 KIIs 2 FGDs (1 per upazila)
Kurigram (Riverine)	100 Household Surveys 5 SSIs 2 FGDs (1 per upazila)	6 KIIs 2 FGDs (1 per upazila)	5 SSIs 2 FGDs (1 per upazila)	5 SSIs 2 FGDs (1 per upazila)
Sunamganj (Haor)	100 Household Surveys 5 SSIs 2 FGDs (1 per upazila)	6 KIIs 2 FGDs (1 per upazila)	5 SSIs 2 FGDs (1 per upazila)	5 SSIs 2 FGDs (1 per upazila)

Note: SSIs = Semi-Structured Interviews; KIIs = Key Informant Interviews; FGDs = Focus Group Discussions. Barisal includes two upazilas, with two FGDs conducted per upazila (total 4). Kurigram and Sunamganj each include two upazilas, with one FGD conducted per upazila (total 2 per district). Each district includes 100 household surveys (total n = 300).

Figure 6: Data Collection Methods by Study Area and Research Component (Source: Created by the author)

KIIs The KIIs were held with local and institutional stakeholders including local leaders, government officials, NGO staff and other local and institutional stakeholders, to gain insight into local and institutional perspectives on climate-related hazards, losses and responses. A standard interview structure was followed throughout the study areas and interview prompts were tailored to the hazards of each area: cyclone/tsunami in Barisal, river flood/river erosion in

Kurigram and flash flood in Sunamganj. This preserved level of consistency and avoided generalizing the discussions to the point of being insensitive to the local situation.

In FGDs, a community voice emerged on experiences of climate change, the NELD, and community responses. The first steps undertaken were to encourage participants to talk about important losses and changes, rather than having a list of NELD categories given to them to select from. Themes were added later if they were needed, enabling locally relevant ways of loss to arise from discussion, and keeping the study inductive and community oriented (van Schie et al., 2023, 2024). Combined, these methods allowed the study to not only investigate what was lost, but also why it mattered and what household and community reactions were to the losses. The data collection framework summarizing the distribution of surveys, SSIs, KIIs and FGDs across the three study areas and components of the research is provided in an accompanying data collection framework.

3.2.6 Data Analysis

Data analysis is conducted according to five steps sequentially, using both quantitative and qualitative methods to be consistent with the sequential explanatory mixed methods design explained above. The data from the structured household survey is used to generate frequencies and cross tabulations of hazard exposure and reported non-economic loss by district, gender, livelihood and displacement status in the first stage, which is descriptive survey analysis. This stage directly fulfills the first specific objective of the study which is to set the magnitude and distribution of reported loss within the three study districts. The second stage is open coding and focused coding of the narrative content from the KIIs and FGDs, building on the grounded theory (GT) approach whereby the codes are generated from the data rather than being selected from a list of predetermined NELD codes (Charmaz, 2006; Corbin & Strauss, 2015). This intentional sequence, in which qualitative coding is performed without reference to the already established typologies and no comparison with the typologies of experts is made, lies at the heart of the methodological contribution of the study as it is aimed at avoiding the danger of pre-determined categories to foreclose the identification of dimensions of loss that the typologies do not name (as pointed out in Chapter Two). The third stage involves creating a community-generated and structured understanding of NELD, with the development of a hierarchy of domain, sub-domain, community expression and observable indicator, triangulated with the descriptive patterns identified in the first stage. The fourth stage involves cross-district comparison where the community-based understanding that emerged from stage three is looked upon for consistency across the three study districts (Barisal, Kurigram, and Sunamganj), as well as for systematic

variation with the hazard-scape and the livelihood context, addressing the third secondary research question of the study. The fifth and last step is a comparison between the different communities, where the understanding gained from the communities is then systematically compared with the other dominant expert-driven frameworks covered in Chapter Two, such as the UNFCCC (2013) and Boyd et al. (2017), with the use of a matrix for comparison. In keeping with the conceptualisation outlined in section 3.2.1, prior to this final analytical step, existing expert frameworks are intentionally only mentioned, and not incorporated in the analysis, to not pre-determine the inductive analysis that will take place in two stages in sections two and three (McNamara & Jackson, 2019).

3.2.7 Report Preparation and Submission

The last step in the research process is the preparation and submission of the thesis report. The results of each of the five analytical phases outlined in 3.2.6 are described in a cohesive story or narrative organized by the research questions of the study, and presented quantitatively in descriptive tables, and qualitatively in thematic discussion with illustrative anonymous respondent stories. As with the overall design of the study, findings are drafted back to participating communities for validation and member-reflection before being finalized where possible, reflecting a participatory approach to the study's overall design. Once the thesis is completed, it is submitted with supporting documents/directives such as survey instrument, KII and FGD guides, comparison matrix template etc., for future reference in other districts or in national context.

CHAPTER FOUR: FINDINGS AND DISCUSSION

4.1 Introduction

This chapter provides and discusses the empirical findings of the study in the context of the research questions raised in chapter one. The analysis first outlines the characteristics and experiences of climate-hazard exposure of the communities surveyed and then explores the types of non-economic loss and damage (NELD) reported by respondents. It then examines interconnections between these losses, whether they vary among the three hazard-scapes and how they relate to current national and international NELD frameworks. The data are analyzed using only frequency, percentage, cross-tabulation and chi-square test of independence, based on the analytical strategy outlined in Chapter Three, which were deemed unnecessary as far as the descriptive and comparative goals of the study are concerned. Finally, a comparative discussion of the convergence of community perceptions with existing NELD typologies, partial convergence, different framings and extensions is presented.

The results below come from the finalized household survey sample of 300 (100 per district and 50 per upazila) respondents in Barisal, Kurigram and Sunamganj. There are three procedures throughout the chapter. Percentages (p) are based on the number of households (f) reporting the category concerned over the relevant sample size (n), which is 300 unless a sub-group is indicated. Cross-tabulations present the joint distribution of two categorical variables; most often study district and a specific reported form of loss. The chi-square test of independence is used to test for association, using the standard formula where a cross-tabulation is being tested for association.

$\chi 2 = \Sigma$ [(O − E)2 ÷ E] O = observed frequency in a cell of the cross-tabulation E = frequency expected in a cell of the cross-tabulation under the assumption of independence E = (row total × column total) ÷ grand total df = (r − 1) (c − 1) The fully worked example is given in section 4.6, and the results of all subsequent tests performed using the same procedure. In all instances, $p < .001$ is used instead of $p = .000$ and $p < .05$ is considered statistically significant.

4.2 Profile of Respondents and the Study Areas

The sample was evenly distributed in the three districts, which were purposively selected (100 households in each district; 50 households in each upazila). There was a near equal gender division, with 50.0% male and 48.0% female (2.0% other/prefer not to say), with the age

distribution of respondents tilted towards the middle age band (45 to 59 years (31.3%) and 30 to 44 years (31.0%)), with smaller proportions in the 18 to 29 (22.3%) and 60 and above (15.3%) age ranges. In line with the primarily rural and natural-resource based nature of all three districts, the two most prevalent livelihoods were agriculture (31.0%) and fishing (20.3%), followed by wage labor (18.0%), small business (13.3%), livestock (10.7%) and service (4.3%). Respondents were reporting on change over a long-time horizon – most households had long tenure in their communities with 35.3% living there since birth or across generations and a further 30.3% over more than 20 years.

Displacement history was widespread throughout the sample, with 65.0% of households temporarily (38.0% of households), displaced several times (15.7%) or permanently (11.3%) displaced due to a climate event, while 35.0% of households had never been displaced due to a climate event. This baseline establishes that the survey was administered to a population for which the mobility due to climate change is not a theoretical risk, but a reality.

Table 3: Respondent and Household Profile (n = 300)

Variable	Category	n	%
Study district	Barisal / Kurigram / Sunamganj	100 each	33.3 each
Gender	Male	150	50.0
	Female	144	48.0
	Other / prefer not to say	6	2.0
Age group	18–29	67	22.3
	30–44	93	31.0
	45–59	94	31.3
	60+	46	15.3
Main livelihood	Agriculture	93	31.0
	Fishing	61	20.3
	Wage labour	54	18.0
	Small business	40	13.3
	Livestock	32	10.7
	Service / other	20	6.6
Length of residence	Since birth / generations	106	35.3
	More than 20 years	91	30.3
	20 years or less	103	34.3
Displacement status	Never displaced	105	35.0

Variable	Category	n	%
	Temporarily displaced	114	38.0
	Displaced more than once	47	15.7
	Permanently relocated	34	11.3

The three districts were selected purposefully to represent three qualitatively different hazard-scapes in Bangladesh, rather than for national representativeness: Barisal is a coastal delta exposed to cyclone, tidal surge and salinity intrusion, Kurigram is the riverine north exposed to recurrent flooding and riverbank erosion and Sunamganj is a haor (wetland basin) ecosystem exposed to flash flooding. This design, developed in Chapter Three, is the basis of the comparative analysis developed later in this chapter, as it allows observed differences in reported NELD to be provisionally attributed to the underlying hazard context rather than to sampling artifacts.

