

Capacity Strengthening of Multi-Actors to Limit Climate Change Impacts & Enhance Resilience (CAP-RES)

Thesis Title: Non-economic Loss and Damage in the Bangladesh Coastal Area in the Light of Ecofeminism: Focus on Child Marriage

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Rokaiya Ahmed

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Abbreviation:

NELD - Non-economic Loss and Damage.

UNFPA - United Nations Population Fund.

FAO - Food and Agriculture Organization.

UN – United Nations.

UNICEF - the United Nations International Children's Emergency Fund.

L&D – Loss and Damage.

STEM - Science, Technology, Engineering, and Mathematics.

GBV – Gender-Based Violence.

IPCC - The Intergovernmental Panel on Climate Change.

UNEP - United Nations Environment Programme.

PTSD - Post-Traumatic Stress Disorder.

SDG – Sustainable Development Goals.

Non-economic Loss and Damage in the Bangladesh Coastal Area in the Light of Ecofeminism: Focus on Child Marriage

Abstract:

Barguna, one of the largest districts in Bangladesh, is well-known for frequently experiencing natural disasters. It is in the southern region, closest to the Bay of Bengal. This densely populated area regularly faces cyclones, riverine floods, and extreme summer heat. Unfortunately, the most vulnerable groups in this district are women and children. In the context of Bangladesh's coastal regions, this study examines the relationship between ecofeminism and non-economic loss and damage (NELD), with a specific focus on the issue of child marriage. Climate change is causing environmental stress in these areas, disproportionately affecting women and girls through non-economic losses. These losses include disruptions to social structures, cultural erosion, and psychological suffering. These external pressures contribute to the prevalence of child marriage, which is already common in Bangladesh, as families resort to marrying their daughters to cope with social and economic instability. Using an ecofeminist lens, this study investigates how gendered vulnerabilities are heightened by climate change, specifically highlighting the connection between environmental degradation and the continuation of patriarchal practices such as child marriage. The study gathers perspectives from affected communities through qualitative and quantitative approaches such as focus groups, participant observation, and in-depth interviews, revealing how gender inequality and climate change intersect. The study recommends strategies that promote gender equity and empower women to address environmental issues by incorporating ecofeminist viewpoints. Ultimately, this would help Bangladesh respond to climate change more just and sustainable manner.

Keywords: Non-economic loss and damage (NELD), Gender Issue, Child Marriage, Vulnerabilities.

Chapter: 01

1.1 Introduction:

Bangladesh is one of the most vulnerable countries to climate change and is frequently highlighted as a case study for climate change adaptation studies (Brahmachari, 2023). Many of its coastal regions are susceptible to climate change and the numerous socioeconomic problems linked to non-economic losses (Aktar, 2024). The well-being, culture, and social fabric of communities are all impacted by significant non-economic Loss and Damage (L&D) issues brought on by climate change in Bangladesh's coastal districts (Sonja Ayeb-Karlsson, 2023). Some of the non-economic Loss and Damage (L&D) factors include a rise in mortality and injuries; mental health problems; waterborne diseases; loss of knowledge and practices for a living; loss of cultural heritage; forced migration and displacement; loss of access to education; loss of biodiversity and ecosystem services; impacts on gender; conflict over limited resources; increased susceptibility to human trafficking, insecurity, and domestic violence; and reduced opportunities for the future (Sonja Ayeb-Karlsson, 2023). In Bangladesh's coastal areas, climate change has caused significant non-economic Loss and Damage (L&D) that impacts the well-being, culture, and social cohesion of people (Jackson, et al., 2022). Among these are rising death rates, mental health conditions, waterborne illnesses, and the loss of cultural legacy (Elisa Calliari, 2022). It needs both gender-sensitive adaptation methods and comprehensive solutions to address these problems (Jackson, et al., 2022).

Bangladesh is experiencing serious health and social effects from climate change, with women, children, and the elderly being the most affected (Yohei Chiba, 2019). Forced migration further undermines social security and poses a danger to cultural norms, traditional knowledge systems, and social cohesion (Mohammad Budrudzaman, 2023). Reducing girls' access to economic, health, and educational possibilities is one way that child marriage, as a coping mechanism, maintains gender inequality (Bhadra, 2017). The aforementioned matter of natural disaster is especially widespread in districts that are susceptible to climate change, underscoring the want for focused

investigation and action to comprehend the relationship between child marriage and climate change in communities (Morrow, 2013).

In vulnerable areas, child marriage is a serious problem that hinders the growth and cohesiveness of the community (Omrow, 2023). The goal of the project is to study how child marriage and climate change connect, with a focus on the need for just solutions. It is consistent with ecofeminism, stressing the need to take gender-responsive climate action and empower girls by improving their access to education and better living conditions (Bindal, 2021). Ecofeminism is a philosophical and social movement that combines ecological concerns with feminist perspectives. It seeks to highlight the connections between the exploitation of nature and the oppression of women, arguing that both arise from patriarchal systems that prioritize control and domination. Ecofeminism emphasizes the disproportionate effects of climate change on women and underprivileged populations, drawing a connection between environmental degradation and social inequities (Ana Batricevic, 2019). To combat ecological deterioration, ecofeminism promotes sustainable practices, community resilience, and systemic change. It makes a connection between social and ecological challenges, promoting justice and giving people impacted more authority (Deshmukh, 2024). In addition to addressing child marriage, ecofeminism draws attention to the connections between patriarchal structures, environmental vulnerability, and gender inequality (Annette Gough, 2023). It draws attention to the gendered vulnerabilities that girls and women confront, which raises the prevalence of child marriage as a coping method. Child marriage is caused by social institutions that support the exploitation of women and the environment (Morrow, 2013). Women should have a voice in decision-making and be given the tools they need to end the cycle of child marriage, according to ecofeminism (Lilian Eguriase Bakare, 2020). Child marriage rates may rise as a result of climate change, highlighting non-financial losses and cultural upheaval (Bindal, 2021). Resolving child marriage supports gender-responsive climate action, challenges development models, and is in line with ecofeminist objectives. Ecofeminism strongly emphasizes non-financial damages and losses, such as the loss of youth and potential as well as disruptions to culture and society (Ana Batricevic, 2019).

By encouraging gender-responsive climate action, empowering girls via education and skill development, and challenging development and adaptation concepts emphasizing social

vulnerabilities and gender inequality, addressing child marriage is consistent with ecofeminist ideals (Deshmukh, 2024). Intersectional activism is encouraged by ecofeminism, which supports laws that take gender and environmental factors into account as well as access to education and community awareness (Omrow, 2023). We can more effectively address the underlying causes of environmental and social suffering by comprehending this relationship, opening the door to more just and sustainable futures.

As a suitable case study, Patharghata in the Barguna district of Southern Bangladesh, where socioeconomic vulnerabilities, child marriage, and the impact of climate change on adaptation, have been chosen. These vulnerabilities have been made worse by Barguna's exposure to extreme weather events, especially for women and children. These disasters include cyclones, coastal floods, and river erosion. Social problems, such as child marriage, have gotten worse due to a mix of factors such as poverty, remote location, and the long-term effects of environmental deterioration (Yohei Chiba, 2019). As Patharghata is a rural coastal area and riverine island, more than 60% of the population depends on agriculture as their major source of income (Md. Abdur Rahim, 2018), placing them at the forefront of the effects of climate change. Disruptions brought on by the climate, including crop failure and income loss, frequently result in coping mechanisms like child marriage, which are regarded as a means of relieving girls of their financial obligations and perceived instability (Deshmukh, 2024). The increasing number of child weddings, particularly between girls under the age of 18, emphasizes how critical it is to address these communities' social and environmental issues. The vital significance of this study topic is noted by the figures mentioned by the Bangladesh Bureau of Statistics and publications from UNFPA, UNICEF, and Plan International (UN Women, 2020).

The study can provide important new understandings of how sociocultural practices and environmental pressures combine to cause child marriage and other gender-specific problems (Jackson, et al., 2022).

1.2 Background:

Bangladesh has made progress in addressing gender inequality, but significant disparities remain due to socio-cultural norms, economic barriers, and systemic biases (Sonja Ayeb-Karlsson, 2023). Key areas of concern include education and employment, child marriage, and gender-based violence (Gaard, 2015). Women face obstacles in accessing higher education, securing employment, and entering STEM fields, resulting in low labor force participation rates (Haq, 2024). Child marriage further limits girls' access to education, economic opportunities, and health services. Additionally, political representation is inadequate, and access to healthcare - particularly reproductive health services is limited, especially in rural areas (Brahmachari, 2023).

Marginalized communities in Bangladesh, such as ethnic minorities, Indigenous groups, and lower-caste populations, have historically faced inequalities shaped by colonialism, post-independence policies, and social exclusion (Md. Abdur Rahim, 2018). In particular, groups in coastal regions struggle with issues related to land rights, political representation, and access to education and healthcare. Displacement, natural disasters, and state policies have worsened their economic and social exclusion (Edris Alam, 2010). To address these inequalities, a multi-faceted approach is essential, encompassing legal reform, social change, and economic empowerment programs.

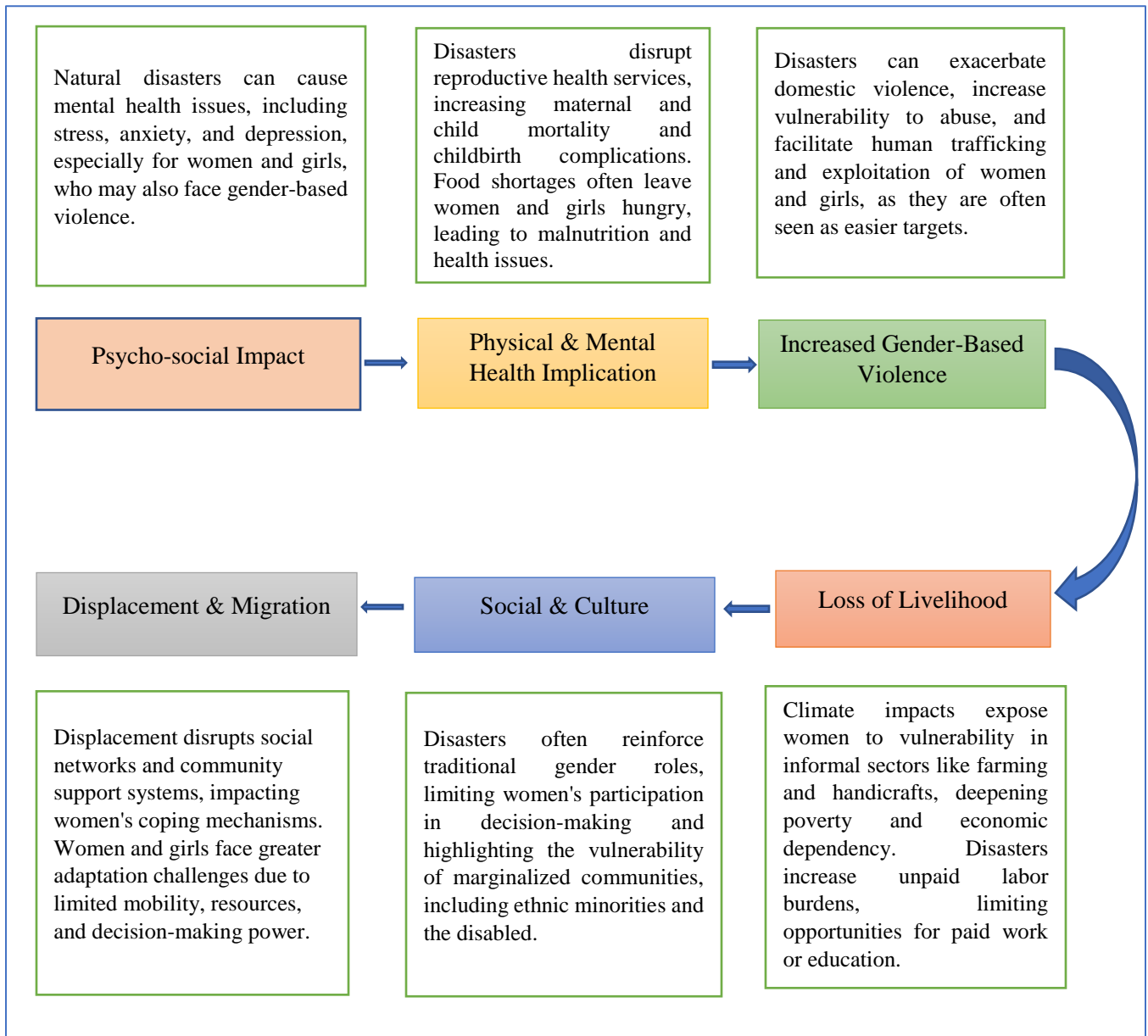


Figure 01: The Correlation Between Climate Change and Child Marriage

This figure demonstrates the way the phenomenon of climate change affects a community's social psychology, livelihood, social and cultural aspects, and displacement rate, which all rise dynamically. It is also significant that there is an increase in gender-based and domestic violence.

It is known that Climate change results in non-economic loss and damage (L&D) within coastal communities, increasing child marriage (Lilian Eguriase Bakare, 2020). There are similar studies done in India and Sri Lanka but not enough studies have been done in Bangladesh. (Bhadra, 2013).

In coastal areas, women's responsibilities are prioritized by traditional gender roles, which results in child marriages to uphold social norms (Aktar, 2024). Gender inequality increases because of climate stress, which is influenced by a patriarchal society. As a coping strategy for social instability and dislocation, child marriages can lead to parental anxiety of sexual assault (Rezwana, 2022). Climate disasters might depress girls about their future by making families vulnerable and unpredictable (Bindal, 2021). These damages encompass cultural identity, health, education, and mental well-being. In regions affected by climate change, factors such as poverty, gender inequality, and cultural norms exacerbate the prevalence of child marriage (Edris Alam, 2010). Disruptions to education, caused by events such as floods and cyclones, lead to early marriages, denying girls their right to education and limiting their future opportunities. Displacement due to climate change in coastal communities' fragmented social structures and traditional support systems (Ashrafuzzaman, 2023).

