

Explore the Role of Climate Change on Children's Development and Well-being in Early Years

By
Mohammed Rezaur Rahman
ID: 23155014

A thesis submitted to BRAC Institute of Educational Development in partial
fulfillment of the requirements for the degree of
Master of Science in Early Childhood Development

BRAC Institute of Educational Development
BRAC University
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Declaration

It is hereby declared that

1. The thesis submitted is my own original work while completing my degree at BRAC University.
2. The thesis does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The thesis does not contain material which has been accepted or submitted for any other degree or diploma at a university or other institution.
4. I have acknowledged all main sources of help.

Student's Full Name & Signature:



Mohammed Rezaur Rahman

Student ID: 23155014

Approval

The thesis titled “Explore the Role of Climate Change on Children’s Development and Well-being in Early Years.”

Submitted by Mohammed Rezaur Rahman, Student ID: 23155014

of Spring 2023 has been accepted as satisfactory in partial fulfilment of the requirement for the degree of Master of Science in Early Childhood Development in April 2025.

Examining Committee:

Supervisor:
(Member)

Sakila Yesmin
Senior Lecturer, ECD Academic Program
BRAC Institute of Educational Development
BRAC University

Program Coordinator:
(Member)

Ferdousi Khanom
Senior Lecturer, ECD Academic Program
BRAC Institute of Educational Development
BRAC University

External Expert Examiner:
(Member)

Dr. Dilruba Sultana
Senior Lecturer, M.Ed. Department
BRAC Institute of Educational Development
BRAC University

Departmental Head:
(Chair)

Dr. Erum Mariam
Executive Director
BRAC Institute of Educational Development
BRAC University

Ethics Statement

Title of Thesis Topic: Explore the Role of Climate Change on Children's Development and Well-being in Early Years

Student name: Mohammed Rezaur Rahman

1. Source of population: Satkhira District (Shyamnagar and Kaliganj Upazila)
2. Does the study involve (yes, or no)
 - a) Physical risk to the subjects (No)
 - b) Social risk (No)
 - c) Psychological risk to subjects (No)
 - d) discomfort to subjects (No)
 - e) Invasion of privacy (No)
3. Will subjects be clearly informed about (yes or no)
 - a) Nature and purpose of the study (Yes)
 - b) Procedures to be followed (Yes)
 - c) Physical risk (Yes)
 - d) Sensitive questions (Yes)
 - e) Benefits to be derived (Yes)
 - f) Right to refuse to participate or to withdraw from the study (Yes)
 - g) Confidential handling of data (Yes)
 - h) Compensation and/or treatment where there are risks or privacy is involved (Yes)
4. Will signed verbal consent form be required (yes or no)
 - a) from study participants (Yes)
 - b) from parents or guardians (N/A)
 - c) Will precautions be taken to protect the anonymity of subjects? (Yes)
5. Check documents being submitted herewith to the Committee:
 - a) Proposal (Yes)
 - b) Consent Form (Yes)
 - c) Questionnaire or interview schedule (Yes)

Ethical Review Committee:

Authorized by:
(chair/co-chair/other)

Dr. Erum Mariam
Executive Director
BRAC Institute of Educational Development
BRAC University

Abstract:

Climate change poses significant challenges, particularly affecting vulnerable children and families in various ways. This research seeks to explore three critical aspects: (1) parents' understanding of climate change, (2) their perceptions of its effects on children's development and well-being, and (3) the coping strategies used by children and their families. A comprehensive mixed-methods approach was applied that integrates quantitative measures with qualitative descriptions from the experiences of affected individuals in the Satkhira District, a natural disaster-prone coastal region of Bangladesh. 80 parents participated in a survey, and 12 parents were involved in two focus group discussions. Key findings indicated a limited understanding and varying levels of knowledge about climate change among parents. Additionally, parents reported various challenges affecting children's development due to climate change, including physical health issues (97.5%), lack of play opportunities (81.3%), mental health problems (57.5%), and learning interruptions (67.5%). Furthermore, 27.5% were unable to identify effective coping strategies, and limited access to support systems further complicated the situation for children and families. This research enhances ongoing discourse by offering actionable recommendations for policymakers and practitioners, emphasizing the critical need for adaptive strategies to mitigate risks and strengthen resilience in affected communities.

Keywords: Climate Change; Children's Development; Children's Well-being.