4.3 Climate Hazard Exposure and Community Experience

This section establishes the link between hazard exposure and types of loss addressed later in this chapter. Exposure was nearly universal and repeated: only 7.7% of households reported to be seriously affected by a climate-related event once in the past ten years, but 36.7% reported twice to thrice, 36.7% four to five times, and 21.0% more than five times. Overall, 61.7% gave the seriousness of the non-economic impacts on their household as “high” or “very high”.

4.3.1 Differences in hazard type across the three districts

As was to be expected from the purposive construction of the study, the most serious hazard for a household varied sharply and significantly by district. Cyclone/storm and tidal surge were reported almost exclusively in Barisal (28 and 29 households respectively, drawn almost entirely from that district), riverbank erosion and flood dominated in Kurigram, and flash flood was overwhelmingly concentrated in Sunamganj (44 of the district’s 100 households). This association between district and hazard type is highly significant according to a chi-square test of independence, computed by applying the formula and procedure described in section 4.1: $\chi^2 = 233.90$, $df = 12$, $p < .001$.

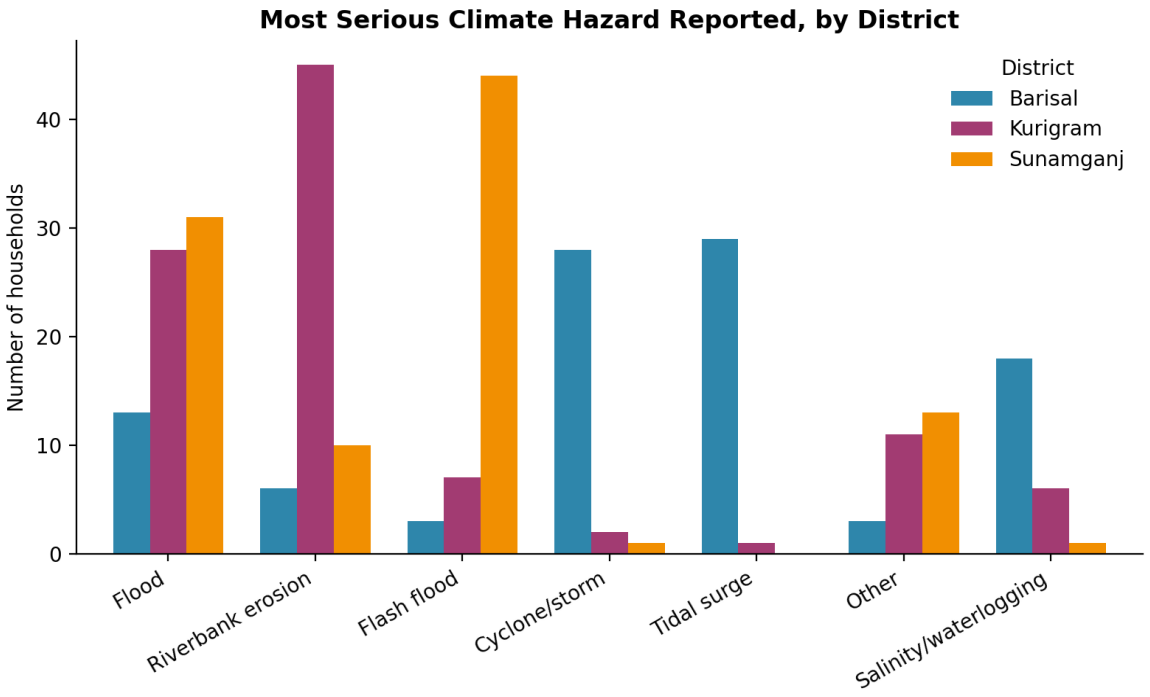

Figure 7: Most serious climate hazard reported, by district (Source: Created by the author)

This result is not a novel finding, since the three districts were deliberately chosen because their hazard exposure differs. Its purpose is methodological rather than substantive: it demonstrates statistically that the hazard context differs sufficiently to provide a meaningful basis for the cross-district comparison of NELD undertaken in section 4.6, addressing part of the study's third secondary research question. This result is best read as a validity check on the research design rather than as a substantive NELD finding.

4.4 Forms of Non-Economic Loss and Damage Reported by Communities

Respondents were asked to choose from a list of eleven predefined types of non-economic loss experienced by their household, and were also asked to describe, in their own words, the most important thing their household or community had lost other than money, property and physical

assets. Together, these items give the scale (structured checklist) and texture (open response) of community reported NELD.

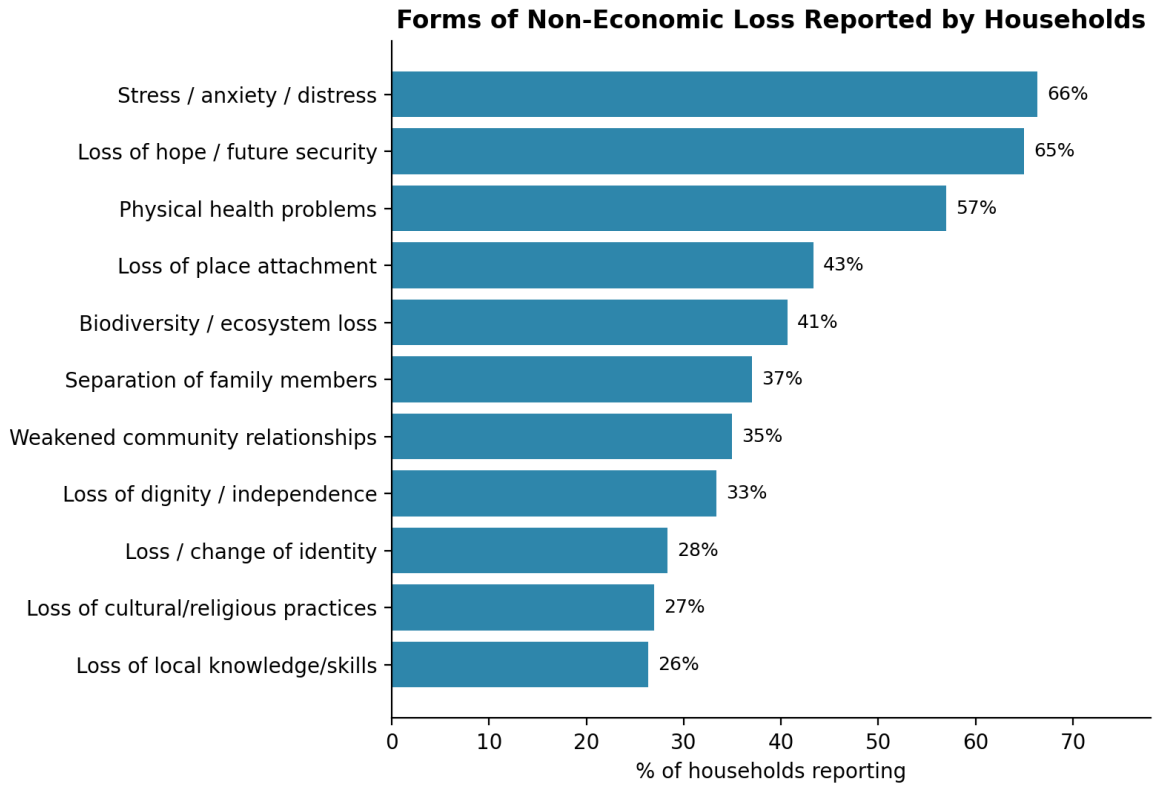

Figure 8: Forms of non-economic loss reported by households (Source: Created by the Author)

Psychosocial loss was the most common among the predefined categories of NELD: stress, fear, anxiety, or emotional distress (66.3%), loss of hope or security about the future (65.0%), and physical health problems (57.0%). This was followed by loss of important places (43.3%) and loss of or damage to local nature, biodiversity or ecosystems (40.7%). Relational forms of loss, separation of family members (37.0%) and weakened community relationships (35.0%), were reported by over a third of households, while loss of dignity or independence (33.3%), loss or change of identity (28.3%), loss of cultural or religious practices (27.0%), and loss of local or traditional knowledge (26.3%) were reported by roughly a quarter to a third of the sample. None of the households used the "none" option, which meant that all the households surveyed reported at least one type of non-economic loss.

The pattern is supported by an independent measurement approach with a set of five-point scale graded agreement statements. The highest level of mean agreement was with items about stress continuing (mean = 3.49 of 5; 55.0% scoring 4 or 5) and less hope or security regarding the future of the family (mean = 3.46; 52.0%), followed by sense of belonging to place (mean = 3.32; 47.7%)

and feeling good about community togetherness (mean = 3.20; 43.0%). Both of those separately worded instrument's point to psychosocial distress and decreased future security as the most broadly and intensely experienced types of losses that solidify confidence that this is a true substantive pattern rather than a by-product of question wording.

This is further illustrated by the open question about what is the one thing that is missing for the household besides money and material possessions. Coded responses were grouped into thirteen themes; the most common were loss of religious sites (damaged by tidal surge, 10.0% who were concentrated in Barisal), loss of hope for the next generation (9.7%), loss of fish and birds of haor (9.7%, in Sunamganj), and loss of ancestral land to riverbank erosion (9.0% in Kurigram). These answers reveal that the predefined categories like place attachment or biodiversity loss were experienced via very specific hazard related concepts like fishing boat, family graveyards, stretch of char land, and not as abstract categories, which is revisited in section 4.7.