Families may resort to child marriage to uphold their honor or secure their futures, resulting in a non-economic loss of cultural identity. Climate-induced stress can distort marriage customs and traditions, which families may perceive as essential to maintaining their cultural and social standing (Mohammad Budrudzaman, 2023). Often, families regard child marriage as a coping mechanism, believing it protects their daughters. However, this practice leads to significant psychological harm for the girls involved, including isolation, early motherhood, and a loss of personal autonomy (Annette Gough, 2023).

These consequences can have lasting impacts on the mental health and well-being of individuals and communities. Climate-related disasters further exacerbate this loss of agency, as families prioritize household survival over their daughters' rights (Deshmukh, 2024). This erosion of autonomy can perpetuate cycles of poverty and dependence, making it increasingly difficult for girls to recover from the long-term effects of climate change (M Shahriar Sonet, 2024).

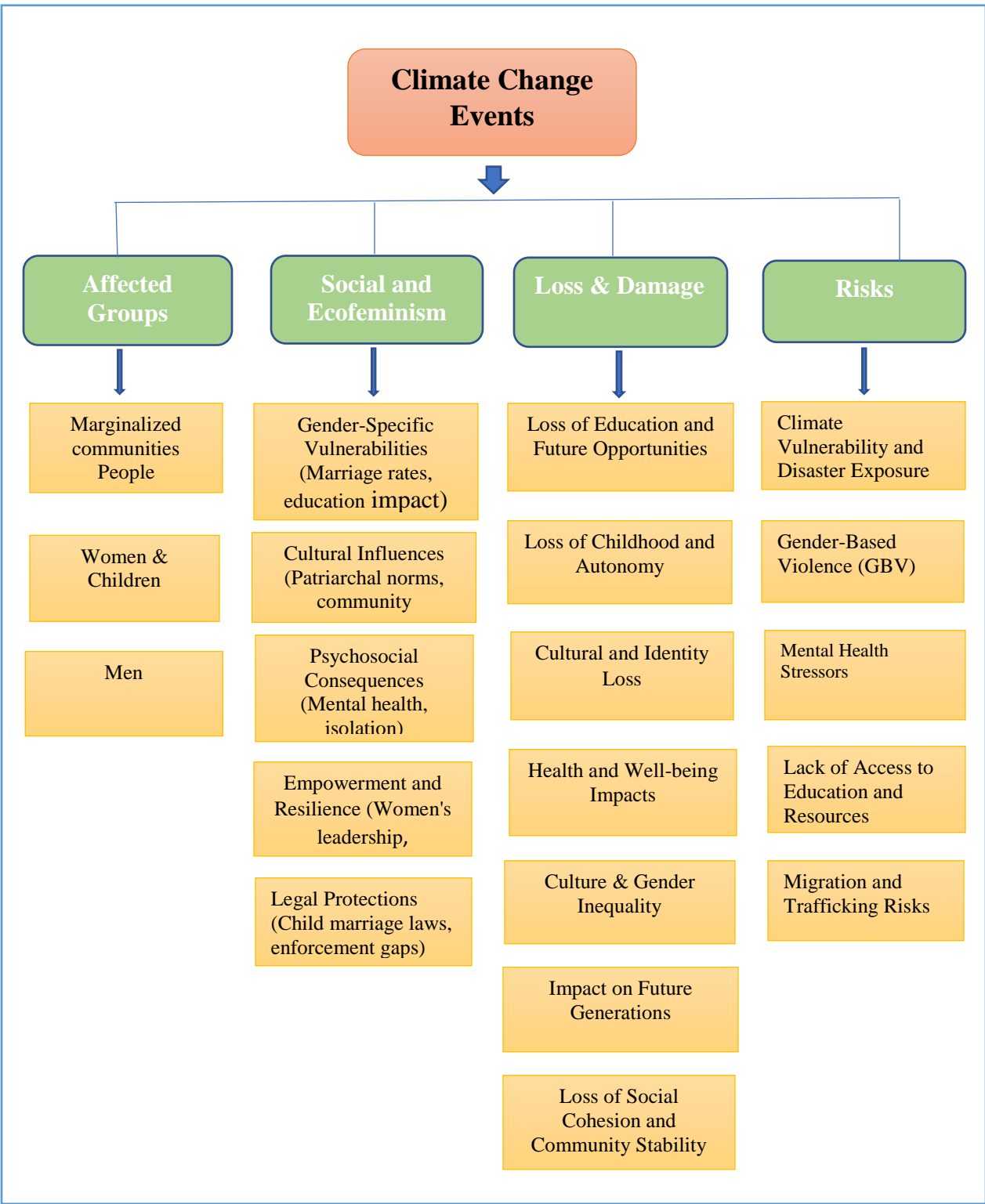


Figure: 02; The Climate Change and Child Marriage Tree

Moreover, child marriage results in significant non-economic health consequences, including early pregnancies and limited access to healthcare. Addressing child marriage as a climate issue necessitates the integration of gender-sensitive adaptation strategies that address both the economic consequences of climate change and the deep-rooted social impacts that drive child marriage and other harmful practices (Bhadra, 2017).

Ecofeminist strategies emphasize the connection between environmental sustainability and gender justice by addressing the gendered effects of climate change and highlighting women's roles in traditional economies (Ana Batricevic, 2019). These strategies empower women in natural resource management, promote traditional knowledge and agroecological practices, and integrate trees with crops and livestock. Such approaches can mitigate climate impacts, encourage sustainable practices, and enhance community resilience.

Ecofeminist climate adaptation strategies prioritize including women's voices in climate planning, addressing their unique vulnerabilities while leveraging their expertise in resource management and household economies (Bhadra, 2013). These strategies encompass sustainable livelihood opportunities, green enterprises, and support for women's cooperatives and small businesses. Ecofeminism underscores the collective strength of women in driving community-level change, fostering economic resilience, and building social capital.

Strengthening women's land tenure and resource rights is crucial for adaptive livelihoods and effective climate adaptation (Nusrat Naushin, 2023). Addressing gender-based vulnerabilities in livelihood and development planning is essential. Additionally, reducing gender-based violence (GBV) and promoting safe spaces, legal protections, and community support systems are vital.

1.3 Aim of This Study:

- ✓ The study aims to demonstrate that non-economic loss and damage factors related to climate change is one of the main underlying causes of the rise in child marriages in Patharghata, one of the coastal areas in Southern Bangladesh.

1.4 Study Area:

This research is conducted in Bangladesh's South Coastal Area Barguna District's Patharghata Upazila.

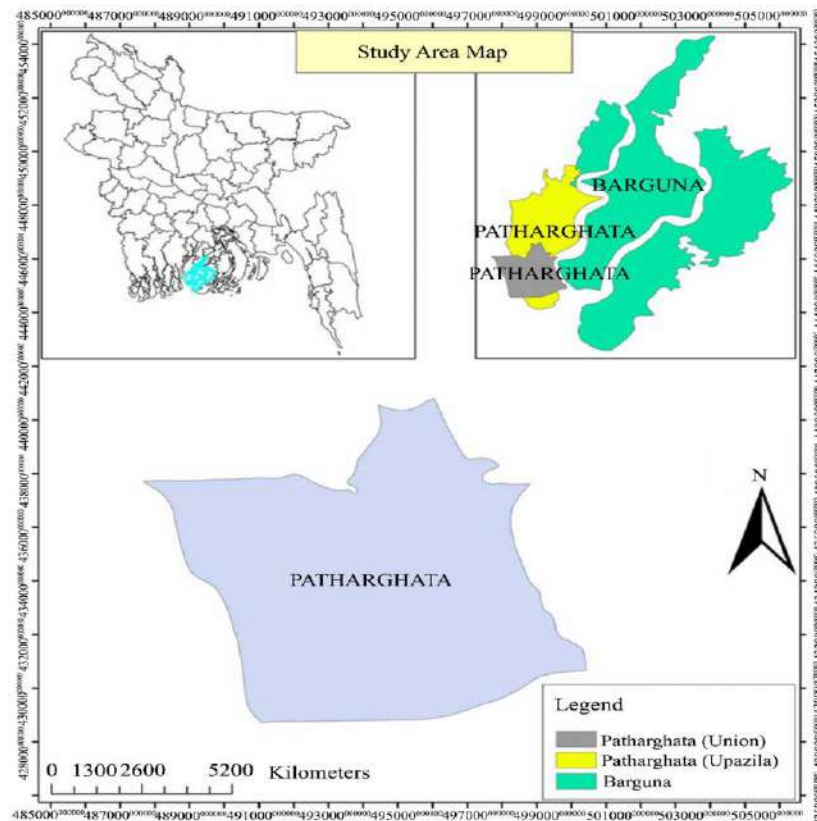


Figure:03; The Map of Patharghata [Ref: (AA Shaikh, 2021)]

1.5 Climatic History of Patharghata District

According to the geographical location, Barguna District's Patharghata Upazila is very much closer to Bishkhali, Haringhata, and Baleshwari are areas within the Patharghata Upazila, situated in the Barguna District of southern coastal Bangladesh. This region has a long-standing vulnerability to climate disasters due to its proximity to the Bay of Bengal. It frequently faces tropical cyclones, tidal surges, river erosion, and rising salinity, all of which have resulted in significant loss of life, destruction of property, and long-term impacts on livelihoods. Below is an

overview of the major climate disasters, with cyclones, flash floods, increasing water salinity, and river embankment erosion being common occurrences in Patharghata.

Patharghata has a tragic history of destruction caused by tropical cyclones, which bring severe winds, heavy rainfall, and storm surges. Notable cyclones include the 1970 Bhola Cyclone, which resulted in the deaths of 300,000 to 500,000 people across Bangladesh (Arif, 2022). Other significant storms include Sidr (2007), Aila (2009), and Amphan (2020). River erosion, particularly along the Bishkhali River, has displaced thousands of families and heightened vulnerability to further climate disasters (M Shahriar Sonet, 2024). Salinity intrusion, driven by rising sea levels and storm surges, has significantly impacted agriculture, fisheries, and drinking water supplies (Tapos Kormoker, 2017). The increasing frequency of cyclones and storm surges has pushed saline water further inland, degrading soil quality and complicating agricultural practices. This situation has also led to health issues, including skin diseases and hypertension (Arif, 2022).

Patharghata frequently experiences flooding and storm surges due to its low elevation and proximity to the Bay of Bengal (Mohammad Mahmudul Hasan, 2022). The combination of monsoon rains and storm surges results in extensive flooding that damages crops, homes, and infrastructure (Edris Alam, 2010). Rising sea levels have intensified storm surges during cyclones, worsening the destruction caused by flooding and salinity intrusion. Additionally, droughts—particularly those linked to erratic rainfall patterns caused by climate change—further strain the region, leading to water scarcity and reduced agricultural productivity (M Shahriar Sonet, 2024).

1.6 Methodology:

A comprehensive research methodology was employed, beginning with a literature review to identify and analyze relevant secondary data. This was followed by conducting interviews (KII) with experts in the field to gain in-depth insights. KII (Key Informant Interviews) is a qualitative research method used to gather in-depth insights from 2 experts who have specialized knowledge or experience related to a specific topic or community. These interviews are typically open-ended and aim to obtain first-hand knowledge and perspectives from knowledgeable individuals.

Additionally, focus group discussions (FGDs) were conducted locally to collect a range of viewpoints and promote cooperative communication. To ensure a comprehensive approach to the research, a questionnaire survey was finally used to gather quantitative data from a wider population. In the Patharghata Upazila region, five focus group discussions were held between September 27, 2024, and October 5, 2024. Each FDG had 5–15 participants, including both males and females between the ages of 35 and 60.

In the Patharghata Upazila region, a systematic questionnaire was also administered. The study was carried out in the coastal disaster-prone zone, which is one of the susceptible locations with a high prevalence of child marriage and had a population of 163,927. One hundred members of the community were chosen as a sample.

Chapter: 02

2.1 Literature Review:

Disaster-prone regions are increasingly concentrating on the critical issues of loss and damage (Aktar, 2024). Scholars have been analyzing the effects of disasters through the prism of these concepts, with each expert providing their interpretation (Edris Alam, 2010). Loss and damage encompass the material or financial losses incurred by individuals, organizations, or properties due to specific events or scenarios. Such consequences include physical pain, monetary loss, social harm, psychological distress, and environmental degradation (M Shahriar Sonet, 2024). While financial loss pertains to cash losses arising from theft, fraud, or business interruptions, physical damage specifically refers to destruction caused by accidents or natural disasters. Emotional suffering can also ensue from such events (Seck, 2021).

Cynthia Liao (2021) defines "loss and damage" in the context of climate change as the impacts resulting from inadequate efforts to mitigate global warming and insufficient adaptation to the challenges posed by rising temperatures. This issue often arises when measures to reduce greenhouse gas emissions fall short, leaving insufficient time to adapt to changing weather patterns. In discussions surrounding climate change, including research, policy formulation, and implementation of action, addressing loss and damage is paramount. Both quantifiable and

qualitative dimensions of loss and damage must be evaluated, with a focus on understanding impacts being more critical than precise measurements (Van der Geest, 2017).

The Intergovernmental Panel on Climate Change (IPCC) Working Group II report defines "loss and damage" as the harm resulting from both estimated risks and observed impacts, which may be categorized as either economic or non-economic. This definition indicates that various facets of society can be impacted by the repercussions of disasters, climate change, and related events. It is acknowledged that loss and damage cannot be entirely averted. Although mitigation and adaptation strategies can be employed, their success is contingent upon effective policy implementation and funding.