Dedication

This work is sincerely dedicated to my wife, whose unwavering support and immense encouragement have anchored me throughout this journey. It is also dedicated to my two amazing children, who inspire me to seek a brighter future, not just for them but for all children. They are my most valuable treasures and the motivation behind all my endeavors. This thesis is a tribute to the strength of family and the love that unites us.

Acknowledgement

I want to extend my deepest gratitude to Ms. Sakila Yesmin, Senior Lecturer at BRAC IED, for her invaluable guidance, constructive feedback, and encouragement at every stage of this research. Her expertise and mentorship have been pivotal in shaping this thesis. I want to express my gratitude to all the faculty members of the ECD Program for their kind assistance, and to Dr. Erum Marium, Executive Director of BRAC IED, for choosing me for this course and allowing me to complete my thesis.

I owe special thanks to the participants who generously shared their valuable time and experiences, making this research possible.

I sincerely thank Nishat Jahan Jyoati, Research Officer at the Directorate of Primary Education, for her assistance in organizing the survey on the primary school premises.

I am immensely grateful to Mr. Ashish Nandi, Upazila Education Officer of Kaliganj, Satkhira, and Mr. Prokash Chandra Mondol, Assistant Upazila Education Officer of Shyamnagar, Satkhira, for their kind support in arranging the survey and for facilitating the recruitment of the necessary participants within a short period. I want to express my sincere appreciation for the support of the school authorities at #47 Padmapukur Govt. Primary School, #175 Pakhimara Govt. Primary School, #139 Haatchala Govt. Primary School in Shyamnagar, and Kaliganj Shadar Govt. Primary School. Special thanks to Head Teacher Mr. Mostafa Kamal of #47 Padmapukur Govt. Primary School and Head Teacher Mr. Mizanur Rahman of #175 Pakhimara Govt. Primary School for their warm support in completing the survey and FGD.

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List of Acronyms

UNICEF	United Nations International Children's Emergency Fund
PTSD	Post-Traumatic Stress Disorder
IPCC	Intergovernmental Panel on Climate Change
MUAC	Mid-Upper Arm Circumference
BBS	Bangladesh Bureau of Statistics
FGD	Focus Group Discussion
NGO	Non-Governmental Organization

Chapter I: Introduction and Background

a. Introduction: Climate change is a critical global challenge of the 21st century, significantly affecting the environment, economy, and public health (Raihan, 2023). Children are among the most vulnerable to these changes, as their development and well-being can be significantly affected by the adverse effects of a changing climate (Anderko et al., 2019). This research aims to explore the role of climate change on children's development and well-being during their early years, focusing on the experiences and perceptions of parents in Bangladesh.

Climate change refers to enduring shifts in temperature, alterations in precipitation patterns, and a rise in extreme weather events, primarily driven by human actions such as fossil fuel combustion and deforestation (Nda et al., 2018). These changes have extensive effects on natural systems and human societies, increasing the frequency of extreme weather events, raising sea levels, and altering agricultural yields (Arora, 2019). Bangladesh is particularly vulnerable to climate change due to its geographic position, flat terrain, and dense population (Rakib et al., 2018). The country frequently experiences extreme weather events, including floods, cyclones, and excessive heat. Coastal regions are especially at risk from rising sea levels and storm surges, while inland areas face increased risks of flooding and river erosion (Brammer, 2013).

Climate change affects children's development and well-being through various pathways. Rising temperatures, changing rainfall patterns, and more frequent extreme weather events can lead to food and water shortages, an increased prevalence of vector-borne diseases, and heightened stress and anxiety among children and their families (Otorkpa et al., 2024). These environmental stressors can impair children's physical health, hinder their cognitive development, and affect their emotional well-being (Ferguson et al., 2013).

This research will focus on understanding parents' knowledge, perceptions, and coping mechanisms regarding climate change and its effects on their children's health, development, and daily lives. Its goal is to offer a thorough grasp of how climate change is perceived by those who care for children and the strategies they employ to mitigate its effects. Utilizing a mixed-methods strategy, the study will integrate quantitative surveys to evaluate the incidence of climate-related effects alongside qualitative focus group discussions to explore parental viewpoints and coping mechanisms more deeply. The findings from this study will provide valuable insights into how climate change affects children in Bangladesh, highlighting the need for targeted support and resilience-building strategies.

b. Statement of the Problem: The initial years of a child's life play a vital role in their physical, cognitive, and emotional growth. Children undergo rapid growth during this period and are highly sensitive to environmental conditions (Hodel, 2018). Adverse effects of climate change, including rising temperatures, severe weather occurrences, and environmental degradation, can disrupt this crucial developmental phase (Sheffield & Landrigan, 2010). For instance, high temperatures can lead to heat stress and dehydration, while extreme weather events can result in physical injuries and psychological trauma. Additionally, climate change can exacerbate food and water insecurity, leading to malnutrition and developmental delays (Lieber et al., 2020).