4.5 Which NELD Dimensions Matter Most, and How Are They Interconnected? (Research Question 1)

This first secondary research question, namely what aspects of loss are most salient for affected communities and how these aspects are interconnected, is directly addressed in this section. The fact that the psychosocial and future-oriented dimensions (anxiety, hope) rank higher than material and cultural dimensions (as presented in section 4.4) already shows that they are higher in raw prevalence. The more analytically relevant, however, is the issue of co-occurrence, not of isolation ranking. The average NELD dimension per household was 4.6 of the eleven predefined dimensions (mean = 4.59; median = 5), with only 1.3% of households indicating a single, stand-alone dimension. Most households 72.7% indicated 4-6 dimensions at the same time.

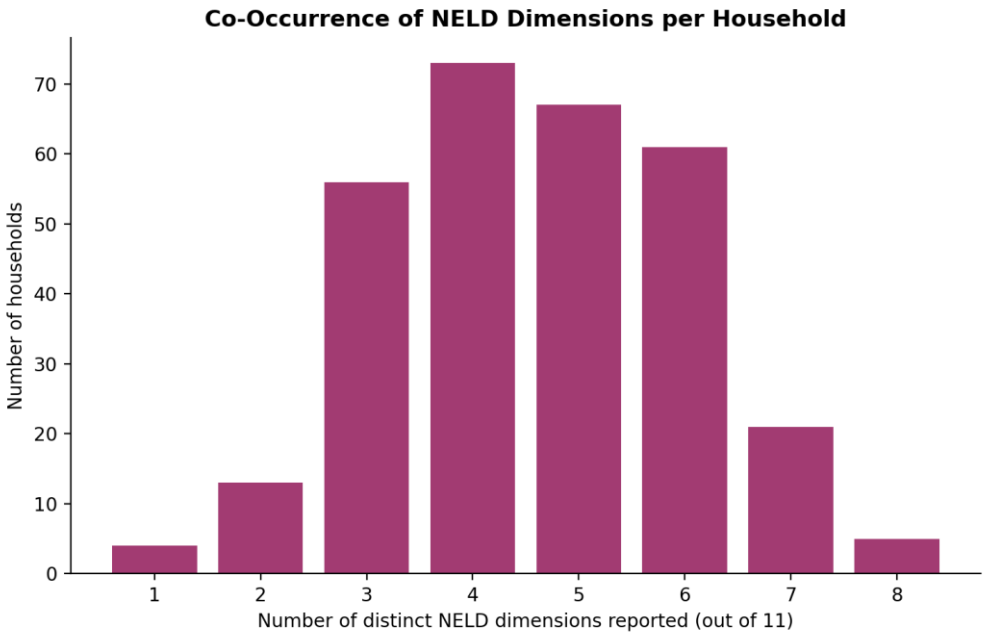

Figure 9: Number of distinct NELD dimensions reported per household (Source: Created by the author)

This trend is like and statistically supported by the qualitative responses when respondents were asked which losses they believed were most closely related. Fourteen recurring connection-narratives were coded from this open-ended item; in each instance, the pathway described a materialist trigger (crop failure, embankment breach, loss of char land, riverbank erosion, and/or salinity intrusion), as well as at least one relational, psychological, or identity-based consequence. There are three recurring pathways across the material, with each pathway being focused in a different district: Riverbank erosion and loss of land of ancestors leading to displacement and disruption of livelihoods and weak social ties (Kurigram, the most described pathway in that district). Cyclone/tidal surge – salinity intrusion – loss of fishing ground, farmland – loss of occupational identity – psychological distress (Barisal) Flash Flood - Crop and Haor Resource destruction - Livelihood insecurity - Breakdown of community life and festival - Weakening of sense of place (Sunamganj). The interconnection argument of this thesis is based on such pathways and not formal statistical network analysis as described in Chapter Three. The universal trend of the three that a single hazard event has a ripple effect, from livelihood to place to identity to relationships, is the most important finding of this section: in Barisal, Kurigram, and Sunamganj, communities do not experience NEFL as a series of separate, independent categories. This aligns with the observation of Tschakert et al. (2019) that place and identity are often intertwined in lived experience and with the finding of van Schie et al. (2024) that the Bangladeshi community responses to the loss revolve around restoring relational and cultural continuity instead of replacing specific material properties. It addresses the second half of

Research Question 1, and supports the argument, described in section 4.9, that the understanding of the community calls into question the categorical separation on which most expert typologies are based. That assessment from respondents is reinforced by their own assessment of interconnection: 80.0% agreed that different losses were connected to each other (42.3% “strongly”, 37.7% “somewhat”), compared with 13.0% who said losses were “mostly separate.” A further 72.0% reported that some members of the household or community were more affected by these losses than others, most commonly women (44.0%), poor households (43.7%), livelihood dependent groups (31.0%), older people (28.0%) and displaced households (24.0%), thus suggesting that the interconnection identified here is not evenly distributed, but rather patterned by existing social vulnerability, as was indicated in the political-ecology frame of this study on loss.

4.6 Differences in NELD Across Barisal, Kurigram, and Sunamganj (Research Question 3)

This section addresses the study's third secondary research question: how do district-level differences in hazard exposure and livelihood context shape community understandings of NELD? The chi-square test of independence, the only inferential statistic used in this study, was applied to each of the eleven predefined NELD dimensions against district.

4.6.1 Worked example: calculating the chi-square statistics

To make the procedure transparent, this subsection works through the calculation in full for one representative test: the association between study district and reported stress, fear, anxiety, or emotional distress. Table 4 presents the observed frequencies (O), taken directly from the cross-tabulation of district against this item, alongside the frequencies that would be expected (E) if district and reported distress were statistically independent.

Table 4: Observed and Expected Frequencies, District × Reported Stress/Anxiety/Distress

District	Reported: Yes (O)	Expected: Yes (E)	Reported: No (O)	Expected: No (E)	Row total
Barisal	58	66.33	42	33.67	100
Kurigram	72	66.33	28	33.67	100
Sunamganj	69	66.33	31	33.67	100
Column total	199	199.00	101	101.00	300

NELD Household Survey, n = 300. Expected frequency for each cell = (row total × column total) ÷ grand total; e.g. Barisal/Yes: (100 × 199) ÷ 300 = 66.33.

Each cell's contribution to the test statistic is calculated as $(O - E)^2 \div E$. Barisal/Yes: $(58 - 66.33)^2 \div 66.33 = 1.05$; Barisal/No: $(42 - 33.67)^2 \div 33.67 = 2.06$; Kurigram/Yes: $(72 - 66.33)^2 \div 66.33 = 0.48$; Kurigram/No: $(28 - 33.67)^2 \div 33.67 = 0.95$; Sunamganj/Yes: $(69 - 66.33)^2 \div 66.33 = 0.11$; Sunamganj/No: $(31 - 33.67)^2 \div 33.67 = 0.21$. Summing across all six cells gives $\chi^2 = 4.87$. With three districts and two response categories, df = (3 − 1) (2 − 1) = 2, which yields p = .088. Because this exceeds the .05 threshold, the association between district and reported stress/anxiety is not statistically significant, although it approaches significance, with Kurigram (72.0%) and Sunamganj (69.0%) somewhat higher than Barisal (58.0%). Every further test reported in this chapter, including the highly significant hazard-type result in section 4.3, was calculated using this identical procedure.

4.6.2 Summary of all chi-square tests

Table 5 summarizes the results of this procedure applied to all eleven predefined NELD dimensions, together with hazard type, displacement status, and the association between displacement status and reported distress.

Table 5: Chi-Square Tests of District × NELD Dimension

NELD dimension	Barisal %	Kurigram %	Sunamganj %	χ^2	df	p-value
Physical health problems	58.0	53.0	60.0	1.06	2	.589
Stress / anxiety / distress	58.0	72.0	69.0	4.87	2	.088
Loss of place attachment	42.0	46.0	42.0	0.43	2	.805
Loss of cultural/religious practices	28.0	24.0	29.0	0.71	2	.702
Loss of local knowledge/skills	29.0	24.0	26.0	0.65	2	.722
Weakened community relationships	34.0	39.0	32.0	1.14	2	.565
Separation of family members	39.0	36.0	36.0	0.26	2	.878
Loss / change of identity	33.0	25.0	27.0	1.71	2	.426
Loss of dignity / independence	27.0	39.0	34.0	3.27	2	.195
Loss of hope / future security	64.0	66.0	65.0	0.09	2	.956
Biodiversity / ecosystem loss	36.0	46.0	40.0	2.10	2	.350
Most serious hazard type	—	—	—	233.90	12	< .001
Displacement status	—	—	—	6.56	6	.364
Displacement status × distress	—	—	—	10.88	3	.012

NELD Household Survey, n = 300. Percentages are the proportion of each district reporting the dimension.