The Loss and Damage Fund recently published an article underscoring the increasing number of individuals affected by climate change. In Bangladesh, cyclones, unexpected flash floods, and unusually heavy rainfall exemplify the alarming unpredictability of the climate. Consequently, nearly 97.7% of the population is at risk from multiple hazards. According to World Data.info, Bangladesh experiences an average of four cyclones annually. The most intense storms typically occur in the months preceding (May to June) and following (October to November) the monsoon season, which coincides with the conventional cyclone season (Edris Alam, 2010).

According to the United Nations Environment Programme (UNEP), loss and damage (L&D) represent an unavoidable and irreversible consequence of the climate crisis, disproportionately affecting marginalized communities. L&D is classified into two distinct categories:

- i. Economic Loss and Damage: This category entails reductions in agricultural productivity and damage to infrastructure, leading to enduring impacts that result in significant financial costs.*
- ii. Non-Economic Loss and Damage: This encompasses adverse effects on communities, including detrimental impacts on physical health, education, cultural heritage, overall well-being, and environmental services, as well as the necessity for population relocation.*

In Bangladesh, coastal regions are particularly vulnerable to climate change and natural disasters, making women and children some of the most marginalized groups in these areas (Ashrafuzzaman, 2023). The social, cultural, economic, and well-being aspects of gender become increasingly at

risk during environmental catastrophes. Marginalized groups tend to have weak resilience strategies. The society in Bangladesh is largely "patriarchal," where traditional social norms place men in dominant roles. As a result, women are often viewed as fragile and marginalized, perceived as incapable of making their own decisions (Bhadra, 2017). Decisions about their lives are typically made by their fathers, who are considered the heads of their families. This dynamic has led to an increase in adolescent marriages in coastal areas (Gaard, 2015).

Following the COVID-19 pandemic, the rate of child marriages has steadily risen, with families prioritizing marriage over education. Women are more likely than men to flee after natural disasters or climate-related events, as child marriage and prevailing societal norms contribute to heightened displacement (Mohammad Budrudzaman, 2023). Women often lack the voice to challenge societal norms and cannot defend themselves during natural disasters (Morrow, 2013). In Bangladesh's coastal regions, families are marrying off their daughters at a young age due to financial instability and rising poverty caused by climate change (Bindal, 2021).



Figure: 04; Individual Interview of Local Women

This trend reflects the impact on long-term gender equality, economic desperation, and limited access to education (M Shahriar Sonet, 2024). Ecofeminism connects the oppression of women, especially in patriarchal societies, with the exploitation of the natural world. In Bangladesh,

climate-related pressures that lead to child marriage—an indicator of structural gender inequality—make women in coastal areas more vulnerable (Ana Batricevic, 2019). Ecofeminist perspectives stress the importance of gender-sensitive climate adaptation strategies (Gaard, 2015).

Empirical research on case studies from coastal communities in Bangladesh shows that increased salinity, decreased agricultural productivity, and displacement are linked to higher rates of child marriage (Nusrat Naushin, 2023). Climate change is associated with a rise in child marriage in these regions; an ecofeminist framework can help clarify the connection between environmental degradation and patriarchal systems (Mohammad Mahmudul Hasan, 2022). Women are more likely than men to evacuate following natural disasters or climatic events, a situation worsened by the social context (Haq, 2024). Families in Bangladesh's coastal areas continue to marry off their daughters at a young age due to financial instability and increased poverty caused by climate change (Edris Alam, 2010).

The paper “*Climate Change Disasters and Impact on Women in South Asia*” the author mainly highlights the disproportionate impacts of climate change and disasters on women due to socio-economic, cultural, and gender inequalities. Women face higher vulnerability to climate-induced disasters due to limited access to resources, restricted mobility, and societal roles. In this paper author mentioned that women are mainly primary caregivers and depend on natural resources for livelihoods, making women and female children more affected by resource scarcity. Disasters also have gendered impacts, including increased exposure to malnutrition, waterborne diseases, psychological stress, and a higher risk of gender-based violence, trafficking, and exploitation. Cultural constraints and gender norms often restrict women’s participation in decision-making processes and access to disaster relief services.

Child marriage and education disruption are also common issues. Women’s traditional knowledge and roles in community management can help build resilience and adapt to climate change. Policy recommendations include advocating for gender-responsive policies, ensuring women’s active participation in decision-making processes, and improving access to resources like credit education, health, and other fundamental rights. On the other hand, the paper “*Non-Economic Losses and Damages Due to Increased River Salinity: A Qualitative Study from Satkhira*

Bangladesh” by Budruzaman, Baernighausen, and Selim (2023) provides a comprehensive analysis of the impact of increased river salinity on livelihoods, ecosystems, and social cohesion in the climate-vulnerable regions mainly in coastal areas. The research mainly concentrated the importance on the non-economic losses and damages, which include cultural loss, mental health effects, and disruption of social cohesion. The key factors of these papers are –

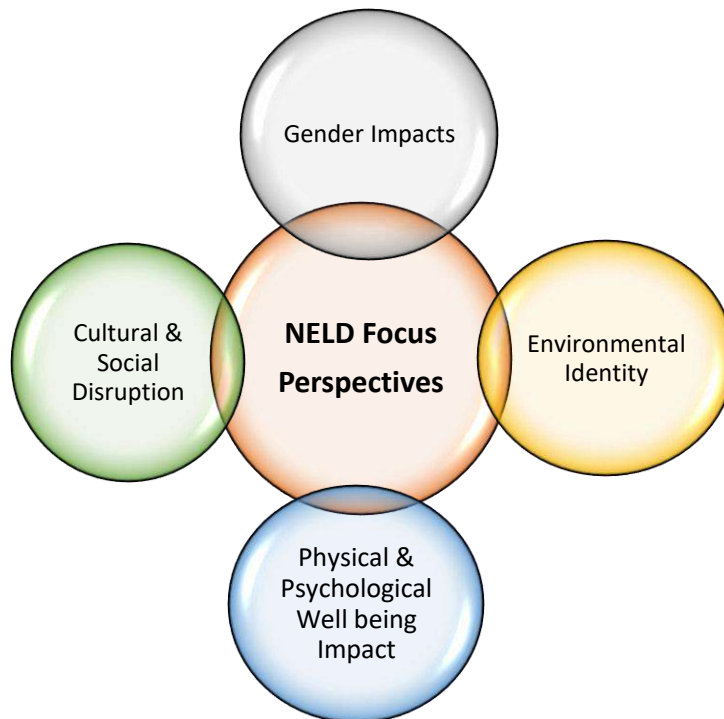


Figure: 05; The Interconnection Objectives of NELD

- Gender-based violence (GBV) and non-economic dimensions of loss and damage (NELD) are both impacted by climate change.
- Climate-related disasters raise the prevalence of GBV, which includes trafficking, sexual exploitation, and domestic violence.
- Emotional distress, the loss of traditional knowledge, and disturbances to social ties and cultural traditions are among the losses that NELD focuses on that have a monetary value.
- The integration of gender and NELD views into mitigation methods for climate adaptation is advocated.

- The effects of environmental stress and natural disasters on ecosystems, livelihoods, and social cohesion in climate-vulnerable areas are examined by NELD.
- The significance of the NELD is emphasized, along with the impacts on mental health, social cohesiveness disturbance, and cultural loss.

The integration of NELDs into L&D mechanisms, the encouragement of gender-responsive adaptation, the promotion of regional adaptable strategies, and the advancement of global frameworks to consider NELDs are among the implications for policy research

2.2 Expertise Point of View (1): On L&D Analysis on Child Marriage of Climate Change Perspective

Dr. Haseeb Irfanullah received his PhD on a Commonwealth Scholarship after earning a BSc and MSc in plant biology and botany from the University of Dhaka. His areas of interest in his professional life are environmental governance, adaptation to climate change, catastrophe risk reduction, technological innovation, poverty alleviation, academic communications, and human well-being research.

In various capacities, he has worked for some national and international organizations related to learning, development, the environment, and research, such as the World Wildlife Fund (WWF), Practical Action, University of Liberal Arts Bangladesh, ICCCAD/IUB, Save the Children International, British Council, US Embassy, Bangladesh Academy of Sciences, and BRAC University (of Bangladesh), INASP, Itad, The Association of Commonwealth Universities, University of Oxford, Commonwealth Scholarship Commission, Center for Alternative Technology, and ALPSP (of the UK), ME&A Inc., Tetra Tech ARD, Cimpatiko Studios Inc., World Vision International, and Society for Scholarly Publishing (of the USA), and APN), donors (ADB & FCDO/DFID), and agencies of my government.

In addition, he has affiliations with a large number of academic institutions, funding organizations, professional associations, and scientific journals. His primary responsibilities include providing strategic guidance and professional opinion, organizing, supervising, and guaranteeing the standard of programs, as well as managing finances and fundraising. He also influences policy and practice.

He is an expert in assessing and promoting new ideas, developing, capturing, and disseminating knowledge, as well as networks and collaboration. To date, he and his colleagues have coauthored, edited, and contributed to over 55 books and other publications; they have also published over 40 journal articles; and they have written approximately 150 articles and thought pieces on a wide range of subjects, including freshwater ecosystems, research communication, poverty-technology links, and climate change adaptation.

Dr. Irfanullah Sir's Response: It's an in-depth analytical process; before beginning work on loss and damage in 2019, he didn't know a lot about it. Following that, he began to read more and work toward comprehending the L&D philosophy. He eventually realized that there is a great deal of variation in L&D depending on the subject, goal, and context.

2.2.1 Challenges in Identifying Non-Economic Losses in Climate-Related Damage and Loss: The Difficulties in Assessing Cultural Identity and Knowledge Systems

In response to this inquiry, Dr. Irfanullah Sir stated that he was involved with the Food and Agriculture Organization (FAO) from 2020 to 2021. During this period, the organization submitted a synthesis paper to the Transitional Committee titled "FAO's Synthesis Paper on Loss and Damage Financial Mechanisms for Agri-food Systems." The paper addressed the increasing threat that climate change poses to agriculture and food security, particularly for vulnerable communities. It emphasizes the need for innovative solutions, enhanced data collection, increased funding, and strong political commitment to tackle these challenges.

The paper underscores the importance of financial tools, such as the Loss and Damage Fund established at COP27, to facilitate rehabilitation for affected communities and bolster resilience. To enable food systems to endure and recover from climate-related impacts, the research calls for improved policy frameworks that integrate loss and damage considerations into national climate plans while fostering collaboration at both local and international levels.

2.2.1.1 Cultural Loss: Indigenous groups attribute significant cultural and spiritual value to wetlands, and their destruction can lead to the irreversible loss of customs, ceremonies, and practices that cannot be compensated financially.

2.2.1.2 Loss of Biodiversity: Wetlands are critical hotspots for biodiversity; however, natural disasters and climate change can severely disrupt the ecological services they provide, including water purification, carbon sequestration, and pollination.

2.2.1.3 Social and Identity Loss: Traditional knowledge systems within wetland ecosystems are vital for managing water, agriculture, and fishing. Damage to these systems can undermine livelihoods, alter subsistence methods, and threaten social cohesion, particularly among women and Indigenous communities.

2.2.1.4 Mental Health and Well-Being: Environmental degradation can have significant emotional and psychological effects, especially for communities whose lifestyles and livelihoods heavily depend on wetlands. Issues such as "eco-anxiety" or "solastalgia"—the distress caused by environmental changes affecting individuals closely tied to their local ecosystems—may emerge from feelings of helplessness and grief over the loss of familiar environments.

2.2.1.5 Loss of Ecosystem Services: The degradation of wetlands can lead to an increase in future natural disasters and reduced resilience to climate change. Wetlands offer essential non-economic services, including flood regulation and coastal protection. Addressing these losses necessitates the incorporation of cultural, social, and environmental considerations into development frameworks.

Quantifying non-economic losses resulting from climate-induced loss and damage (L&D) is challenging for several reasons, including subjectivity, intangibility, a lack of established methodologies, data scarcity, complex interconnections, and varying values across cultures and locations. These values often intertwine with other types of losses, such as environmental, societal, and economic damages. Non-economic damages are particularly hard to measure due to cultural relativism, which can lead to misunderstandings or perceptions of inappropriateness among individuals from different backgrounds. Additionally, monetizing cultural and spiritual values

raises ethical concerns, as these values may not be universally acceptable or beneficial. Furthermore, many countries lack the institutional capacity to assess and manage non-economic losses, complicating their integration into loss prevention and national climate action programs.

2.2.2 The way that loss and damage exacerbate gender disparities in women's livelihoods in coastal areas is known as "compounding inequality."

Bangladesh has made progress in addressing gender inequality; however, disparities continue to exist due to socio-cultural norms, economic barriers, and systemic biases. Key areas of concern include education and employment, child marriage, and gender-based violence. Women encounter obstacles in higher education, employment, and STEM fields, leading to low participation rates in the labor force. Child marriage further restricts girls' access to education, economic opportunities, and health services. Political representation for women remains low, and access to healthcare—particularly reproductive health services—is limited, especially in rural areas.

Moreover, marginalized communities in Bangladesh, including ethnic minorities, Indigenous groups, and lower-caste populations, have historically faced inequalities shaped by colonialism, post-independence policies, and social exclusion. These primarily marginalized groups, especially in coastal regions, struggle with issues related to land rights, political representation, and access to education and healthcare. Displacement, natural disasters, and state policies have worsened their economic and social exclusion. Dalit communities and religious minorities also experience discrimination and limited access to education and healthcare. To effectively address these inequalities, a multi-faceted approach is required, involving legal reform, social change, and economic empowerment programs.

2.2.3 Ecofeminist Strategies for Empowering Women in Traditional Economies: Addressing Loss and Damage in Climate-Affected Communities

Dr. Irfanullah explains that ecofeminist strategies highlight the link between environmental sustainability and gender justice. They focus on the gendered impacts of climate change and emphasize women's roles in traditional economies. Key strategies include empowering women in

natural resource management, promoting traditional knowledge and agroecological practices, and integrating trees with crops and livestock. These approaches can mitigate climate impacts, encourage sustainable practices, and enhance community resilience.