These impacts are particularly pronounced in Bangladesh, a country highly vulnerable to climate change. The frequent cyclones, floods, and droughts pose substantial risks to children's health and development (Helldén et al., 2021). However, limited research exists on how these climate-related challenges affect young children and how families and communities cope with these impacts. Without a clear understanding of these dynamics,

developing effective policies and interventions to protect and support children in the face of climate change is challenging.

Therefore, this study seeks to address the following key problems:

- **Lack of Comprehensive Data:** There is a lack of detailed, comprehensive data on the specific impacts of climate change on children's development and emotional well-being in Bangladesh.
- **Insufficient Understanding of Parental Knowledge and Perceptions:** Little is known about how parents in Bangladesh perceive the effects of climate change on their children and their knowledge of climate change and its risks.
- **Limited Insights into Coping Mechanisms:** There is a need for deeper insights into the strategies and coping mechanisms that families employ to diminish the effects of climate change on their children.

c. Purpose of the Study: The research will explore parental knowledge regarding climate change and enhance the understanding of the perceived effects of climate change on children's socio-emotional development and well-being from the parents' perspective. It will analyze how the disruption caused by climate change affects children's access to education and social interactions. Additionally, it will explore the coping mechanisms and strategies that families adopt to alleviate the effects of climate change on their children.

d. Significance and Justification of the Study: Bangladesh experiences frequent natural disasters, including floods, droughts, cyclones, and rising sea levels. These events severely affect children's health, education, and well-being (Akhter et al., 2015). According to UNICEF, over 19 million children in the country are exposed to climate-related hazards (Rees, n.d.). The research findings will enhance the growing knowledge regarding the intersection between climate change and child development. By focusing on the

experiences and perceptions of parents in Bangladesh, this research will highlight the unique challenges children face in one of the world's most climate-vulnerable regions. The insights gained will play a crucial role in developing effective strategies and policies to safeguard children's health and development, ensuring that they can thrive despite the adverse effects of a changing climate. Knowledge from the study will be vital for creating interventions that are both contextually relevant and responsive to the specific needs of children and their families in Bangladesh. This research will illuminate the pressing challenges of climate change and its effects on young children. It will provide actionable insights and recommendations to support their development and well-being in an increasingly unpredictable world.

e. Research Questions: The study will answer the following questions-

1. What do parents know about climate change?
2. What are the parents' perceptions of climate change's effect on children's development and well-being?
3. What strategies do children and their families adopt to cope with the effects of climate change?

f. Operational Definition:

1. Climate Change: The Intergovernmental Panel on Climate Change (IPCC) describes climate change as a long-term alteration in the climate's state, identifiable through shifts in average conditions and variability (Allan et al., 2023). Such changes can result from natural processes or external influences, including human activities. In the context of this study, climate change refers to long-term alterations in temperature, weather patterns, and environmental conditions that directly or indirectly affect families and children in vulnerable communities. It encompasses gradual changes, such as rising temperatures, sea

level rise, and extreme events, including cyclones, floods, heatwaves, and droughts. The phenomenon is primarily attributed to human activities, such as deforestation and carbon emissions, which intensify global warming and environmental instability. This research explores the knowledge of climate change through parental perceptions of environmental disruptions, household exposure to extreme weather events, observed consequences on daily life, and its effects on children's health, development, and coping mechanisms.

2. Children's Development: Children's development encompasses the physical, cognitive, emotional, and social growth that occurs from early childhood through adolescence, shaping their ability to learn, interact, and adapt (Osher et al., 2021). It is multidimensional, involving biological, psychological, and environmental factors influencing a child's ability to reach key milestones. This study explores children's development in relation to climate change, focusing on physical growth and health, learning engagement, social interaction, emotional regulation, and their ability to participate in outdoor play activities. The analysis includes climate-induced disruptions, such as malnutrition, illness, school closures, and social isolation, to understand their impact on children's ability to develop resilience and achieve developmental milestones. The study contextualizes children's development within the framework of climate vulnerability, highlighting how environmental instability interrupts education, delays social interactions, and increases challenges to physical health.