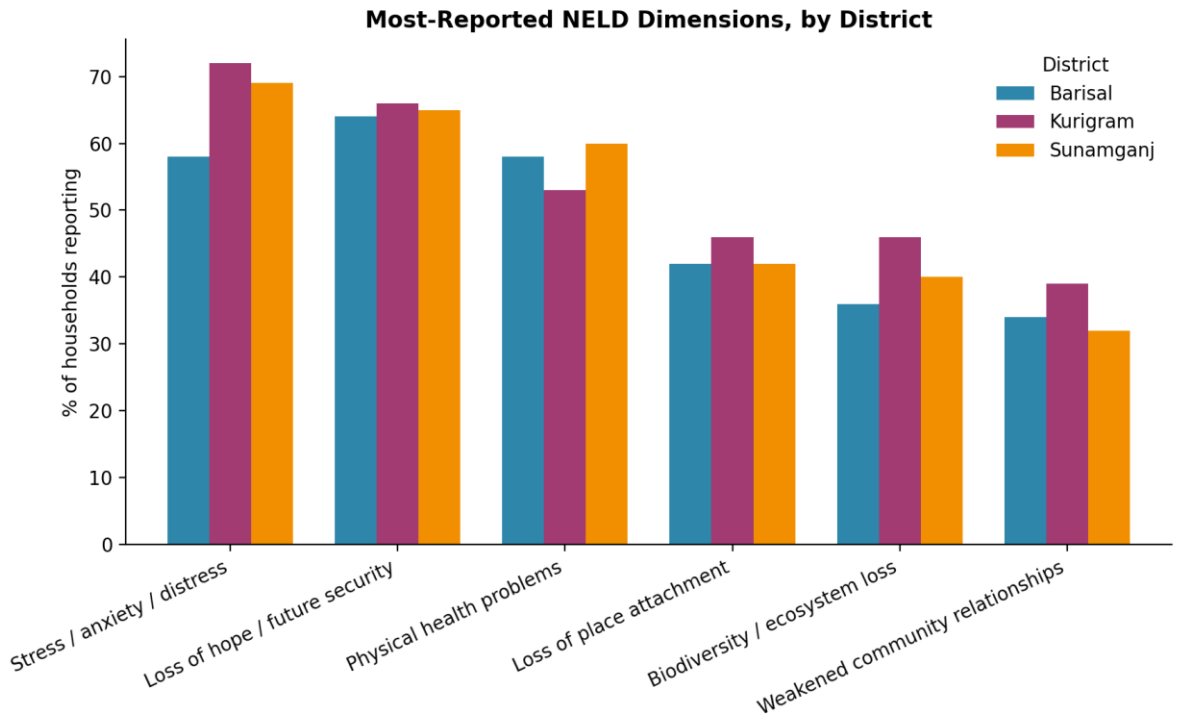

Figure 10: Most-reported NELD dimensions, by district (Source: Created by the author)

On the other hand, at first glance the answer in Table 5 shows one of the most interesting counter-intuitive outcomes: In 10 of the pre-defined NELD dimensions, neither the proportion of households that report experiencing the loss differs measurably by district (all $p > .08$), nor does the number of households that report experiencing the loss differ measurably by district (all $p > .17$). The only stressors that can attain conventional significance as in the worked example are stress and anxiety. This is in stark contrast to the very high order of significant difference in hazard type shown in section 4.3 ($\chi^2 = 233.90$, $p < .001$). Combined these two results result in an important conclusion. The physical hazard situation faced by households is quite different in the coastal, riverine and haor hazard-scapes, but the experience of non-economic loss is quite similar across these. Hazard-specific routes to loss are also locally unique, as described in section 4.5, but the relatively broadly-defined categories of loss are, are not, suggesting a relatively hazard-independent response to continued climate stress. This matches cross-country results of Chiba et al. (2017) on non-formal-sectoral and non-geographical relational and cultural logics of loss, and the findings from the Pacific Islands of McNamara et al. (2021) of community-reported losses being non-geographically or formally-sectoral, but being more closely associated with place attachment, cultural continuity and social cohesion. The development of the implication in sections 4.7-4.9 suggests that this is not the case at the local level within the large NELD categories but may be the case across hazard-scapes. There was no significant difference between districts either with respect to displacement status ($\chi^2 = 6.56$, df

= 6, p = .364) which suggests that the mobility experience is not restricted to only those living in areas prone to erosion in Kurigram, but is shared by people all around the district. The displacement status was found to be statistically significant with the stress/distress (χ^2 = 10.88, df = 3, p = .012): 71.4% of the households that were displaced more than once reported stress/distress as opposed to 40.0% of the households that were permanently displaced, and 69.5% of the households that were never displaced. So the message of NELD is not so much about the district, as it is about the disturbing nature of sequences or series of displacements. There are differences between districts in the interconnection item and the "most-important-loss" item from the open-ended material (χ^2 = 324.36, p < .001; χ^2 = 335.90, p < .001, respectively). The typology in section 4.7 clarifies the difference between the local contents and the broad categories that converge.

4.7 Toward a Community-Derived NELD Typology

Following the analytical sequence set out in Chapter Three, this section organizes the survey's structured checklist responses, graded agreement statements, and coded open-ended responses into a structured community-derived understanding of NELD, expressed as domain, sub-domain, community expression, and observable indicator or evidence. Following the study's methodological commitment to inductive, community-grounded categorization, no fixed number of domains was imposed in advance; the fourteen sub-domains presented in Table 4.4 reflect the full range of loss dimensions that could be substantiated from the survey and its open-ended material, without omitting any dimension considered analytically relevant.

Table 6: Community-Derived NELD Typology

Domain	Sub-domain	Community expression	Indicator / evidence
Health and well-being	Physical health	Illness or physical strain following disaster events	Reported by 57.0% of households
Psychological well-being	Anxiety and fear	Persistent fear, sadness, uncertainty before/during hazard seasons	66.3% of households; agreement scale means 3.49/5
Psychological well-being	Sleep and rest disruption	Difficulty resting or sleeping during and after hazard periods	Qualitative; embedded in distress narratives, no discrete item
Human mobility	Displacement	Households forced to leave home temporarily or permanently	65.0% displaced at least once
Place, territory and belonging	Loss of homestead and ancestral land	“Our ancestral homestead land… in the family for generations”	43.3% of households; 9.0% cite as single most

Domain	Sub-domain	Community expression	Indicator / evidence
			important loss (Kurigram)
Social relations and community cohesion	Community fragmentation	Neighbors and kin scattered following displacement	Weakened relationships 35.0%; family separation 37.0%
Cultural heritage and practice	Traditional and festival practices	Disruption of festivals, food traditions, communal practice	27.0% of households
Spiritual and religious value	Sacred and religious sites	Damage to mosques, temples and graveyards	10.0% cite as single most important loss (Barisal)
Local and traditional knowledge	Ecological and occupational knowledge	Farming/fishing knowledge no longer reliable under changed weather	26.3% of households
Biodiversity	Wildlife decline	Fewer fish, birds and other wildlife, especially around the haor	40.7% of households; 9.7% cite as single most important loss (Sunamganj)
Ecosystem services	Flora and land quality	Declining land productivity, salinity intrusion, changed vegetation	Embedded in biodiversity item and open-ended land narratives
Livelihood and occupational identity	Continuity of fishing/farming identity	Occupational identity disrupted where land/river-based livelihoods are lost	Identity/way-of-life change 28.3%
Dignity and independence	Dependency on assistance	Reliance on relief rather than own labor	33.3% of households
Hope, security and future aspiration	Aspiration for the next generation	Diminished confidence in household's or children's future	65.0%; the single most cited open-ended loss (9.7%)

Coded structured checklist, graded agreement statements, and open-ended items, n = 300. Percentages follow p = (f ÷ n) × 100.

Two features of Table 6 merit emphasis. First, ordering by prevalence again places psychological and future-oriented domains, anxiety, hope, above material and cultural domains, reinforcing the pattern established in section 4.4. Second, the community-expression column shows that respondents do not describe these domains using the abstract, sectoral language of expert typologies: they describe a graveyard, a boat, a stretch of char land, a haor bird, and a specific feeling of shame depending on relief. The domain and sub-domain labels are therefore interpretive translation performed for comparison in section 4.8, consistent with the study's aim of describing how communities understand loss rather than imposing a predetermined classification upon them. Several sub-domains, sleep disruption, ecosystem quality, dependency, and livelihood-identity continuity, are visible only in the open-ended material; their

inclusion as qualitative evidence rather than a percentage follows the principle that community narrative should not be discarded merely because it falls outside a predefined instrument.

4.8 Community-Derived Domains Compared with International NELD Typologies (Research Question 2)

This section addresses the study's second secondary research question: which community-derived dimensions are already represented within international NELD frameworks, and which are absent or underrepresented? Table 4.5 maps each of the fourteen sub-domains identified in Table 4.4 against the principal frameworks reviewed in Chapter Two, the UNFCCC's (2013) technical paper, the IPCC's (2022) AR6 framing, and the empirically grounded typologies of Warner and van der Geest (2013), Chiba et al. (2017), van Schie et al. (2023, 2024), and McNamara et al. (2021), using the four-part classification scheme set out in Chapter Three: convergent, partially convergent, differently framed, or a community-derived addition.