- ✓ Ecofeminist climate adaptation strategies involve incorporating women's perspectives into climate planning, addressing their unique vulnerabilities, and utilizing their expertise in resource management and household economies.
- ✓ These strategies also support sustainable livelihood opportunities, green enterprises, and women's cooperatives and small businesses.
- ✓ Ecofeminism underscores women's collective strength in fostering community-level change and enhancing economic resilience and social capital. Strengthening land tenure and resource rights for women is vital for adaptive livelihoods and climate resilience.
- ✓ It is essential to address gender-based vulnerabilities in livelihood and development planning. This includes reducing gender-based violence (GBV) and promoting safe spaces, legal protections, and community support systems.

Overall, ecofeminist strategies for climate adaptation prioritize sustainable livelihoods, women's empowerment, and the integration of traditional knowledge. These strategies foster resilient, gender-inclusive solutions that contribute to both environmental and social sustainability.

2.2.4 Linking Child Marriage to Non-Economic Loss and Damage: The Effect of Climate Change on Coastal Communities at Risk

Climate change leads to non-economic loss and damage (L&D) in coastal communities, contributing to the prevalence of child marriage. These damages encompass losses to cultural identity, health, education, and mental well-being. In regions affected by climate change, issues such as poverty, gender inequality, and cultural norms intensify the problem of child marriage. Disruptions in education caused by events like floods and cyclones often result in early marriages, depriving girls of their right to education and restricting their future opportunities. Climate-induced displacement in coastal areas disrupts social structures and traditional support systems, prompting

families to resort to child marriage as a means of protecting family honor or securing futures, which represents a non-economic loss of cultural identity.

Moreover, climate-induced stress can distort marriage customs and traditions, with families often viewing child marriage as a protective measure for their daughters. However, this practice inflicts psychological damage on the girls involved, leading to isolation, early motherhood, and a loss of personal autonomy. Such losses have far-reaching consequences for the mental health and well-being of both individuals and communities. Climate disasters further exacerbate this loss of agency, as families prioritize survival over their daughters' rights. This erosion of autonomy can perpetuate cycles of poverty and dependence, making it increasingly challenging for girls to recover from the long-term impacts of climate change.

Additionally, child marriage has significant non-economic health consequences, including early pregnancies and limited access to healthcare. To effectively address child marriage as a climate issue, it is essential to integrate gender-sensitive adaptation strategies that confront both the economic effects of climate change and the deep-rooted social factors that underpin child marriage and other harmful practices.

2.3 Expertise Point of View (2): On L&D Analysis on Child Marriage of Climate Change Perspective

Nazmul Ahsan Manages the Young People Team at ActionAid Bangladesh, bringing extensive expertise in youth empowerment and leadership development. He designs and implements programs that mobilize young people, enhance their leadership skills, and promote government accountability.

Nazmul's work primarily revolves around youth programming, advocacy, capacity development, and building networks and platforms. He spearheads initiatives that enable young people to create their platforms, contextualize their agendas, and boost their skills. He also facilitates evidence-based policy advocacy, particularly about the Sustainable Development Goals (SDGs), and engages youth in combating social exclusion and marginalization.

Before joining ActionAid, Nazmul worked with Steps Towards Development, a national organization where he concentrated on gender issues. His expertise includes youth leadership and empowerment, participatory methodologies, policy advocacy, human rights, social justice, and gender-sensitive programming.

2.3.1 The Intersecting Factors like Ethnicity, Gender, and Socio-Economic Status Exacerbate the Non-Economic Losses of Climate Change

Nazmul Ahsan pointed out that climate change precipitates not only economic damages but also intangible non-economic losses (NELs), including the erosion of cultural identity, disruption of knowledge systems, and loss of heritage. These losses, particularly in vulnerable communities, are critical yet challenging to quantify and address within policy and decision-making frameworks.

NELs are inherently subjective and vary significantly among individuals and communities. Existing assessments often emphasize tangible and quantifiable outcomes, thereby neglecting cultural and knowledge-based losses. Cultural identities and knowledge systems exhibit considerable variation across regions, complicating the development of universal indicators. Marginalized groups, such as Indigenous peoples, women, and youth, frequently experience NELs disproportionately, and their perspectives are often excluded from climate policy discussions.

The ramifications of NELs can extend across generations, resulting in long-term cultural and practical consequences. Additionally, there is limited awareness and recognition of NELs within global climate frameworks.

Participatory approaches are imperative to address these challenges. This includes engaging local and Indigenous communities in the co-development of assessment frameworks, establishing qualitative and context-specific indicators, enhancing local capacities to document and preserve cultural identities and knowledge systems, and elevating the visibility of NELs within international agreements and funding mechanisms. Interdisciplinary collaborations among anthropology, sociology, and environmental science can yield a comprehensive understanding of NELs and inform effective strategies.

2.3.2 The Role of Legal Frameworks in Combating Child Marriage as a Climate-Induced Non-Economic Loss

He noted that the inquiry addresses the complex interrelationship between non-economic loss and damage (NELD) in the coastal regions of Bangladesh, particularly within the context of ecofeminism. This examination highlights the convergence of gender, environmental concerns, and systemic inequalities, illustrating how environmental degradation and climate-induced hazards exacerbate gender-specific social challenges, such as child marriage.

The policy implications associated with this issue include gender inequality and marginalization, inadequate legal enforcement, a lack of gender-sensitive climate policies, insufficient social safety nets, disruptions in education and skills development, limited participation of women in decision-making processes, erosion of Indigenous Knowledge Systems, increased pressure on natural resources, vulnerability to climate displacement, and reduced community resilience.

He recommended the integration of gender perspectives into climate policies, the strengthening of legal frameworks and enforcement mechanisms, investment in education and skills development for girls, provision of economic support to families, promotion of women's leadership, and preservation of indigenous knowledge systems. These recommendations aim to address the interconnected challenges of child marriage and environmental degradation in the coastal areas of Bangladesh by implementing gender-sensitive strategies, empowering women, and fostering community resilience.

He also addressed child marriage as a form of non-economic loss and damage in the coastal regions of Bangladesh requires a multidimensional approach grounded in ecofeminism. Policies should prioritize the reduction of gendered vulnerabilities while also acknowledging the environmental and cultural impacts of these losses. By incorporating gender-sensitive strategies, empowering women, and building community resilience, Bangladesh can effectively tackle the intertwined issues of child marriage and environmental degradation in its coastal areas.

- ✓ Climate-induced disasters contribute to economic instability, prompting families to perceive child marriage as a coping mechanism.
- ✓ Climate change disrupts traditional support systems, exacerbating girls' vulnerability to early marriage.
- ✓ Environmental shocks hinder educational access, thereby increasing the likelihood of early marriage.
- ✓ Current legislation prohibits the marriage of girls under the age of 18 and boys under the age of 21.
- ✓ The National Strategy for Ending Child Marriage (2015-2030) underscores the importance of awareness campaigns, educational access, and legal enforcement.
- ✓ Bangladesh is a signatory to various international conventions, including the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) and the United Nations Sustainable Development Goals (SDGs).
- ✓ Families residing in disaster-affected areas frequently prioritize survival over compliance with legal regulations.
- ✓ Deeply entrenched patriarchal values often conflict with legal provisions, hindering enforcement efforts.
- ✓ Limited resources allocated to local law enforcement and insufficient training for officials detract from the effectiveness of existing laws.
- ✓ Current disaster management frameworks frequently neglect the specific vulnerabilities faced by girls.
- ✓ It is essential to acknowledge and address the influence of climate-induced vulnerabilities on child marriage within national legal frameworks.
- ✓ The "special provision" clause in the Child Marriage Restraint Act should be abolished.
- ✓ Local governments should be empowered to efficiently monitor and report instances of child marriage.
- ✓ Comprehensive policies must be established to integrate child marriage prevention efforts with disaster preparedness and recovery initiatives.
- ✓ Extensive campaigns should be conducted to educate communities regarding the illegality and long-term implications of child marriage.

- ✓ Legal frameworks can serve to protect girls' education, health, and rights.
- ✓ Addressing child marriage enhances families' adaptive capacities and alleviates long-term social and environmental vulnerabilities.
- ✓ Legal frameworks are instrumental in empowering women and enhancing their contributions to climate adaptation strategies.

Chapter: 03

3.1 Field Survey Analysis:

For this field study, a questionnaire survey was conducted on 100 respondent variables sample with married children both male and female respondents were included. The major goal of this study is to find out when people got married, what their current marital status is, why there are child marriages, and how climate-related events may be contributing to child marriages.

3.1.1 Gender

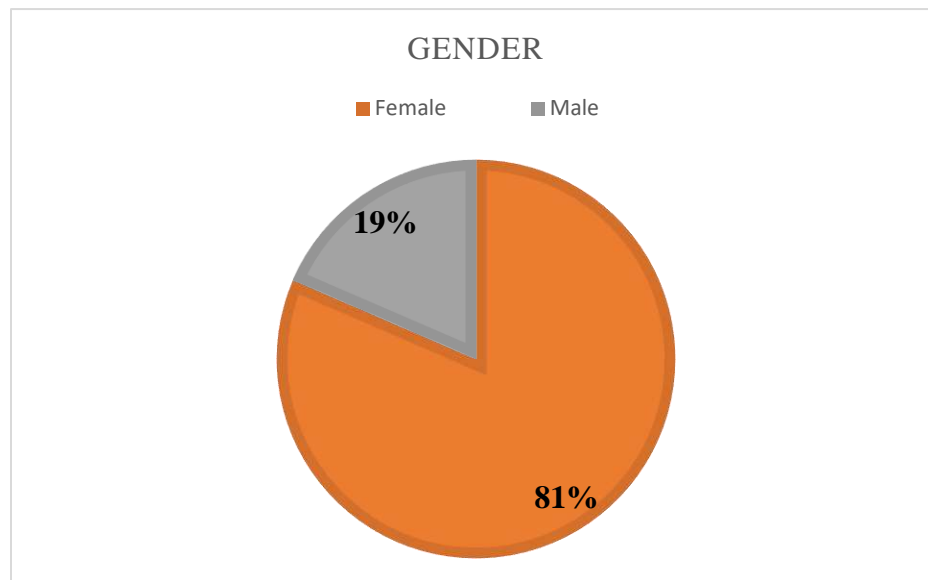


Figure:06; The Survey on Gender Response

From, the 100 responses, 81% are female and 19% are male. They shared personal information like their age when they got married, their current marital status, and their educational qualification so that we can easily understand at what age they prefer to get married and how climate change drivers are affecting child marriage.

3.1.2 Educational Qualification

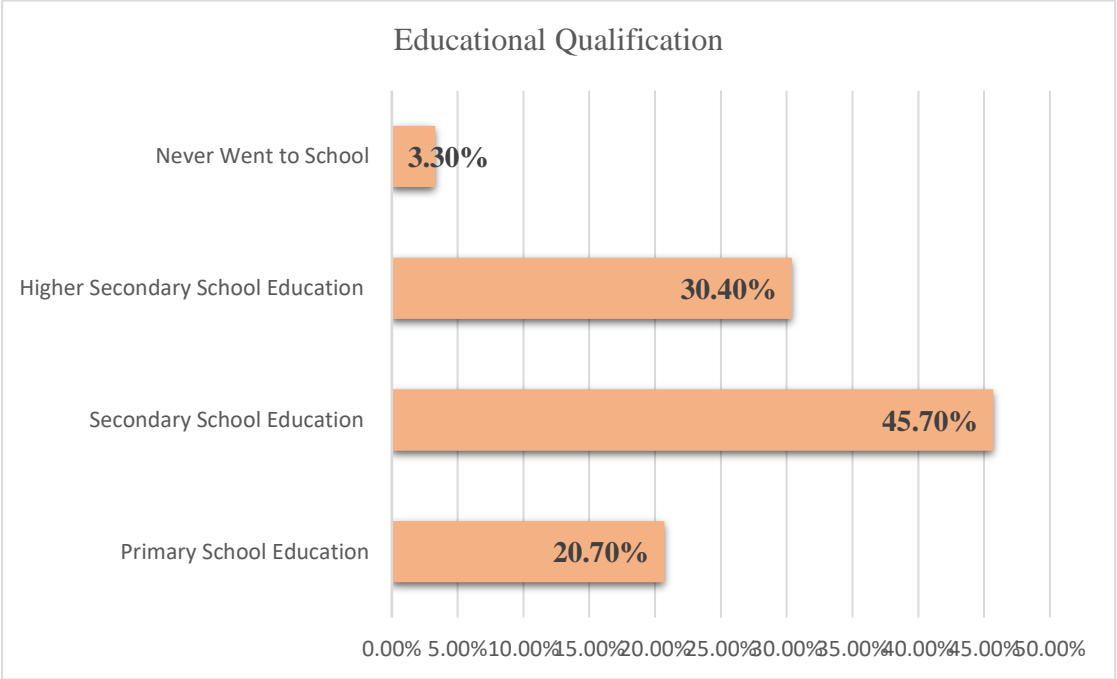


Figure No: 07; Respond of Variables Educational Qualification

According to a survey, 20.7% of respondents in Patharghata Upazila finished elementary school, 45.7% made it to secondary school, and 30.4% went on to higher secondary education. Due to social norms, access issues, or poverty, 3.3% of the population did not attend school. The community's issues in achieving universal education access are highlighted by the minority, who either end up after primary school or do not obtain any formal education, while a significant portion of the community completes secondary education.