3. Children's Well-being: Children's well-being encompasses the overall quality of life, health, safety, happiness, and resilience that allows children to thrive in secure and supportive environments (Coleman et al., 2022). It includes physical health, emotional stability, educational opportunities, and access to social resources, all of which climate change can directly impact. In this study, children's well-being is evaluated through

indicators such as health status, emotional responses to environmental stressors, access to education and learning, safety measures during climate-related disasters, and community support mechanisms. The research underscores how climate change disrupts essential aspects of well-being, including access to healthcare, learning environments, and psychological security, all of which collectively determine a child's ability to grow in a stable and nurturing setting. This study defines children's well-being as a dynamic and interconnected process, heavily influenced by climate-related disruptions, parental adaptation strategies, and access to institutional support.

Chapter II: Literature Review

Climate change is a worldwide issue that significantly affects numerous aspects of human life, such as health, safety, and well-being. Children are especially susceptible to these changes due to their growing bodies and dependence on caregivers. The following descriptions aim to synthesize existing research on the effects of climate change on children's development and well-being, focusing on parental knowledge, perceptions, and coping mechanisms.

a. Climate Change and Child Health: Research consistently shows that climate change threatens children's health. According to Save the Children, approximately 710 million children reside in countries that are most vulnerable to the effects of the climate change crisis (Hickman et al., 2021). Increased temperatures and extreme weather events can lead to heat stress, dehydration, and respiratory issues (Ebi et al., 2021). Poor air quality increases asthma rates, allergies, and other respiratory conditions (D'Amato et al., 2015). Children breathe faster than adults, which increases their exposure to harmful air pollutants (Goldizen et al., 2015). Flooding and water contamination can elevate the risk of gastrointestinal diseases and other waterborne illnesses (Andrade et al., 2018). Climate

change patterns can expand the range of disease-carrying insects, leading to a rise in infectious diseases such as malaria and dengue fever (Yadav & Upadhyay, 2023). Climate change threatens food production and supply, resulting in food insecurity, malnutrition, and stunted growth and developmental delays in children (Phalkey et al., 2015). Children exposed to extreme weather events, such as cyclones and floods, are at a higher risk of developing PTSD and other mental health disorders (Rataj et al., 2016). Climate-related disasters can force families to relocate, causing emotional distress and trauma for children, which can lead to increased anxiety (Gawrych, 2021). Extreme weather events can disrupt family caregiving and support systems, leading to increased violence and exploitation, and they can impact children's emotional and physical well-being (Cianconi et al., 2020).

b. Parental Knowledge of Climate Change Issues: Parents' understanding of climate change and its impacts on children varies widely. Some parents are well-informed and actively seek information, while others possess limited awareness and understanding. This disparity in knowledge can influence how parents perceive and respond to climate-related challenges affecting their children (Parth et al., 2020). Parents often turn to various sources of information about climate change, including media, educational institutions, and community organizations (Monroe et al., 2017). Parents who are more knowledgeable are better equipped to identify and address climate change effects on their children (Sanson et al., 2018). They are more likely to adopt strategies for protecting their children from environmental hazards and provide them with the necessary support to cope with climate-related stressors (Baker et al., 2020).

c. Perceived Impacts on Children: Parents' perceptions of climate change impact their children's health and well-being, which are influenced by their knowledge and awareness. Parents express concern about increased respiratory issues in children due to poor air

quality and believe asthma and allergies are becoming more prevalent, affecting children's daily activities and overall health (Reyes-Angel et al., 2022). In a survey, around 40% of mothers reported being worried about the risks of heat-related illnesses during hot weather (Maged et al., 2024). Parents observe changes in their children's behavior, such as heightened anxiety about the future and fear of extreme weather events (Strife, 2011).

d. Developmental Outcomes of Children: Climate change restricts children's outdoor play because of extreme weather, poor air quality, and heat stress. This restriction impacts their motor skills, social interactions, and cognitive development, resulting in delays in learning, emotional regulation, and problem-solving abilities (Bastianello et al., 2024). Pollutants, such as particulate matter and heavy metals, can adversely affect brain development, leading to issues with memory, attention, and learning (Kim et al., 2020). Greater exposure to air pollution, poor nutrition, and vector-borne diseases can result in stunted growth, respiratory problems, and a compromised immune system (Chitre et al., 2023). Natural disasters and extreme weather events can lead to school closures, disrupting children's education and learning opportunities (Hussaini, 2023). Climate-related disasters and displacement hinder education by disrupting learning, problem-solving skills, and academic achievement (Newsome et al., 2023). The stress and trauma associated with climate change can affect children's ability to concentrate and learn effectively (Cianconi et al., 2020). Children who experience natural disasters face an increased risk of developing post-traumatic stress disorder (PTSD), anxiety, and depression, which have long-term effects on emotional and psychological development (Dyregrov et al., 2018). Children exposed to natural disasters often face lasting emotional challenges that shape their psychological development and influence their ability to adapt to future hardships (Masten, 2020). Climate change impacts food production and availability, results in malnutrition,