Table 7: Community-Derived Domains Compared with Expert NELD Frameworks

Community domain / sub-domain	Closest expert category	Relationship
Physical health	UNFCCC “health”; IPCC health framing	Convergent
Anxiety and fear	UNFCCC “health” (implicit)	Partially convergent
Sleep and rest disruption	Not named in UNFCCC/IPCC	Community-derived addition
Displacement	UNFCCC “human mobility”	Convergent
Loss of homestead / ancestral land	UNFCCC “territory”; van Schie et al.'s local-values framing	Convergent, but locally reframed
Community fragmentation	Weak/indirect in UNFCCC; explicit in Chiba et al. and McNamara et al.	Underrepresented in UNFCCC
Traditional and festival practices	UNFCCC “cultural heritage”	Convergent
Sacred and religious sites	UNFCCC “cultural heritage” (implicit sub-category)	Partially convergent
Local and traditional knowledge	UNFCCC “indigenous and local knowledge”	Convergent, reframed around practical utility
Wildlife decline	UNFCCC “biodiversity”	Convergent

Community domain / sub-domain	Closest expert category	Relationship
Flora and land quality	UNFCCC “ecosystem services”	Convergent
Occupational identity continuity	Not discreet in UNFCCC; folded into territory/culture	Differently framed
Dependency on assistance / dignity	Largely absent from UNFCCC/IPCC; present in Ayeb-Karlsson et al. (2023)	Community-derived addition
Hope and future aspiration	Not named in UNFCCC/IPCC; echoed in narrative scholarship	Community-derived addition

Comparison against UNFCCC (2013), IPCC (2022), Warner & van der Geest (2013), Chiba et al. (2017), van Schie et al. (2023, 2024), McNamara et al. (2021).

Nine of the fourteen sub-domains align with current UNFCCC classifications, with reasonable fidelity: physical health; displacement; homestead/territory; cultural and religious practice; local knowledge; wildlife; and land/ecosystem quality. This convergence should not be overlooked, as the UNFCCC's decade-old typology still accounts for a significant proportion of what these communities report as important loss, and is like the boundary-object interpretation of NELD typologies developed in Chapter Two. Four of these sub-domains are not explicitly present, only implicit or are quite differently categorized on the international level, however: hope, dependency and dignity, sleep and rest disruption, and occupational identity continuity. 65.0% and 33.3% of households reported hope and dependency, respectively, a prevalence like or higher than several domains (e.g. cultural practice at 27.0%) which already have a specific UNFCCC category. The lack of their presence was, indeed, not due to them being peripheral to community life but due to the categorical assumptions inherent in a typology that has been synthesized largely by the reading of expert literature, a gap that the present study's theoretical framework was set to examine.

4.9 How Community Understanding Complements, Challenges, and Expands Existing Frameworks (Primary Research Question)

These sections (4.4–4.8) bring together the evidence to answer the main research question which is structured in the same way as the question itself: complement, challenge, expand.

4.9.1 Complements

Community understanding strongly fills the gaps in existing frameworks in the areas of physical health, displacement, place attachment, biodiversity, cultural heritage and local knowledge, where between approximately 25 and more than a quarter of households reported the corresponding losses and where the open-ended material allows for locally specific examples of things the UNFCCC (2013) also identifies as loss. This study's value is not in the creation of new categories, but that a structured-survey prevalence analysis and a narrative depth analysis both make clear that these categories are salient in the three different hazard-scapes, and that these categories have empirical grounding that is often assumed rather than demonstrated in the wider literature (McNamara & Jackson, 2019).

4.9.2 Challenges

The interconnection finding in section 4.5 is the main way in which community understanding is a challenge to the current framework. Households endorsed an average of 4.6 out of the 11 loss dimensions defined in the questionnaire, with all three of the three dimensions of loss – livelihood, place, identity, and relational – cascading effortlessly from one dimension to the other, across and between sectors, as suggested by a sector critique in Chapter Two. This is not an argument against the conceptual validity of categories like territory or mobility being conceptually distinct and separately measurable, but against relying on the latter as the sole measure of the first. This is confirmed by the lack of significant cross-district differences in the categories, which were predefined in section 4.6 despite the different hazards in these districts: the differences in the categories themselves are least with respect to local context, but rather are in the relational pathway connecting categories.

4.9.3 Expands

The expansion of the understanding of community is most evident in the typologies of hope/future security and dignity/independence, reported by 65.0% and 33.3% of households respectively, but largely absent, or present only implicitly, from the UNFCCC (2013) and IPCC (2022) typologies. These findings align with and supply new survey evidence from Bangladesh based on the narrative and subjectivity-centered red literature reviewed in Chapter Two (Ayeb-Karlsson et al., 2023; Jackson, 2023), which also identified dignity, purpose, belonging, and hope as frequent existential themes that sectoral typologies are unable to provide. The psychological dimension of health, as indicated by two mutually orthogonal but highly co-reported items, is another instance of expansion: health itself is represented in all of the major frameworks, but

community narratives here suggest that other symptoms and conditions, namely psychosocial distress, warrant being considered a distinct dimension of health in its own right rather than a subsidiary component of physical health.

Put together, these three findings answer the primary research question: community understanding of NELD in Barisal, Kurigram, and Sunamganj complements existing frameworks in about two-thirds of the fourteen identified sub-domains; challenges the categorical and a sector-bound architecture that is prevalent in most expert typologies because it is demonstrably interconnected; and expands existing frameworks specifically in the domains of psychological well-being, dignity, and future security – related but distinct dimensions of loss that current international NELD categorization does not yet explicitly name.

4.10 Implications for NELD Assessment and the Fund for Responding to Loss and Damage

These The findings are directly relevant to the second specific objective of this study, which is to translate community understanding into guidance on national methodologies for assessing loss and damage and guidance for the Fund for Responding to Loss and Damage (FRLD). Three implications follow. First, financial assistance alone was found to be able to restore these losses by only 6.0% of respondents, but 65.7% stated that it could only be “very little” or “not at all” (pure monetary compensation is unlikely to be viewed as sufficient by affected communities themselves). Financial assistance (72.3%), livelihood support (48.7%), secure housing/land (41.3%) and stronger community networks (30.0%) were the most frequently mentioned items that would help recovery, suggesting a need to incorporate material and relational aspects of recovery support.

Secondly, when asked whether the government and development organizations adequately recognized these non-economic losses, 49.0% of the respondents answered in the negative, while 36.0% responded in the "partly" column, indicating a significant mismatch between lived experience and current assessment practice, as reflected in the respondents' own appeal that losses are not just about money and that traditions and cultural life matter as much as economic recovery. Third, while the content and interconnections of the broad NELD categories are relatively stable across hazard-scapes (section 4.6), the specific local referents and cross-domain pathways of communities' losses are quite varied (sections 4.5 and 4.7), meaning any national or FRLD assessment instrument could benefit from maintaining a stable checklist of

broad domains, as implemented here, with structured, open-ended space for communities to specify the local referents and cross-domain pathways of their own losses.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

This chapter is the final step toward a thesis. It brings together the study's findings, offers insight into their implications for the understanding and measurement of Non-Economic Loss and Damage, recognizes the limits of its inquiry, and suggests the potential for further research.

5.1 Conclusion

This study aimed to explore the perspectives of Non-Economic Loss and Damage from the lens of the communities where it is experienced and how these understandings align with, depart from and contribute to the current international Loss and Damage framework developed by experts. Based on household survey information from 300 respondents from six upazilas, combined with qualitative community narratives, the study does not view NELD as a series of pre-defined categories, but as a situated and holistic phenomenon, influenced by hazard exposure, livelihood, place, identity, social relations, and expectations of the future. The results prove, on the one hand, that non-economic losses are not “side effects” or “accidental side effects” of climate change, but a central aspect of it. They are a significant component of the understanding of the nature of climate-related harm among affected households. Along with physical health effects, loss of place attachment, family separation, diminishing community relations, biodiversity loss, identity changes, loss of dignity and independence, and disruption of cultural and traditional practices emerged as particularly relevant aspects of psychological distress and loss of confidence in the future. The most prominent of those, 65.0% of the respondents indicated they had become less hopeful or secure about their futures, and 66.3% of the households surveyed experienced psychological distress. The results show that some of the most reported impacts of climatic risks take place in areas where traditional approaches to economic damage calculations are less sensitive.

Second, the study highlights a lack of recognition of the fact that these losses are not usually experienced by communities as distinct categories. Eighty per cent of respondents saw the different types of loss as interconnected and the households reported an average of 4.6 out of the 11 predefined NELD dimensions occurring at the same time. This is confirmed by qualitative evidence. Riverbank erosion in Kurigram was found not only to be a cause of loss of ancestral land but also of displacement, livelihood loss and loss of social relations; Cyclones and salinity intrusion in Barisal led to loss of fishing grounds, farmlands and also affected people's sense of identity and their mental health; Flash floods in Sunamganj was found to impact not only crops

and haor resources but also social life, festivals and sense of place of the people. NELD can therefore best be seen as a series of cascading and interconnected losses rather than as a series of separate impacts. Third, the comparative results of the three districts are important and, at first glance, counter intuitive. The prevailing climate hazard was greatly different and significantly different among the three study areas, but there was no significant difference in the distribution of all the 11 defined NELD dimensions. The implication here is that the domains of non-economic losses that are travelled by different hazards may have some similarity, despite the context specific pathways, meanings, and expression of those losses in the local context. The difference is important because the broad categories of loss seem to flow more easily from hazard context to hazard context than the lived ways in which those losses manifest, a pathway-dependence that the study's community-driven typology, derived from open-ended narrative data, was able to capture, while the structured checklist was not.