3.1.3 Age of Marriage

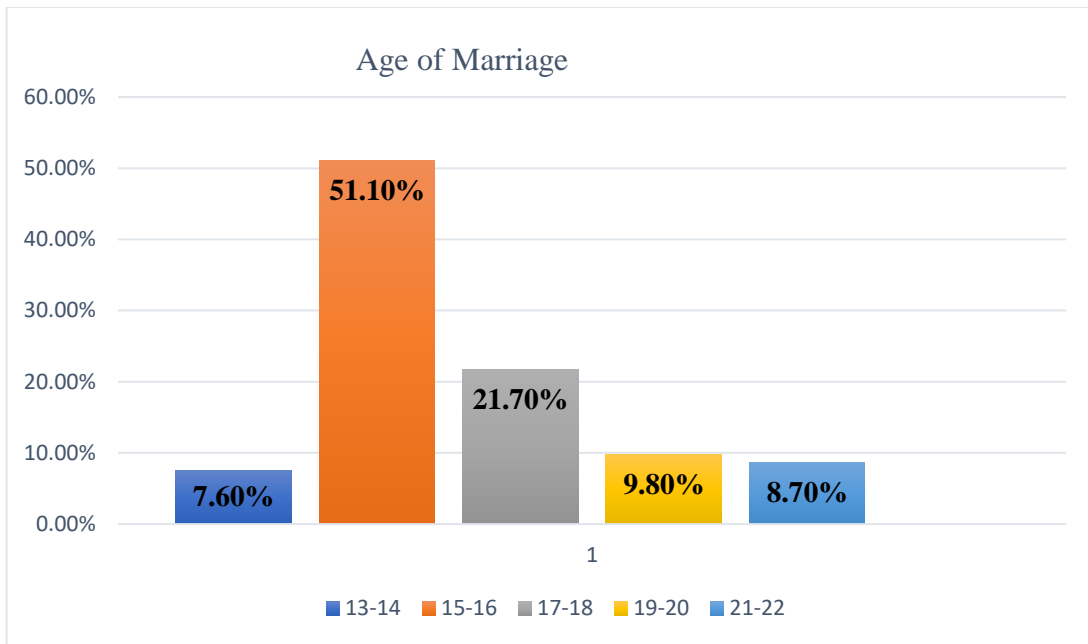


Figure No: 08; Respond of Variables Age of Got Married

Child marriage is a serious problem in Patharghata Upazila, especially for women. According to the data, 51.1% of women married between the ages of 15 and 16, and 7.6% married between the ages of 13 and 14. This suggests that half of all women were married before the age of 17 when they might not have been ready for marriage and parenthood. A lower percentage of marriages is indicated by the reductions to 21.7% at 17-18 and 8.7% at 21-22. Most men marry between the ages of 21 and 22, tending to marry later in life. The gender gap emphasizes the necessity of focused efforts, especially for young women, to combat early marriage. Increasing knowledge of the detrimental effects of child marriage, encouraging education, and providing alternatives or financial incentives could all aid in halting this worrying trend.

3.1.4 Marital Status:

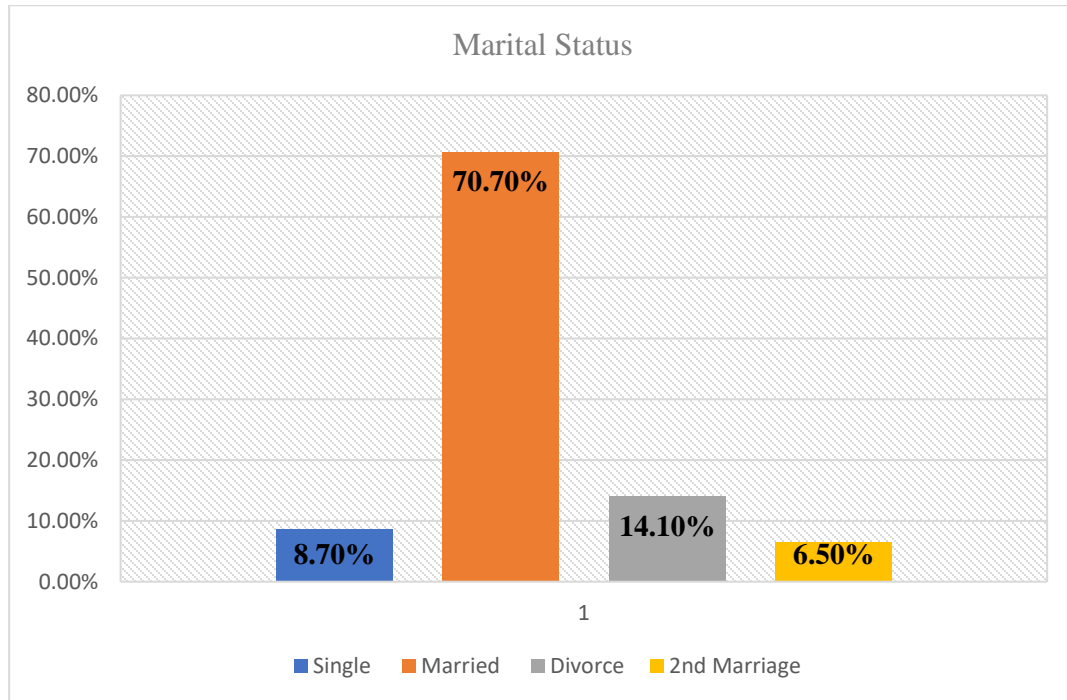


Figure No: 09; Respond of Variables Marital Status

According to a Patharghata Upazila survey, 8.7% of participants are unmarried, while 70.7% are married, which is consistent with cultural norms. The high 14.1% divorce rate points to rising economic and social pressures. Furthermore, a growing number of women—6.5%—have remarried following their first marriage. Significant changes in gender relations and marital patterns appear from these statistics, which may be the result of shifting social standards, economic stress, or gender-based inequalities.

3.1.5 The Main Drivers of Child Marriage in Bangladesh Coastal Area Patharghata

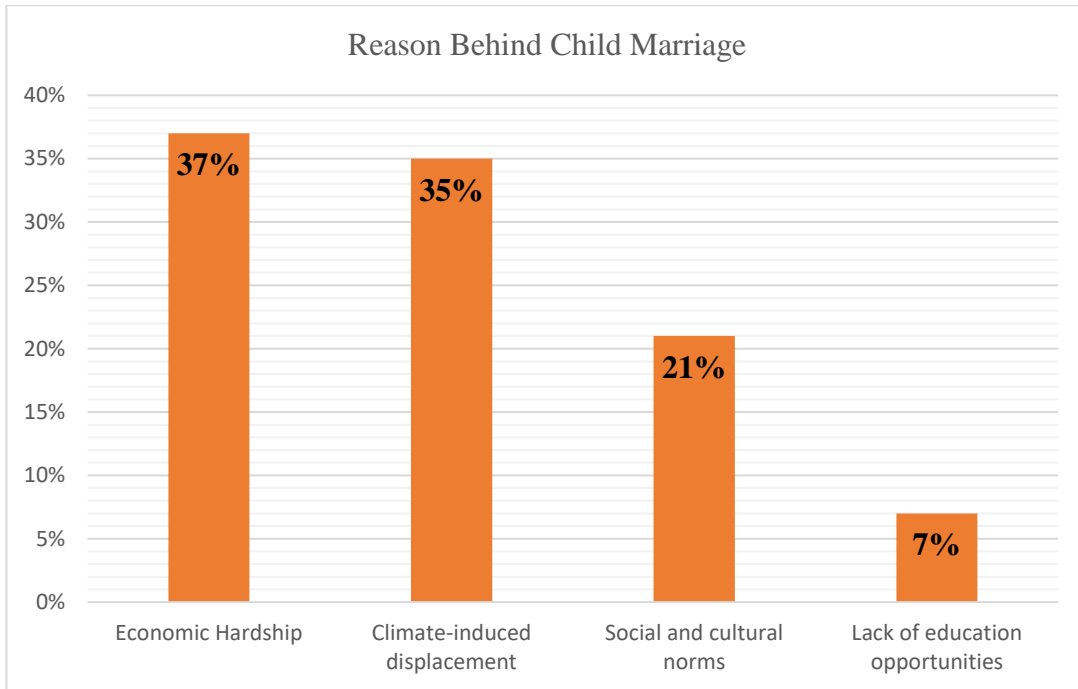


Figure No: 10; Respond of Variables Reasons to Child Marriage

A survey in Patharghata Upazila revealed that economic hardship is the primary driver of early marriage, with 37% of respondents citing financial struggles as the primary reason. Climate-induced displacement, particularly in coastal areas, is a second significant factor, with climate events like floods, cyclones, and riverbank erosion causing instability and forcing families to marry their daughters early. Social and cultural norms, cited by 21% of respondents, are another significant factor, with even well-off families supporting child marriage due to their strong influence on the community's culture. Limited access to education, with 7% of respondents stating that limited access to education leads to child marriage, highlights the complex nature of child marriage in Patharghata.

3.1.6 The Main Aspect of Climate Change Mostly Influences Child Marriage

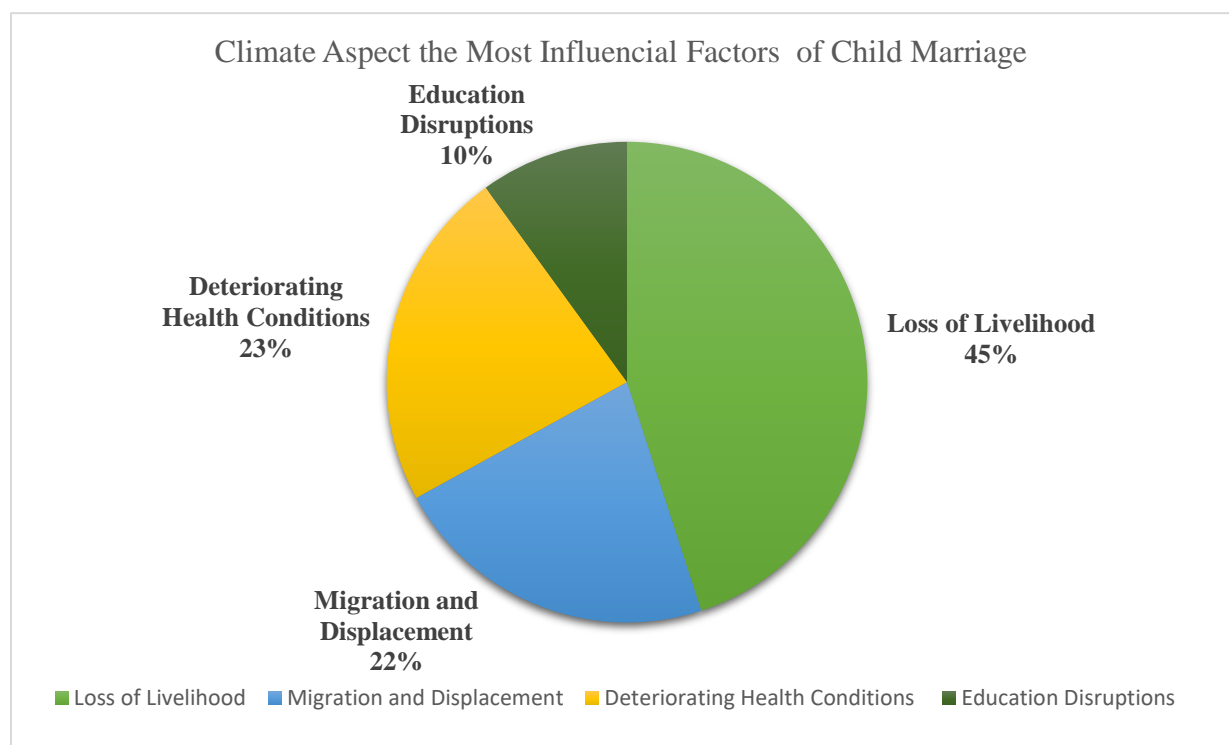


Figure No: 11; Respond of Variables Most Influential Factors of Child Marriage

A survey from Patharghata Upazila reveals that climate change can significantly influence child marriage, especially in vulnerable communities. The study found that 45% of participants identified loss of livelihood as a major factor leading to early marriage, often as a coping mechanism. 22% of participants highlighted displacement and migration as another climate-related trigger, often resulting in young girls being uprooted. 23% of participants expressed concern about health risks associated with early marriage due to climate pressures, which can lead to early pregnancies, miscarriages, and other health issues. 10% of participants linked early marriage with disruptions in educational opportunities, as families prioritize survival over continued education, especially for girls. The findings highlight the need for gender-responsive climate policies to address both environmental and socio-cultural challenges exacerbated by climate impacts.

3.1.7 Non-economic Losses Lead to Child Marriage [e.g; Cultural, Social or Identity-Based Losses]

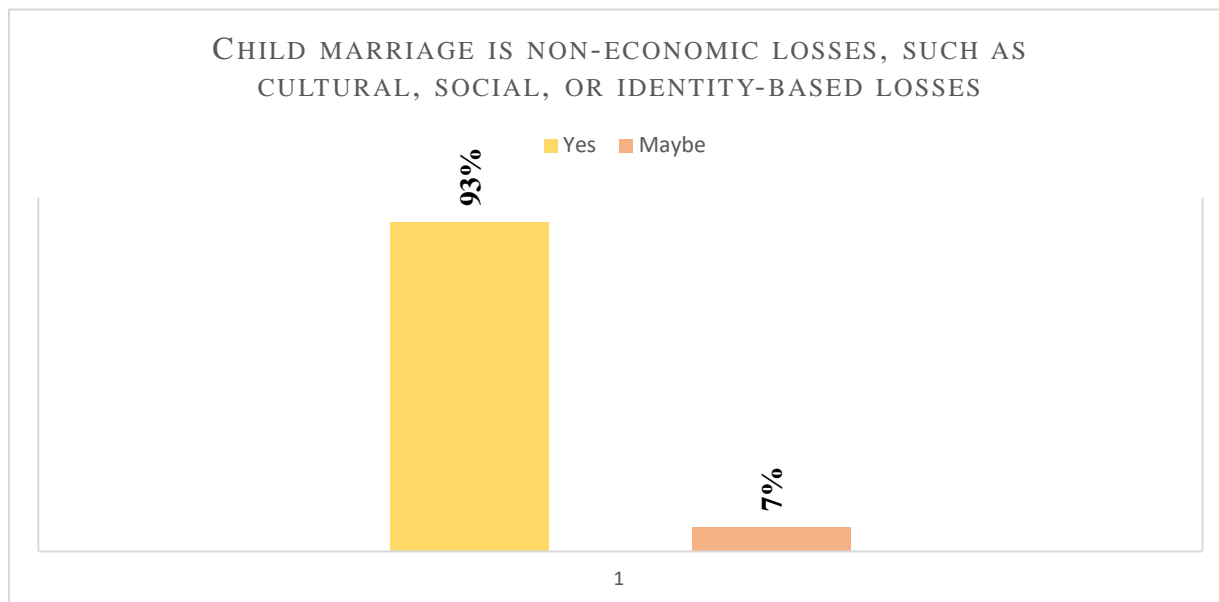


Figure No: 12; Respond of Variables non-economic losses, such as cultural, social, or identity-based losses

Non-economic losses (NELs) are significant factors contributing to child marriage. These losses can include cultural and social disintegration, social security and gender norms, loss of identity and belonging, and the impact on women's roles and agency. Climate change can weaken traditional livelihoods, weaken cultural practices, and lead to early marriage as a way to maintain social structure. Social security and gender norms can also heighten vulnerability, with families marrying off daughters early to provide perceived security or stability. Loss of identity and belonging can also lead to early marriage as a way to provide stability in an environment where traditional markers of identity have been lost.

The diminished agency of women in the face of climate challenges can also make them more vulnerable to early marriage. These non-economic losses are deeply connected to identity and social dynamics, reshaping society and putting vulnerable groups, like young girls, at higher risk of harmful practices such as child marriage.

3.1.8 Child Marriage Impacts Women's Long-Term Well-being in Climate-Vulnerable Coastal Area Patharghata

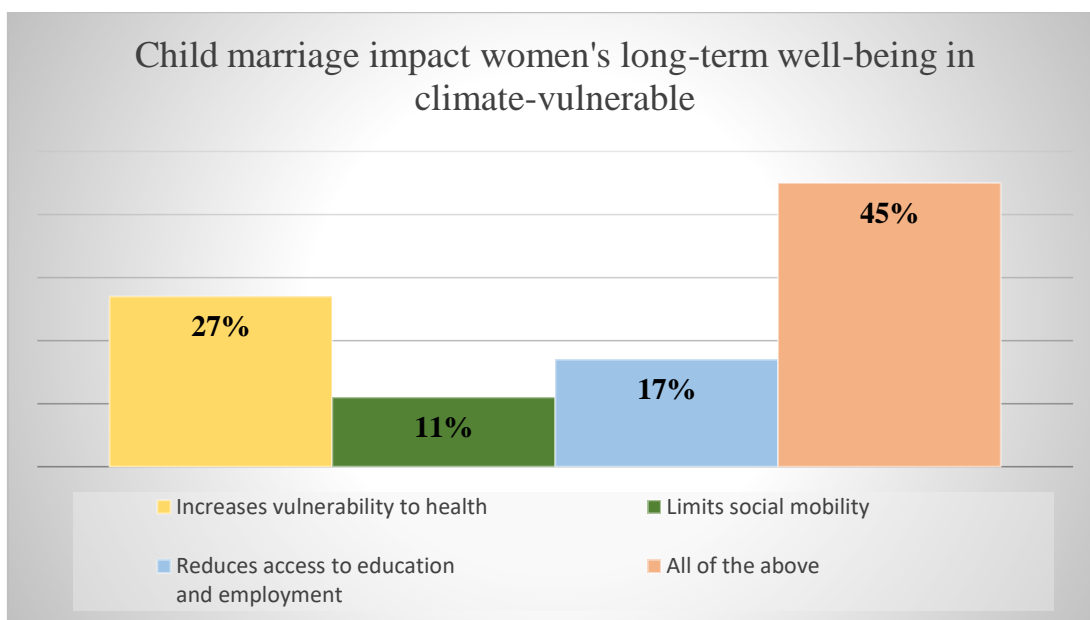


Figure No: 13; Respond of Variables that Child Marriage Impact Women’s Long – Term Well Being

The survey results from Patharghata Upazila reveal that early marriage increases women's vulnerability to health risks (27%), limits social mobility (11%), and reduces access to education and employment (17%) in climate-vulnerable areas. Early pregnancies, complications during childbirth, and limited healthcare access contribute to long-term physical and mental health problems. Climate-related stressors can further exacerbate these issues by straining health services and making it more difficult for young married girls to access necessary care.

Additionally, early marriage restricts access to education and employment, leaving girls with limited skills and qualifications, trapping them in cycles of poverty. Most participants (45%) believe these factors combine to severely affect women's long-term well-being in climate-vulnerable regions, highlighting the multi-faceted nature of the impacts. Addressing this requires integrated solutions that combine climate resilience with social and gender justice.

Chapter: 04

4.1 The Theoretical Approach of Non-economic L&D to Understanding Climate- and Child Marriage

Theoretical Frameworks

Theoretical frameworks from various fields are utilized to analyze non-economic loss and damage (L&D) related to climate change, particularly concerning child marriage. These frameworks include perspectives from social sciences, ecofeminism, and feminist theory (Elisa Calliari, 2022). This document outlines how these theories can be integrated into a case study methodology for examining the relationship between child marriage and climate change. "Non-economic L&D" refers to the intangible losses and damages resulting from climate change that are challenging to quantify in monetary terms (Mohammad Budrudzaman, 2023). Such losses include:

- Identity and cultural loss
- Human welfare and health
- Stability and social cohesion

4.1.1 Identity and Cultural Loss: Climate change presents significant social and cultural challenges, particularly for communities whose identities, customs, and ways of life are closely linked to their environments (Haq, 2024). Identity and cultural loss refer to the decline of individuals' sense of self, community, and cultural heritage due to environmental degradation, displacement, and loss of livelihoods (Bhadra, 2013). These intangible losses can be as damaging to marginalized populations as financial setbacks (Arif, 2022). Examples of identity loss include the erosion of land-based identities, and spiritual and cultural traditions, as well as the impacts of relocation and loss of place (Sonja Ayeb-Karlsson, 2023). Furthermore, the loss of traditional knowledge and language, which are integral to cultural practices and the environment, can lead to the disintegration of collective identity and community structures.

4.1.2 Human Welfare and Health: The increasing frequency and severity of extreme weather events due to climate change have direct health implications, including physical injuries, mental health

issues, and elevated mortality rates in underdeveloped countries (Jackson et al., 2022). Indirect health effects include the rise of infectious diseases such as dengue and malaria, driven by rising temperatures, altered rainfall patterns, and waterborne illnesses (Mohammad Mahmodul Hasan, 2022). In low-income areas, these health impacts can result in trauma, anxiety, depression, and PTSD, alongside the spread of waterborne diseases like cholera and diarrhea (Van der Geest, 2017).

4.1.3 Stability and Social Cohesion: For societies to be resilient, they require social cohesion and stability to collectively adapt to crises (Bhadra, 2013). Stable political, economic, and social institutions are characterized by consistency, while social cohesion promotes collaboration, solidarity, and trust among individuals. Maintaining these elements is crucial for fostering social resilience and sustainable development (Nusrat Naushin, 2023).

Climate change exacerbates gender-specific vulnerabilities and inflicts psychological harm on individuals and communities, revealing the non-economic losses and damages (L&D) associated with child marriage (Tapos Kormoker, 2017). Bangladesh is particularly vulnerable to climate change due to its geographic location, which exposes it to frequent cyclones, storm surges, floods, and saline intrusion. Families in coastal regions, especially those dependent on agriculture and fishing, often suffer substantial financial losses from these events, prompting them to marry off their daughters at a young age to alleviate financial burdens and secure their futures (Arif, 2022). Salinity intrusion in coastal districts further deepens poverty in rural areas, negatively impacting both freshwater supplies and food production (Aktar, 2024).

The psychological toll of enforcing child marriages on girls is significant, as these young brides often miss out on educational opportunities, face health risks from early pregnancies, and are thrust into adult responsibilities too soon, leading to lifelong trauma (Van der Geest, 2017). Women's lives are closely intertwined with their environments, making them "collateral damage" amid broader environmental degradation during periods of climate stress.

In coastal Bangladesh, thousands of families are compelled to relocate due to frequent storms. They often believe that marrying their daughters' young will protect them from potential abuse or exploitation. The emotional distress caused by the breakdown of family and community support

systems, coupled with the pressures of early marriage, severely affects the psychological and social well-being of girls, resulting in long-lasting impacts on individuals and society (Bhadra, 2017). Although deeply rooted in cultural and religious traditions, the practice of child marriage is becoming increasingly prevalent in Bangladesh as a consequence of climate change.

When families face poverty, girls are often married off to ensure financial stability or to reduce family size. However, climate policies and adaptation strategies largely overlook non-economic losses, particularly those affecting women (Aktar, 2024). The lack of educational opportunities, social support, and personal autonomy that these girls experience leads to mental health challenges, social isolation, and a loss of identity. The ecofeminist perspective highlights how climate change intensifies gender inequality, making girls more susceptible to harmful practices like child marriage (Deshmukh, 2024).

4.2 Discussion of the FGD of Patharghata: narratives of gendered challenge and reconciliation

Women in Patharghata have demonstrated resilience in managing the stress caused by the climate while maintaining gender norms. They developed coping strategies including homestead gardening, which gives families income and food security. To ensure a clean water supply and lessen the strain of carrying water over great distances, women have also been instrumental in managing water systems, such as rainwater collection systems (Bhadra, 2013). Some women have launched small enterprises or joined neighborhood savings organizations, which has helped them accumulate funds, apply for microloans, and become financially independent (Md. Abdur Rahim, 2018).

Through their entrepreneurial endeavors, women in Patharghata can lessen the negative effects of climate change on the economy and help reconcile gendered difficulties with climate vulnerability (Edris Alam, 2010). Social perceptions of women's leadership and resiliency in the face of climate change are changing in Patharghata. This is a reconciliation between gender justice and climate adaptation. Local initiatives are offering alternative livelihoods and educational options, while community debates and awareness campaigns are addressing the detrimental impacts of child marriage on girls' prospects.

Traditional gender roles are being challenged by women's participation in the economy, disaster preparedness, and communal decision-making (Sonja Ayeb-Karlsson, 2023). Additionally, women's standing within families and communities is steadily improving.

Climate Events	Impact	Gender Perspective
<p>Cyclone Sidr (2007)</p> <p>Cyclone Aila (2009)</p> <p>Cyclone Mahasen (2013)</p> <p>Cyclone Bulbul (2019)</p> <p>Cyclone Amphan (2020)</p>	<ul style="list-style-type: none"> • The southern coast of Bangladesh was struck by Cyclone Sidr, one of the deadliest in recent memory, which resulted in severe flooding and tidal waves. • Aila, the cyclone, damaged agricultural lands with extensive flooding and saline intrusion. Homes and crops in the Barguna District suffered damage due to the heavy flooding produced by Cyclone Mahasen. <p>Agricultural areas, residences, and fishing facilities were severely damaged by Cyclone Bulbul's powerful winds and storm surges.</p> <ul style="list-style-type: none"> • One of the strongest storms in recent memory, Cyclone Amphan, made landfall on the southern coast and severely damaged houses, farms, and infrastructure. 	<ul style="list-style-type: none"> • 70% of deaths in Cyclone Sidr were women and children due to the inability to leave their homes. • Women were disproportionately affected by Cyclone Aila due to trapped homes or childcare responsibilities. • Despite improved early warning systems, women in rural and coastal areas face higher risks due to traditional gender roles and limited mobility.

<p>Flash Floods (Every Year Happens)</p>	<ul style="list-style-type: none"> • Patharghata Flooding Impact • Regular high tide season flooding, especially with storms. • Submerges agricultural lands, especially rice fields. • Increases soil and freshwater salinity. • Climate change-influenced rise in sea levels affects food security and freshwater availability. 	<ul style="list-style-type: none"> • Women and girls in rural areas face restricted mobility due to traditional gender roles, delaying evacuation efforts during flash floods. • Women's caregiving responsibilities increase their risk during floods, as they often stay behind to protect homes and family members. • Women are more vulnerable to waterborne diseases and reproductive health complications due to limited access to clean water and healthcare services. • Children, especially infants and toddlers, are more susceptible to waterborne diseases and malnutrition during floods.
<p>River Erosion:</p>	<ul style="list-style-type: none"> • Patharghata's location near the Bay of Bengal river confluence makes it susceptible to riverbank erosion. • Bishkhali and Haringhata Rivers carry large volumes of water and sediment, causing erosion along their banks. • Regular flooding and tidal surges, especially during cyclones, exacerbate 	<ul style="list-style-type: none"> • Women in rural areas, especially widows and single mothers, are more susceptible to erosion due to a lack of resources, land ownership, and decision-making power. • River erosion disrupts household tasks like water fetching, livestock tending, and child care.