Table 8 draws these threads together before the discussion below turns to what they mean, taken as a whole, for how NELD should be understood and assessed.

Table 8: Summary of Key Findings

Finding	Key evidence	Implication
Non-economic loss is widespread and psychosocial in character	66.3% reported psychological distress; 65.0% reported loss of hope/future security	NELD is not a peripheral consequence of climate hazards; it occupies a central place in how households understand climate harm
Losses are interconnected, not discrete	80.0% considered their losses interconnected; households reported 4.6 of 11 dimensions simultaneously on average	NELD functions as a set of cascading, relational losses rather than independent categories
Broad NELD categories travel across hazard-scapes; local pathways do not	Hazard type differed sharply by district; all eleven predefined NELD dimensions showed no significant district difference	Communities facing very different hazards still arrive at broadly similar categories of loss, even as the routes to that loss remain locally specific
Community understanding complements, challenges, and expands expert frameworks	Around two-thirds of the community-derived sub-domains align with existing international categories; hope, dignity, and psychosocial well-being remain largely absent from those frameworks	Existing typologies capture much of community experience, but their sector-bound structure and gaps around hope and dignity limit their completeness
Money alone cannot resolve NELD	Only 6.0% believed financial assistance alone could restore what was lost; 65.7% said it could help only “very little” or “not at all”	Recovery mechanisms must combine financial support with livelihood, housing, and community-network interventions

Household survey and community narrative material analyzed in this thesis, n = 300.

There is a brief explanation of all these findings that cannot be explained in the table above. The first of the findings, that psychosocial loss and reduced hope are the most common types of NELD, is important because they are the areas in which traditional, monetary measurements of damages are least able to be recorded: a family's worry about the upcoming flood season, or their loss of faith in their children's ability to inherit a livable home, are not captured by any receipt nor are they documented in any insurance claim, and were reported far more frequently than almost any other type of loss in this study. The second – interconnection – is the idea that to list these losses as discrete boxes to check, one by one, understates the actual experience: when one loss is felt, another is also felt, and another, and another, and a strain on family relationships; all of these are felt in one unfolding hardship. The third observation is the most conceptually important as it suggests that the categories communities use to describe their losses are more likely to transfer across various climate hazards while the detailed stories and pathways from which those losses may materialize are less likely to transfer, implying that a national assessment framework based on categories, rather than on detailed pathways, could be more likely to work in very different parts of Bangladesh if it allowed local detail. The fourth and fifth findings together account for why the recommendations that follow do not simply advocate for increased investment – money was consistently cited by respondents as not being enough; hope, dignity, and psychological well-being were the forms of loss that were least recognized by existing frameworks and are the forms of loss that a cheque cannot easily mend.

In the light of these findings, it is possible to say that, in some cases, the community's account can supplement the international frameworks that already have or imply categories, such as when the community's account of the loss of a family burial ground can be read as a locally particular instance of a broader category of cultural heritage. It provokes reflection on those conceptions of categories that see them as independent, sectoral and bounded, which tend to blur the picture of an overlapping and interconnected experience that the evidence provided by this study reveals. It builds on those frames by adding the dimension of psychological well-being, dignity and independence, and hope and future security – which were reported by a significant proportion of households but are not included as a frame or are implicit in the current major international NELD categories in use.

Based on that the study recommends community-centered NELD assessment approach in Bangladesh and in the new financial frameworks on Loss and Damage. While there are existing works of expertise that offer a good structure to begin with, they should serve as an analytical tool and not an all-encompassing framework for loss. Assessment processes need to have broad

enough domains for national and international comparability but also leave room to the communities to identify locally specific meanings, interconnections and experiences of loss that may not be captured by pre-defined indicators.

Finally, this research does not make a new definitive typology for NELD. Instead, it exemplifies the need for any typology to be "tested" with ongoing communication with the people who have lost their lives described in it. While communities in Barisal, Kurigram and Sunamganj know what has been lost physically, they also know it when it comes to the loss of their relationships, identity, dignity, memories, livelihood, sense of place and their confidence in the future. Understanding these aspects is crucial if new mechanisms, like the Fund for Responding to Loss and Damage, are to address climate impacts as they unfold in direct impact on affected communities. The aim of this thesis was not to build another competing typology, but to ask myself, what does it mean to ask the question of how three communities understand, tell their stories about, and value their losses?

5.2 Policy and Practice Recommendations

The practical and policy implications of these findings for national NELD assessment and the Fund for Responding to Loss and Damage were developed in detail earlier in this thesis and are not repeated at length here. What follows draws that discussion together with the conclusions reached above into a single, more concise set of recommendations, summarized in Table 5.2.

Table 9: Policy and Practice Recommendations

Recommendation	Driven by	Action for national assessment / FRLD
Combine financial and non-financial recovery support	Only 6.0% saw money alone as sufficient; 65.7% said it helped "very little" or "not at all"	Pair financial assistance with livelihood support, secure housing/land, and investment in community networks
Treating recognition gaps as an operational priority	49.0% felt non-economic losses were not adequately recognized; 36.0% said only partly	Build NELD recognition into standard needs-assessment and recovery-planning procedures, not as an optional add-on
Keep a stable checklist, but add open-ended space	Broad NELD categories are stable across hazard-scapes; local content and pathways are not	Retain broad domains for comparability while allowing communities to specify local referents and cross-domain pathways

Recommendation	Driven by	Action for national assessment / FRLD
Explicitly recognize hope, dignity, and psychosocial well-being	These domains are reported by roughly a third to two-thirds of households but are largely absent from major international categories	Extend assessment instruments beyond frameworks built without sustained community engagement
Record interconnection, not just presence/absence	80.0% experienced their losses as interconnected rather than discrete	Add structured fields for recording cascading pathways alongside the standard domain checklist

Each There are no general recommendations for improvement of assessment, but instead each recommendation addresses a distinct need that was identified by the evidence. The combination of financial, livelihood, housing and community-network support is a logical next step as very few respondents felt that money would solve the problem; a compensation payment without this can be seen as sufficient by the bank and insufficient by the household. The fact that almost half of respondents indicated that they did not receive the recognition they deserved suggests that a focus on better communication alone is insufficient to overcome the recognition gap and that it is necessary to change the way that assessments are actually being undertaken. The study's central tension, of broad categories of loss proving remarkably consistent across three very different hazard environments, is good news for comparability; the specific content of the losses, and the way different kinds of loss are related to each other, varied enormously, and could easily be lost under a rigid, closed-ended instrument.

The call to consider hope, dignity and psychosocial well-being as priorities is explicit in the literature, coming from what is perhaps the strongest single unmet need that this research suggests: these are not uncommon concerns from a small number of participants, but concerns reported by a large proportion of participants who nevertheless have no obvious home in the categories most current assessment tools recognize. The fact that most households suffer multiple losses at the same time, and consider these losses to be interrelated, also suggests that considering interconnection rather than each category separately finds its justification in the findings. These recommendations are to be understood as refinements as well, and not alternatives to the checklist approach already employed internationally. What's missing is not the checklist per se, but the structured space around the checklist; what this study's findings suggest is interconnection does not lack.

Practical Implications for Bangladesh's National Loss and Damage Framework

Embed community-based NELD evidence in the national architecture on Loss and Damage. Bangladesh is advancing towards enhancing national institutional and financing mechanisms for dealing with Loss and Damage. The community-level evidence on Non-Economic Loss and Damage (NELD) should be taken into account in national assessment frameworks and financing mechanisms by the Ministry of Environment, Forest and Climate Change (MoEFCC), the Department of Environment (DoE), and other relevant institutions in this context. This study is empirical in nature as it documents perceptions, experience and prioritizations in terms of losses that are not easily monetized, in the context of climate change in Barisal, Kurigram and Sunamganj. The results highlight the multi-dimensional and context-specific nature of NELD, including psychological distress, dignity, social and cultural disruption, environmental/habitat degradation, place-related loss, and uncertainty about future security.

The research thus has a practical application that is not just academic. Its community-based results can be used to shape the design of indicators, assessment tools and eligibility criteria, as well as financing priorities for the Developing Bangladesh's Loss and Damage architecture. The results can contribute to the design of national mechanisms that are not only based on an economic valuation, but also take account of losses that are defined as such by affected communities themselves. This aligns with the study's goal of delivering community-led understanding of NELD to the national level in the form of recommendations for national assessment methodologies and Loss and Damage financing mechanisms. Finally, evidence of this type can help in a more participatory, context-sensitive, and community-informed process of identifying and intervening in NELD in Bangladesh.

5.3 Limitations of the Study

Several limitations should be considered when interpreting the findings of this research. These limitations do not invalidate the study's findings; they define the boundaries within which its conclusions should be understood, summarized in Table 5.3 below and explained more fully afterward.