	<p>erosion.</p> <ul style="list-style-type: none"> • Riverbank erosion leads to loss of agricultural land, affecting crop yields and local food production. • Families living along riverbanks lose their homes and land, often forcing migration to safer areas. • This displacement disrupts communities and creates social challenges. 	<ul style="list-style-type: none"> • Cultural norms and mobility restrictions leave women behind during migration, increasing poverty and social exclusion. • River erosion disrupts children's education due to displacement and lack of access to education facilities. • Displacement affects children's access to proper nutrition and healthcare, increasing vulnerability to illness and malnutrition.
<p>Salinity Intrusion</p>	<ul style="list-style-type: none"> • Reduced agricultural productivity, especially for rice, due to high salinity levels. • Impacts fishing and aquaculture practices, with shrimp farming replacing traditional rice farming. • Disrupts freshwater fish populations, affecting fisher livelihoods. • Loss of livelihoods leads to forced migration to urban areas. • Depopulation disrupts family structures, with men often migrating first. • Many displaced individuals may become environmental refugees. 	<ul style="list-style-type: none"> • For the salinity women are being more vulnerable than men. • Depopulation disrupts family structures, with men often migrating first. • Women in rural coastal areas manage household water and food supplies due to salinity intrusion. • Increased burden on women leads to physical strain and limits income-generating activities. • Economic hardship can increase child marriage rates. • Pregnant women face a higher risk of preeclampsia due to

	<ul style="list-style-type: none"> • Contamination of freshwater sources increases the risk of waterborne diseases. 	the high salt content in drinking water.
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Table No: 01; Gendered Perspective and Reconciliation on the Climate Change Impact

4.3 FDG Analysis: Gender-based Violence during Climate Change Events

Climate change has a disproportionately negative effect on women and girls in Bangladesh, which increases their vulnerability to gender-based violence (GBV). Natural disasters like cyclones, floods, and river erosion place women in difficult situations where they are more prone to become the targets of assault, abuse, and exploitation (Brahmachari, 2023). A study conducted in Bangladesh's coastal region of Patharghata reveals a startling increase in gender-based violence (GBV), which is exacerbated by socioeconomic vulnerabilities and cultural norms (Rezwana, 2022). This area has experienced a rise in violence against women, with rape and dowry-related violence being the most often reported crimes. The region is frequently hit by climate-related calamities including cyclones and floods (UN Women, 2020). The combination of poverty, displacement, and gender inequality during climate-related disasters exacerbates GBV in some ways. The absence of security and crowded conditions in these makeshift camps or temporary shelters, where families are forced to live, expose women to sexual harassment and assault (Van der Geest, 2017). Women and girls who are relocated especially those from low-income households are more susceptible to human trafficking, forced labor, and sexual exploitation due to their fragile economic situation.



Figure No: 14; The Local Community–Based Focus Group Discussion on Child Marriage (I)

- Economic stress often leads to the early marriage of daughters, resulting in dowry-related violence.
- Cultural norms and gender inequality limit women's access to resources and decision-making.
- Cultural norms restrict women's mobility, increasing their vulnerability to exploitation and violence.
- Women are often excluded from disaster preparedness and recovery planning, making them vulnerable to violence.
- Climate change impacts often lead to child marriage as a coping mechanism, leading to gender-based violence.
- Young girls often face sexual, physical, and emotional abuse in their marriages.
- Safe and gender-sensitive shelters, women's participation in disaster planning, and awareness and legal protections are essential.
- Addressing gender inequality and enhancing social safety nets are essential for reducing GBV risks in Bangladesh.

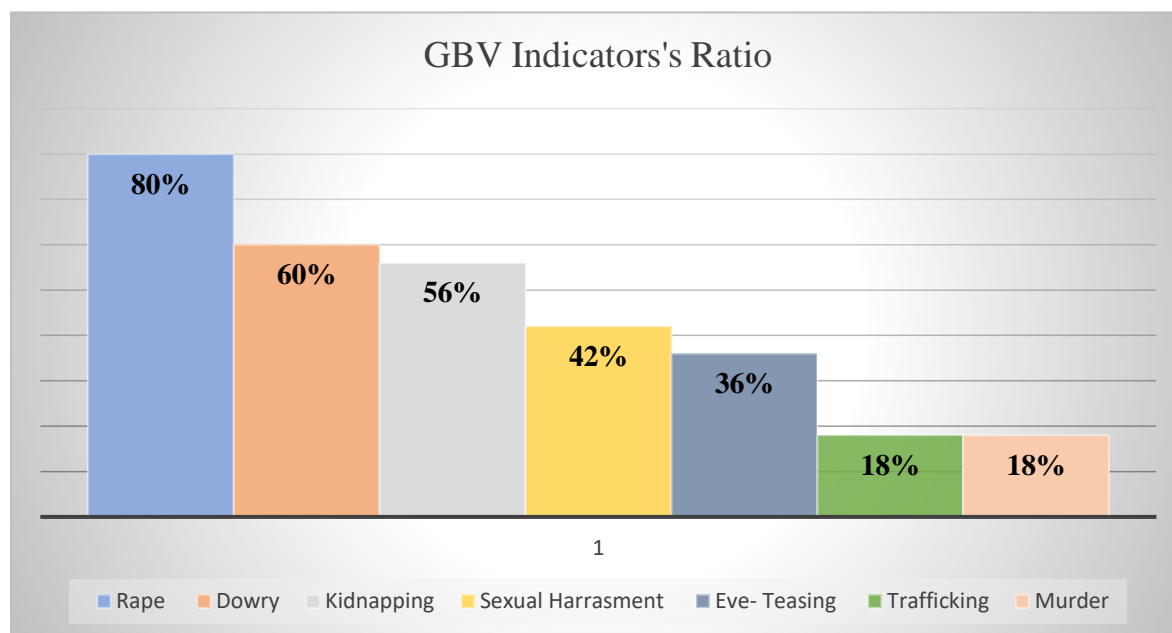


Figure No: 15; The Gender-Based Violence Different Ratio [source: (UN Women, 2020)]

4.3.1 Rape: With 80% of recorded cases linked to outrage-provoking occurrences, rape emerged as the most common type of violence in Patharghata, highlighting a serious problem with the protection of women's safety and dignity. This pattern highlights the precarious position that women occupy in a region where violence is a common result of displacement and insecurity.

4.3.2 Dowry-Related Violence: With 60% of all filed instances involving a dowry, it was determined to be the second most common form of violence. Climate-related economic instability has increased family financial strain, which frequently leads to dowry demands turning violent when expectations are not fulfilled. When families are unable to pay the dowry demands, women, especially those living in rural and lower-class households, experience physical and psychological abuse.

4.3.3 Domestic violence: According to residents, as of 2024, there have been approximately 4-5 deaths due to gender-based violence, most of which were attributed to domestic violence. This highlights the hazardous results of unrestrained violence against women in homes, where women frequently have little access to safety or the legal system.

4.3.4 Kidnapping: 55% of cases that have been documented involve kidnapping, which is compounded by the socioeconomic effects of forced marriages and human trafficking.

Sexual Harassment: Sexual harassment accounted for 43% of cases, indicating the widespread nature of harassment in both public and private settings and further restricting the mobility of women.

4.3.5 Eve-Teasing: Eve-teasing is a type of public harassment that contributes to a culture of fear and dominance. It has been linked to 35% of cases.

Trafficking: 15% of the cases had a trafficking connection, indicating the increased susceptibility of women and girls in the area to human trafficking as a result of economic instability and displacement.

4.3.6 Murder: 17% of cases ended in murder, highlighting the lethal dangers that women encounter when experiencing severe forms of GBV, which frequently originate from dowry or domestic abuse issues.

4.4 Ecofeminist Perspective on Child Marriage and Climate Change

According to Françoise d'Eaubonne, a French feminist, the core principles of ecofeminism encompass gender equality, a reassessment of non-patriarchal or nonlinear systems, and an appreciation for organic processes, holistic connections, intuition, and collaboration. Ecofeminism adds two key elements to these principles: a commitment to environmental protection and an understanding of the relationship between women and nature. This perspective emphasizes how patriarchy, or male-centered society, adversely affects both women and the natural world. Ecofeminists examine the impact of gender categories to illustrate how societal norms unjustly dominate both women and the environment. They argue that certain standards create a limited worldview and advocate for an alternative perspective that values all life, acknowledges humanity's dependence on the natural environment, and regards the Earth as sacred.

This viewpoint arose from a desire to craft an ecofeminist philosophy that mitigates the risks women face when rejecting the legacy of modernity. All ecofeminisms can be described as "critical," as they challenge the status quo; however, this term also reflects a commitment to

upholding the Enlightenment's promises of liberty, equality, and solidarity, particularly concerning the challenges of the new millennium (Puleo, 2011).



Figure No: 16; The Local Community–Based Focus Group Discussion on Child Marriage (II)

The ecofeminist perspective on child marriage and climate change argues that both issues stem from patriarchy and environmental degradation (Deshmukh, 2024). It connects the exploitation of nature to the oppression of women, especially in vulnerable and marginalized communities. Climate change exacerbates conditions that contribute to child marriage, perpetuating gender-based exploitation (Gaard, 2015). The disproportionate effects of climate change on women, particularly in rural and agrarian societies, often limit their educational and economic opportunities. Ecofeminists emphasize women's agency in addressing these challenges, advocating for education, access to resources, and leadership roles in climate adaptation efforts (Morrow, 2013). This holistic, gender-inclusive approach seeks to tackle both issues with solutions that honor both people and the environment.

4.4.1 Natural Disasters and Economical Difficulties: Climate change increases the frequency and intensity of natural disasters, disproportionately affecting poorer families relying on agriculture or natural resources. Ecofeminism associates the exploitation of the natural world with the

subjugation of women, especially in rural and underdeveloped regions (Sonja Ayeb-Karlsson, 2023). Families frequently see girls as financial liabilities during climate-related crises, which encourages child marriage as a coping mechanism to lower dependency or acquire dowries.

4.4.2 Limited Resources and Gender-Based Accountabilities: Climate change is causing a scarcity of natural resources, particularly water, firewood, and fertile land, which traditionally belong to women and girls (Ana Batricevic, 2019). As these resources become scarcer, their responsibilities increase, forcing them to focus on survival activities. Ecofeminism argues that both women and nature are exploited under patriarchal systems, and as environmental degradation intensifies, girls' value is reduced to providing for their families or being exchanged in marriage (Aktar, 2024). This often leads to girls leaving school or forgoing education, limiting their opportunities and promoting early marriage.

4.4.3 Climate-Related Migration and Relocating: Climate change is causing families to migrate or become climate refugees, often due to environmental degradation (Brahmachari, 2023). Displacement, such as coastal erosion, rising sea levels, and desertification, creates uncertainty, leading to early marriages for safety or household size reduction (Bindal, 2021). Ecofeminism highlights how patriarchal societies commodify women and the environment, with girls often seen as liabilities. In Bangladesh, rising sea levels and frequent cyclones have caused mass displacement, with coastal families more likely to marry off their daughters early due to economic insecurity and safety concerns.

4.4.4 Girls' Sexual Exploitation and Commodification: Climate change exacerbates patriarchal structures that view women and girls as economic assets (UN Women, 2020). During environmental crises, families may marry off daughters in exchange for bride prices or reduced dowry expenses, reflecting a deeper commodification of girls' bodies and lives. Ecofeminism draws a parallel between the commodification of natural resources and early marriage, as girls are traded for short-term relief in times of crisis, similar to how nature is viewed as something to be exploited for economic gain (Bindal, 2021).

4.4.5 Loss of Agency and Empowerment: Climate change is a major factor in gender inequality, limiting girls' opportunities for education, employment, and personal development (Bhadra, 2017). Girls often lose access to schooling during economic crises, leading to forced early marriages. This disempowerment is similar to the degradation of nature under patriarchal systems. Short-term decisions prioritize family survival over long-term personal empowerment, reinforcing cycles of exploitation (Ana Batricevic, 2019). For instance, girls in flood-prone regions may be denied schooling and forced into early marriages, as education is seen as a luxury due to climate impacts.

4.4.6 Climate Resilience and Women's Empowerment: The ecofeminist perspective emphasizes the importance of women's empowerment in climate adaptation and resilience strategies (Deshmukh, 2024). Women often lead community-based responses to climate change, advocating for sustainable resource use, food security, and livelihood diversification (Gaard, 2015). Empowering women to take leadership roles in climate resilience can break the cycle of child marriage by providing alternatives and elevating girls' status within families. Ecofeminism advocates for transforming societal structures to recognize the value of both women and nature, promoting sustainability and gender justice (Sonja Ayeb-Karlsson, 2023). Programs promoting women's participation in climate adaptation projects can create economic opportunities, preventing families from resorting to child marriage as a survival strategy.

Chapter: 05

5.1 Result:

Climate change has worsened social and gender inequities in coastal regions of Bangladesh, particularly in areas like Patharghata Upazila. Child marriage is a major issue driven by both economic and non-economic factors, with women, particularly young girls, suffering from climate-induced vulnerabilities. The Intergovernmental Panel on Climate Change (IPCC) acknowledges that women are disproportionately affected by climate change due to their social roles, economic status, and dependence on natural resources. Climate-related disasters increase women's vulnerability to gender-based violence (GBV) and deepen gender inequities.

In developing countries, particularly in rural areas, women are often the most vulnerable to climate impacts due to their roles in agriculture, caregiving, and reliance on natural resources. They are more likely to experience non-economic losses, including loss of cultural identity, damage to mental and physical health due to stress, violence, and displacement, and increased burdens related to household responsibilities during and after climate disasters.

Child marriage in Patharghata Upazila is not only driven by economic pressures but also reflects deeper non-economic losses for girls and women. The practice denies young girls the opportunity for education, emotional development, and personal autonomy, reinforcing the cycle of poverty and subordination. The FAO Policy on Gender Equality aims to tackle such disparities by promoting gender equality in its technical work and ensuring gender-sensitive policies and programs are mainstreamed across sectors, especially in climate-vulnerable regions.

The loss of well-being in response to climate stress is multifaceted, including physical health risks from early pregnancies, psychological stress from child marriage, often compounded by domestic violence, leading to long-term mental health issues like depression, anxiety, and trauma. Social exclusion and loss of autonomy are common, as young girls are often isolated from their peers, prevented from continuing their education, and have little control over their lives and futures.

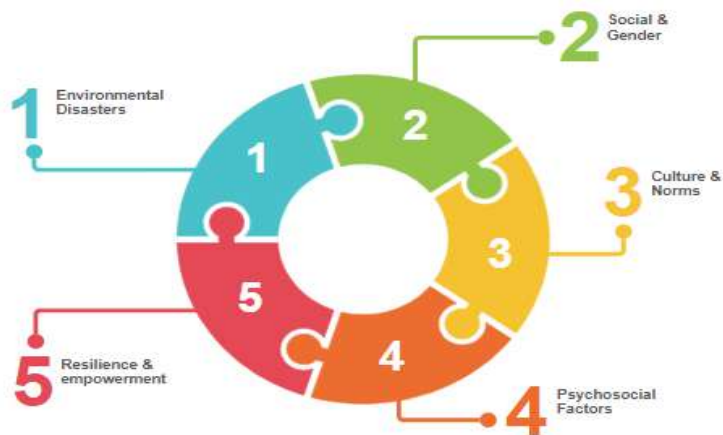


Figure No: 17; The Interconnection Between Socialization

The FAO Policy on Gender Equality emphasizes the need for gender parity and collective efforts to address systemic gender inequalities. However, in Patharghata, gender-based violence remains pervasive and linked to child marriage, leading to increased rape, dowry-related violence, sexual harassment, and kidnapping. Cultural prioritization of male children and reinforcement of patriarchal values often overlook girls' education and potential contributions to the economy, resulting in non-economic losses such as diminished opportunities, loss of security, and mental health decline.

- *To address non-economic Loss and Damage in Patharghata, policy and community attitudes must shift. Education and awareness programs should challenge cultural norms around child marriage and gender-based violence, emphasizing girls' education and empowerment as a climate adaptation strategy. Gender-sensitive climate policies should be implemented to address both economic and non-economic losses experienced by women, recognizing their well-being is tied to their mental health, social status, and personal autonomy. Holistic approaches, including economic support for families, greater access to healthcare and education for girls, and community-based mental health services, are needed to reduce child marriage rates.*
- *Non-economic Loss and Damage must be understood as central to climate change's impacts on vulnerable populations, especially in gendered terms. Addressing these issues*

is critical for achieving gender equality, social justice, and climate resilience in Bangladesh's coastal regions.

Chapter: 06

6.1 Challenges:

6.1.1 Data Missing Values and Measuring Issues: It is difficult to measure non-economic L&D issues including gender-based violence, cultural loss, and psychological well-being since there is a dearth of reliable, region-specific data. Because of this, creating focused solutions is challenging. Furthermore, there isn't a methodology that is widely accepted for quantifying these effects on gender and climate change. It is challenging to determine the complete scope of non-economic L&D damage in the absence of defined indicators.

6.1.2 Cultural and Social Norms: In coastal communities, the continuation of patriarchal structures and cultural norms that encourage child marriage makes it more difficult to solve non-economic L&D. These standards, which are frequently viewed as a social safety net, hinder efforts to change attitudes toward gender equality and postpone remedies. It is difficult to put into practice gender-sensitive climate adaptation initiatives that put girls' education and well-being first since traditional customs and religious beliefs also influence community views.

6.1.3 Ineffective Implementation of Legal Protections: The enforcement of Bangladesh's laws against child marriage is frequently uneven, especially in rural and climate-affected areas like Patharghata. Child weddings may persist because local authorities lack the funding or political will to stop them. Furthermore, rules against gender-based violence are frequently not adequately enforced in coastal areas, which puts women and girls at much greater risk and encourages non-economic violence and suffering.

6.1.4 Limited Uncertainty Regarding Climate Change: Climate change impacts, such as storms, flooding, and sea-level rise, pose significant social and cultural consequences, making it challenging to predict and plan for increased child marriage. Long-term adaptation plans are made

more difficult by this uncertainty, which also ignores non-economic effects including identity loss, psychological stress, and cultural deterioration. The efficacy of long-term adaptation measures may be compromised if economic recovery is given precedence over gender-specific effects, such as psychological stress.

6.1.5 Social and Economic Pressures on Women: Economic issues like poverty and climate change frequently contribute to child marriage, and these issues interact with non-economic variables like L&D. It is challenging to treat the emotional and cultural harm that child marriage causes because of this intersection. Child marriage is a strategy used by families in vulnerable coastal communities to lessen financial obligations, putting economic survival ahead of social and emotional well-being and obscuring issues with girls' psychological, physical, and educational welfare.

6.1.6 Insufficient Services for Mental Health and Social Support: In coastal communities, climate-induced child marriage frequently results in mental health problems like trauma, anxiety, and depression that are frequently ignored since there are insufficient mental health resources available. Young girls are left without the help they need to deal with early marriage and its repercussions as a result of this neglect. Their capacity to recuperate from non-economic losses is hampered by social shame and isolation, which worsen psychological distress.

6.1.7 Participation in Decision-Making: Planning for disaster response and climate adaptation frequently excludes women, particularly in coastal areas, reducing their influence and raising non-economic losses. In addition to perpetuating marginalization, the absence of gender-sensitive policy ignores the underlying reasons for gender inequality associated with climate consequences.

6.1.8 Limited Resources for Gender-Sensitive Initiatives: In coastal communities, climate-induced child marriage frequently results in limited access to mental health care, harming young girls' psychological and emotional well-being. Their distress may worsen and their ability to recover from non-monetary losses may be hampered by this lack of support. These problems are exacerbated by social stigma and isolation, which makes it harder for these females to handle the difficulties of getting married young.

6.1.9 Restricted Ability to Implement Local and Community-Level Projects: Effective interventions to address the non-economic effects of climate change, such as child marriage, are difficult for local

governments and community organizations in coastal areas to plan and carry out. Insufficient funding, training, and assistance impede the development of long-lasting initiatives. Although local engagement is restricted and women, especially young girls, are excluded from participatory procedures, community-based adaptation measures are essential. This limits the effectiveness of initiatives.

6.2 Recommendation:

6.2.1 Statistical Data Collection and Monitoring on Non-Economic Loss and Damage (L&D): For a better understanding of the extent of L&D associated with child marriage in climate-affected countries, governments, non-governmental organizations, and international organizations should create gender-sensitive indicators. In coastal regions like Patharghata, thorough local-level research should be carried out with an emphasis on qualitative data collecting and women's narratives to document the precise effects of climate change on gender inequality and child marriage.

6.2.2 Improving & Follow the Existing Law Enforcement and Legal Frameworks: To safeguard women and children from climate-driven vulnerabilities, Bangladesh must enact gender laws that are sensitive to climate change and enforce laws against child marriage. Particularly in places impacted by climate change, enforcement measures in rural areas should be reinforced. It's also critical to address damaging customs like dowry practices and GBV. This will lessen child marriage in areas affected by climate change.

6.2.3 Encourage Gender-Based Community-Based Adaptation: Community-level engagement should be a part of climate adaptation strategies, enabling women and girls to have an active role in decision-making. It is essential to empower local women's organizations to develop solutions for gender equality and child marriage. Encouraging ecofeminist ideals highlights the relationship between gender equality and environmental sustainability, emphasizing how preserving the environment can lessen the vulnerabilities of women and girls, including preventing child marriage.

6.2.4 Expand Girls' Educational and Economic Opportunities: To guarantee that girls continue to have access to school even during and after climate disasters, climate-adaptive education programs must be put into place. Rebuilding schools, offering remote learning opportunities, and offering

scholarships should be given top priority to lower dropout rates and child marriage. Encourage economic independence for women: Lowering the financial constraints that lead to child marriage can be achieved by giving women and girls in climate-affected areas access to vocational training and livelihood options. Programs for sustainable livelihoods including aquaculture, small company development, and environmentally friendly agriculture ought to be supported.

6.2.5 Improve Social Support and Mental Health Services: The mental health effects of climate change on women and girls, particularly those impacted by child marriage, should be addressed via psychological support programs in coastal areas. Young girls' support groups and trauma counseling should be part of these offerings. To alter attitudes toward child marriage and highlight the significance of gender equality, family-centered intervention programs and educational initiatives should be created.

6.2.6 Encourage Gender-Sensitive Climate Policies: To address the vulnerability of women and girls in coastal regions, governments should create gender-inclusive climate adaptation programs. Programs for resilience-building, climate finance, and disaster risk reduction should all incorporate gender equality. Climate action plans should also incorporate policies for preventing child marriage, which call for cooperation between the ministries of gender, health, and climate to address both non-economic and economic reasons.

6.2.7 Increase Women's Involvement in Decision-Making: Climate adaptation and catastrophe management decision-making procedures should incorporate women, particularly those from marginalized populations. Their viewpoints are essential for developing inclusive solutions. To ensure that women are represented in local climate councils, disaster response teams, and adaptation planning, governments and non-governmental organizations should give priority to female leadership in climate policy forums and adaptation programs. This will assist in addressing the needs of vulnerable girls as well as gender inequity.

6.2.8 Assess the Sociocultural Factors that Contribute to Child Marriage: The implementation of cultural reform initiatives is necessary to counteract patriarchal beliefs that encourage child marriage. Religious leaders, local elders, and male family members should all participate in these initiatives to discuss gender equality and the negative effects of child marriage. Shifting norms

requires cooperation with religious and cultural leaders, and training programs should emphasize the rights and futures of girls while including ecofeminist and gender-sensitive approaches.

6.2.9 Improve Funding for Gender-Responsive Adaptation in Climate: Gender-focused adaptation programs in coastal regions should receive special funding from climate finance channels such as the Green Climate Fund and Adaptation Fund. These projects should address socioeconomic and environmental issues to prevent child marriage. Programs that assist women and girls who are at risk of child marriage should also receive funding. These programs should include livelihood efforts, mental health assistance, and educational opportunities that provide long-term solutions to avoid child marriage.

6.3 Conclusion:

In Bangladesh's coastal regions, the relationship between social reactions, gender inequality, and environmental vulnerability can be studied with ecofeminism. This study can help guide efforts to prevent child marriage and strengthen communities' ability to deal with socioeconomic hardships and climatic change, especially for women and girls. Encouraging justice, empowering those most impacted by environmental degradation, and bridging ecological and social challenges are the key components of ecofeminism. For disaster risk management, risk assessment mapping is essential since it improves readiness and speeds up response times. In Bangladesh, rapid rehabilitation is hampered by poor pre- and post-flood management planning. Long-term resilience requires increasing community readiness, upgrading early warning systems, and investing in resilient infrastructure.

Gender-based vulnerabilities brought on by climate change in coastal Bangladesh are resulting in child marriage and other socioeconomic problems. These behaviors are influenced by non-economic variables such as social instability, psychological stress, displacement, gender inequity, disruptions in education, safety net loss, and fear of gender-based violence. To solve these problems, a holistic strategy is required, one that protects vulnerable groups during and after climatic disasters, improves social safety nets, strengthens gender equality, and provides education. Using women's knowledge of family economies and resource management, addressing

their particular vulnerabilities, and integrating their viewpoints into climate planning are all components of ecofeminist climate adaptation strategies.

Additionally, these approaches promote environmentally conscious companies, women's cooperatives, small enterprises, and sustainable livelihood prospects. Ecofeminism highlights the value of women's utilized strength in fostering change at the community level and enhancing social capital and economic resilience. Adaptive livelihoods and climate resilience depend on women's resource rights and land tenure being strengthened. However, the lack of trustworthy, region-specific data makes it difficult to measure non-economic L&D issues including psychological well-being, cultural loss, and gender-based violence. Coastal communities' traditional practices and convictions regarding religion also make it more difficult to adopt gender-sensitive climate adaptation programs and alter attitudes toward gender equality.

Bangladesh's anti-child marriage laws are not consistently enforced, particularly in rural and climate-affected areas like Patharghata. Regulations against gender-based violence are rarely sufficiently enforced in coastal areas, and local authorities frequently lack the financial resources and political will to prevent child marriages. Storms, flooding, and sea level rise are just a few of the economic and cultural effects of climate change that make it challenging to anticipate and prepare for an increase in child marriage. Strategies for climate adaptation should include community-level engagement, enabling women and girls to actively participate in decision-making. Promoting ecofeminist principles draws attention to the connection between environmental sustainability and gender equality, highlighting how protecting the environment can reduce the vulnerabilities of women and girls, including preventing child marriage.

Climatic-adaptive education initiatives, including school reconstruction, remote learning, and scholarship programs, should be put in place to guarantee girls' access to education both during and after climatic disasters. This will lessen the number of child marriages and losses. Furthermore, reducing financial barriers and promoting sustainable livelihoods including aquaculture, small company growth, and environmentally friendly agriculture can be achieved by offering vocational training and livelihood options to women and girls in climate-affected areas.

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Questionnaire:

1. In Bangladesh's coastal regions, how does the prevalence of child marriage get exacerbated by climate-related non-economic losses, such as cultural and social upheavals?
2. How does the relationship between gender inequality, child marriage, and climate change relate to coastal communities from an ecofeminist perspective?
3. How do sociocultural influences that result in child marriage get worse when communities lose their ability to bounce back and maintain normal livelihoods?
4. How do environmental vulnerabilities combined with patriarchal norms affect young girls in coastal areas disproportionately?
5. How can local and federal policies help solve non-financial losses and damages in climate affected areas, such as the custom of child marriage?
6. How do girls and women view the influence of climate-related losses on their own independence and marriage decision-making?
7. How does the practice of child marriage relate to the coping techniques used by families in coastal communities?
8. What role does the lack of access to health and education services brought on by environmental stressors play in the continuation of child marriage?
9. How can women's collectives and local community groups handle the interconnected problems of gender inequity, child marriage, and climate change?
10. How do young girls overcome the ecofeminist obstacles presented by non-economic losses brought on by climate change?