Table 10: Limitations of the Study

Limitation	Explanation	Implication for interpretation
Limited geographical scope	Six upazilas across three purposively selected districts, chosen to represent	Findings should not be read as nationally representative; other

Limitation	Explanation	Implication for interpretation
	coastal/cyclone, riverine/erosion, and haor/flash-flood hazard-scapes	contexts (drought-prone areas, the Chittagong Hill Tracts, urban settlements, salinity-affected south-west) may show different patterns
Sample size and sampling design	300 respondents (100 per district, 50 per upazila); broadly consistent with a design benchmark of roughly 96% confidence and ±6% margin of error under simple random sampling assumptions	This benchmark is a design reference point, not formal confidence bound, because sites were purposively rather than randomly selected; a larger probability sample would allow stronger generalization and subgroup analysis
Self-reported, retrospective data	NELD is inherently subjective; concepts such as dignity, identity, and future security may be interpreted differently by different respondents; recall bias is possible for repeated past events	Subjectivity is partly the phenomenon being studied rather than only a source of error, but exact prevalence figures should be read as reported perception, not verified fact
Cross-sectional design	Data were collected at a single point in time	The study cannot show how distress, attachment, or dignity change after the point of data collection, or distinguish temporary disruption from irreversible loss
Simplification through quantitative measurement	Predefined survey items were needed to quantify prevalence, even though NELD is relational and culturally embedded	Some experiences, such as sleep disruption, ecosystem quality, dependency, and livelihood-identity continuity, appear only in open-ended material, not in the structured checklist
Descriptive and comparative, not causal, analysis	Frequency distributions, cross-tabulations, and statistical tests of association were used throughout	Reported associations should be read as patterns of experience, not as evidence that a given hazard causes a given form of loss

The first limitation, the deliberate narrow geographical focus, was considered an appropriate trade-off for a study interested in the issue of how hazard context influenced community understandings – a broader survey effort would have been more fragmented in terms of depth of data collected at each location. That price is that nothing in this research can tell you directly how a community, in a drought-stressed area, for instance, or an urban informal-settlement community, might describe their losses. Sample size and design is the next restriction. The three

hundred respondents who were selected by purposive, rather than random, selection of sites are sufficient to support the descriptive comparisons and across-district comparisons that this study draws, but do not justify the level of confidence in the results of percentage estimates that could be made on a nationally representative sample. A conventional confidence-level and margin of error metric should be reported along with this design but should be interpreted as an indication of the general adequacy of the sample for its intended purpose rather than as a formal statistical statement beyond the three districts studied.

The third and fourth restrictions are about the kind of knowledge that a study of this sort can and cannot yield. Due to the nature of the questions asked, respondents were asked to reflect on their feelings and experiences and were often recalling had the data been collected over several years of repeated exposures to hazards, the data would have been influenced by memory. They were influenced by individual differences in the interpretation of concepts such as dignity or identity, as well as the timing of the interview. None of that is an apology for that, since the point of the research was to observe and document community perceptions and descriptions of loss, not to create a standardized inventory of loss that would be likely to be different from what a researcher from the outside might measure. Likewise, the study provides a snapshot, a moment-in-time view of distress so it cannot predict that a household's distress will improve, worsen, or change over the next few months or years; the study can only say that distress existed in that household at that time in that form.

The fifth and sixth restrictions are related to the inevitable compromise between measuring NELD or maintaining its more complex experiential nature. The process of converting lived experience into a structured questionnaire of course has to exclude things, and this study's open-ended material revealed several dimensions of the disruption to sleep routines, to the surrounding ecosystem, to the growing dependency on outside services, and to disruption of occupational identity, which have no dedicated question of their own; these were only captured because when done spontaneously by respondents they were not prompted. Last, the statistical analysis tools employed throughout this research, simple counts, percentages, cross-tabulations, and tests of association, were able to describe patterns and test if any pattern differed meaningfully across districts but were not designed nor should they be interpreted as evidence that a specific hazard is directly responsible for a specific form of loss. Put together, these odd restrictions do not chip away at the main conclusions of the study; rather, they are a straightforward delineation, unafraid to be honest, of what this study can and cannot provide.

5.4 Recommendations for Further Research

The recommendations that follow are derived from specific findings described in this thesis, and do not stem from more general suggestions for increased sample sizes or further general research in the abstract.

1. Expand the study to additional hazard-scapes

The community centered approach developed in this study should be evaluated under various climatic and socio-ecological conditions in Bangladesh, such as in the drought-prone districts of the north-west, in the saline affected districts of the south-west coastal regions, in the hill communities of Bangladesh experiencing landslides, in urban informal settlements, and in areas affected by slow-onset environmental change. This is the likely most important recommendation to implement from the study, as the most salient result, the fact that the hazard type varies wildly across districts while the prevalence of all 11 of the predefined NELD dimensions does not, was only found across 3 hazard-scapes. If expanded to other contexts, this pattern would be tested across the country, or whether this pattern is an aberration of the three hazard-scapes included in this.

2. Undertake a nationally representative NELD survey

A more comprehensive probability-based survey of several climate-sensitive areas would give a more accurate estimate of the prevalence of various NELD dimensions and would enable greater statistical generalization than can be done with a purposive, hazard-scape-based design like the present one. A larger sample would also enable the multivariate analysis of the influences of combining the factors of gender, age, income, occupation, displacement status, land ownership, and livelihood dependence on the probability and intensity of NELD in the various forms. Such a survey could usefully start with the typology developed by the community in this study and test its validity at the national scale and the relative prevalence of each of the identified domains, directly against the community derived typology.

3. Conduct longitudinal research on how NELD changes over time

Because the present design is cross-sectional and does not allow the notion of when disruption becomes loss, and when loss becomes irreversible. A longitudinal study following the same households before, after 6 months, 1 year and 3 years following a disaster could help determine if psychological distress, place attachment, dignity, cultural continuity, social relationships and hope will improve, worsen or change over time. This would directly address the temporal

limitation mentioned above and may be one of the most compelling extensions of the current study as NELD may be viewed as a chronic condition of exposure to repeated hazard events rather than NELD as a response to a specific hazard event.

4. Develop and validate indicators for dignity, hope, and psychosocial NELD

This study offers a powerful empirical justification for this recommendation – hope and future security is reported by 65.0% of households, and dignity and independence by 33.3%, but both are underrepresented in the major international categories in use. Reliability and validity of culturally appropriate indicators could be tested across different cultures, and future studies could expand to include all the following indicators: Dignity and Independence, Future Security and Hope, Anxiety and Fear, Sleep Disruption, Occupational Identity, Place Attachment. This study identified a problem of "recognition gap" between community experience and expert-framework categories that could be addressed with such an instrument.

5. Study NELD as interconnected pathways rather than individual categories

This study has already brought the interconnections of concepts to the fore, and they are central to its descriptive and comparative approach, which, fittingly for the study's purpose, could not, however, be modelled formally, such as river erosion followed by land loss, and then by displacement, and then by loss of livelihood, and then by dependence, and then by loss of dignity, and then by psychological distress, and then by reduced hope for the future. Given the fact that 80.0% of respondents already believed that their losses were connected, there is empirical support for future research to find methods for examining these chains, either through structured pathway analysis or long-term qualitative approaches, or, with a large enough sample size, structural equation modelling.

6. Examine NELD among different socially vulnerable groups

The results of this study reveal that there are gender disparities in the experiences of interconnected loss and that groups such as women, poorer households, livelihood-dependent groups, older people, and displaced households were most impacted. Future research should focus specifically on the differences between NELD by gender, age, disability, poverty, occupation and displacement status, rather than assuming community is internally homogenous. It would also be a further development of the political-ecology approach used in this study, bringing the dimension of power and differentiated vulnerability more directly into the empirical study, to see if the cascading pathways described here are different, or different in speed, if they are already disadvantaged before a hazard event happens.

7. Compare community perceptions with policymakers' and practitioners' understanding

A natural next step would be to empirically investigate the experiences of those who are tasked with implementing them, including government officials, development practitioners and climate finance experts, and their understanding of NELD, compared to that of communities. This would help to identify the exact points of non-recognition by communities and institutions, which this study found to be 49.0% of the respondents were aware that the government and development organizations did not recognize the non-economic losses and another 36.0% were aware that the non-economic losses were partially recognized.

8. Pilot the community-centered assessment approach within Loss and Damage programming

Finally, future investigations could go beyond the conceptual level of comparison and shift to operational testing. A community-based assessment tool for NELD, based on the above recommended stable broad domain checklist and open-ended, interconnection-sensitive components, can be tested during actual post-disaster needs assessments, national Loss and Damage mechanisms, or be implemented during future interventions with support of FRLD. Researchers would be able to compare the results of adding open-ended, community-defined loss, dignity, psychosocial well-being, future security and interconnected-loss pathways, to determine whether these differences in what losses are identified, who feels the losses most, what interventions should be prioritized, how losses are funded, and how the recovery process is evaluated. All eight recommendations are linked together in a logical and coherent way from the necessarily limited scope of the present study to a more comprehensive and more rigorously tested and, ultimately, more operational understanding of NELD in Bangladesh. If this thesis has argued that no typology of NELDs is complete without ongoing dialogue and interaction with the people whose losses it attempts to capture, then its logical and logical next step is a research agenda that continues to build the interaction, hazard-scapes, time, social groups and the institutions now tasked with translating the understanding into practice and recognition and support.

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Annexes

Annex A. Indicative Key Informant Interview (KII) Guide

Purpose: to capture how local leaders, NGO staff, and government officials in Barisal, Kurigram, and Sunamganj understand and respond to NELD, and to surface locally meaningful framings that a closed-ended household survey cannot capture. Interviewers should adapt hazard examples to the respondent's district (cyclone/tidal surge in Barisal; riverbank erosion/flooding in Kurigram; flash flooding in Sunamganj).

1. In your experience, what has changed for people in this community because of climate-related hazards specific to this district?
2. The household survey asks people to select from a list of losses. What kinds of losses do people describe that don't fit neatly into a category, or that are hard to put into words?
3. How would you describe what people here have lost, in their own words, rather than in technical or policy terms?
4. Are there losses that people consider connected to each other rather than separate — for example, does loss of livelihood also affect identity, family relationships, or hope for the future?
5. The survey shows many households report an 'uncertain future' and psychological stress. What lies behind those answers here, what are people actually worried about?
6. Who in the community is most affected by these non-economic losses, and why?
7. What have communities in this district done on their own to respond to or cope with these losses, before any outside support arrives?
8. How are these losses currently reflected, or not reflected, in local or national policy, planning, or assessment processes?
9. What would need to change for these losses to be better recognised and addressed in climate finance or Loss and Damage mechanisms, including the FRLD?
10. Is there anything important about how people experience loss in this district that outside researchers or policymakers often miss?

Annex B. Indicative Focus Group Discussion (FGD) Guide

Purpose: to elicit community narratives of loss without presenting predetermined NELD categories at the outset, complementing the structured household survey with depth and meaning. Facilitators should allow open discussion before introducing any prompts on specific themes and should adapt hazard framing to the local context (coastal/cyclone, riverine/erosion, or haor/flashflood).

1. What has changed or disappeared from your daily life because of climate-related events in recent years?
2. What do you value that you feel you cannot easily replace or recover, even with financial support?

3. How have these changes affected your relationships with family, neighbors, or your wider community?
4. What losses matter to you beyond income, property, or physical assets?
5. How have these changes affected your sense of identity, dignity, belonging, or hope for the future?
6. Can you describe a place, tradition, cultural site, or festival that has been affected, and what it meant to you?
7. How do you and others in the community cope with or respond to these losses?
8. What do you think is needed for genuine recovery, not just rebuilding houses or roads, but restoring what has been lost?
9. If you could describe these losses in your own words to someone making national or international policy, what would you want them to understand?

Annex C. Typology Development Chart Box

Working templates are used during focused and selective coding to progressively organise community expressions into a structured typology. The first row shows an illustrative example drawn from Phase 1 descriptive survey findings in Barisal (n = 300); qualitative coding will populate and refine this during KII/FGD analysis.

Domain	Sub-domain	Community Expression (illustrative quote/paraphrase)	Indicator / Observable Manifestation
Psychological & Emotional (illustrative)	Uncertain future	“We don't know what next year's flood will take from us” (paraphrased, Barisal survey, n = 251/300 reporting)	Share of respondents citing an uncertain future as a primary non-economic loss

Annex D. Expert–Community Comparison Matrix Template

Applied at the final analytical stage to compare the community-derived typology with IPCC, UNFCCC, and academic NELD frameworks.

Community-Derived Domain	Corresponding Expert Category (if any)	Convergence / Partial / Different Framing / Addition / Missing	Notes on Framing Differences	Policy / Programming Implication

Annex E. Consent and Ethics Note

- Participation is voluntary; participants may withdraw at any stage without consequence.
- Verbal or written informed consent will be obtained and documented prior to data collection.
- Confidentiality and anonymity will be maintained in all reporting unless participants explicitly consent to attribution.
- Data will be securely stored and access restricted to the research team.
- Where feasible, findings will be shared back with participating communities for validation/member-reflection.
- Facilitators will be trained to recognize and appropriately respond to distress arising from discussion of loss, grief, or displacement.

Annex F. Household Survey Questionnaire

Household Survey Questionnaire

Community-Derived Non-Economic Loss and Damage (NELD) in Bangladesh

Study areas: Barisal, Kurigram and Sunamganj
Target sample: 300 households — 100 per district
Approximate interview time: 15–20 minutes

Introduction
We are conducting research to understand how climate-related events affect people's lives beyond financial or material losses. Your participation is voluntary. Your responses will remain confidential, and you may skip any question or stop the interview at any time.

Section A — Respondent and Household Profile

1. Study district
☐ Barisal ☐ Kurigram ☐ Sunamganj

2. Respondent's gender
☐ Male ☐ Female ☐ Other/prefer not to say

3. Age group
☐ 18–29 ☐ 30–44 ☐ 45–59 ☐ 60+

4. Main livelihood of household
☐ Agriculture ☐ Fishing ☐ Livestock ☐ Wage labor ☐ Small business ☐ Service ☐ Other: _____

5. How long has your household lived in this community?
☐ <5 years ☐ 5–10 years ☐ 11–20 years ☐ More than 20 years ☐ Since birth/generations

Section B — Climate Hazard Exposure

6. Which climate-related event has affected your household most seriously during the past 10 years?
☐ Cyclone/storm
☐ Tidal surge
☐ Flood
☐ Riverbank erosion
☐ Flash flood
☐ Salinity/waterlogging
☐ Other: _____

7. How often has your household been seriously affected by climate-related events during the past 10 years?
☐ Once ☐ 2–3 times ☐ 4–5 times ☐ More than 5 times

8. Has your household ever had to temporarily or permanently leave your home because of these events?

☐ No
☐ Temporarily displaced
☐ Permanently relocated
☐ Displaced more than once

Section C — Non-Economic Loss and Damage

9. Because of climate-related events, has your household experienced any of the following?

Select all that apply.

☐ Physical health problems
☐ Stress, fear, anxiety or emotional distress
☐ Loss of important places or attachment to place
☐ Loss/change of cultural or religious practices
☐ Loss of traditional/local knowledge or skills
☐ Weakened relationships with neighbours/community
☐ Separation of family members
☐ Loss/change of identity or way of life
☐ Loss of dignity or independence
☐ Loss of hope/security about the future
☐ Loss/damage to local nature, biodiversity or ecosystems
☐ None
☐ Other: _____

10. Of all these non-economic losses, which THREE have affected you/your household the most?

1. _____
2. _____
3. _____

11. Overall, how serious have these non-economic impacts been for your household?

☐ Very low ☐ Low ☐ Moderate ☐ High ☐ Very high

Section D — Lived Experience and Meaning

For Questions 12–18:

1 = Not at all | 2 = Slightly | 3 = Moderately | 4 = Strongly | 5 = Very strongly

12. Climate-related changes have affected my sense of belonging to this place.

① ② ③ ④ ⑤

13. Climate-related changes have affected traditions, customs or cultural practices important to us.
① ② ③ ④ ⑤

14. Climate-related changes have weakened relationships or togetherness within the community.
① ② ③ ④ ⑤

15. Climate-related changes have affected my/our sense of identity or way of life.
① ② ③ ④ ⑤

16. Climate-related changes have caused continuing stress, fear, sadness or uncertainty.
① ② ③ ④ ⑤

17. Climate-related changes have reduced my sense of dignity, independence or control over my life.
① ② ③ ④ ⑤

18. Climate-related changes have made me less hopeful or secure about my family's future.
① ② ③ ④ ⑤

Section E — Relationships Between Losses

19. Do you feel that different losses are connected to each other?
For example, loss of land or livelihood may affect identity, family relationships, belonging or emotional wellbeing.

☐ Yes, strongly connected
☐ Somewhat connected
☐ Mostly separate
☐ Not sure

20. Which losses do you feel are most closely connected?
Short response: _____

21. Have these losses affected some household/community members more than others?
☐ Yes ☐ No ☐ Not sure

If yes, who has been particularly affected?
☐ Women ☐ Children ☐ Older people ☐ Persons with disabilities ☐ Poor households ☐ Displaced households ☐ Livelihood-dependent groups ☐ Other: _____

Section F — Coping and Recovery

22. What has your household/community mainly done to cope with these non-economic losses?
Select up to three.

☐ Family/community support
☐ Religious/spiritual practices
☐ Cultural/community activities
☐ Migration/relocation
☐ Changed livelihood
☐ Government assistance
☐ NGO/CSO assistance
☐ Psychological/social support
☐ Nothing specific
☐ Other: _____

23. Have you been able to recover what you feel was lost?
☐ Fully ☐ Mostly ☐ Partly ☐ Very little ☐ Not at all

24. Can financial assistance alone restore these losses?
☐ Yes, mostly
☐ Partly
☐ Very little
☐ No
☐ Not sure

25. What would help your household/community recover these losses better?
☐ Financial assistance
☐ Secure housing/land
☐ Livelihood support
☐ Health/psychosocial support
☐ Restoration of community spaces
☐ Protection of cultural practices/heritage
☐ Ecosystem/environmental restoration
☐ Stronger community networks
☐ Other: _____

Section G — Community Definition of Loss

This is the **most important open-ended part** for your community-derived approach.

26. Apart from money, property and physical assets, what is the most important thing you feel your household/community has lost because of climate-related changes?

27. Why is this loss important to you?

28. Is there any important climate-related loss that researchers, government or aid organizations usually fail to recognize?

☐ No ☐ Yes

If yes, please describe:

Section H — Recognition and Priorities

29. Do you think government and development organizations adequately recognize these non-economic losses?

☐ Yes ☐ Partly ☐ No ☐ Don't know

30. If you could tell policymakers ONE thing about the losses experienced by your community, what would you want them to understand?