and contributes to stunted growth and development in children. (Ghani et al., 2017). Community displacement due to extreme weather events forces families to relocate, disrupting children's social networks and support systems and can hinder their social skills and ability to form stable relationships (Black et al., 2012). Restricted outdoor play and unstable social settings can hinder children's capacity to build relationships, enhance social skills, and participate in community activities (Scott et al., 2022). Reduced outdoor play due to environmental constraints leads to increased screen dependency, social withdrawal, and heightened anxiety among children, which negatively impacts cognitive and emotional development. (Charan et al., 2024).

e. Coping Mechanisms and Strategies: Families employ various coping strategies to mitigate the effects of climate change on their children. These approaches include seeking information and resources, implementing preventive measures, and accessing support from community organizations and government programs (Monroe et al., 2017). Participating in educational programs and workshops on climate change and disaster preparedness equips parents with the necessary skills and knowledge to assist their children during climate-related events (Seddighi et al., 2020). Strong social networks and community support are essential in helping families manage climate-related challenges (Torres & Casey, 2017). Sharing resources, providing emotional support, and collaborating on disaster preparedness can enhance resilience and empower families to take collective action and support one another during climate-related events (Gil-Rivas & Kilmer, 2016). Children's Climate Risk Index highlights the critical actions needed to ensure a livable planet for children. It emphasizes the importance of adapting essential services, compensating for loss and damage, and increasing investment in decarbonization to protect children from the effects of climate change (Clark et al., 2020).

f. Climate Change in Bangladesh: Bangladesh ranks among the world's most climate-vulnerable nations due to its geographic location. Its flat landscape, dense population, and reliance on climate-sensitive sectors such as agriculture make it particularly susceptible to the impacts of climate change (Rakib et al., 2018). According to the IPCC 2011 report and the Global Climate Risk Index 2020, Bangladesh ranks seventh among the countries most affected by climate change (Islam et al., 2021). Climate change disproportionately impacts children in Bangladesh, exposing them to various hazards, including floods, cyclones, and salinity intrusion, which disrupt access to education, healthcare, and safe drinking water (Rahman et al., 2019). A shocking 62% of households in Bangladesh are experiencing food insecurity following the floods, caused by the loss of livelihood, livestock, and damage to agricultural lands (Parvez et al., 2021). Children from food-insecure households in Bangladesh are more likely to be stunted, wasted, and underweight (Hasan et al., 2022).

Children in Bangladesh face heightened risks of respiratory illnesses, diarrheal diseases, and vector-borne diseases due to climate change, with the prevalence of pneumonia, childhood diarrhea, malaria, and dengue being higher in vulnerable communities (Kabir et al., 2016). Children in coastal areas and riverine regions are especially at risk, encountering increased threats of malnutrition, disease, and displacement (Kaiser, 2023). Frequent climate-induced disasters, such as floods, occur almost yearly in Bangladesh, disrupting the agricultural system and leading to food insecurity and malnutrition (Parvin et al., 2015). Furthermore, rising temperatures have been linked to children's nutritional status in coastal areas of Bangladesh, with lower measured Mid-Upper Arm Circumference (MUAC) observed in those children exposed to higher temperatures during their birth month (Hanifi et al., 2022). Extreme weather events and natural disasters inflict psychological impacts on children and their families in Bangladesh, including anxiety,

fear, depression, and PTSD. Additionally, children experience helplessness and frustration related to school challenges, limited play areas, and food shortages (Akhter et al., 2015). In a flood-prone area of Bangladesh, 60.72% of boys and 80% of girls were found to have PTSD, while 71.42% of boys and 84% of girls were found to have depression (Siddik et al., 2024).

Natural disasters disrupt learning opportunities for young children by damaging school infrastructure, exacerbating poverty, and altering livelihoods in Bangladesh (Bhuiyan et al., 2024). In 2024, climate change significantly impacted education in Bangladesh, putting 35 million children at risk from extreme weather events (Marin et al., 2024). Schools were forced to shut down due to heatwaves, cyclones, and floods, resulting in a loss of up to 8 weeks of learning in the most affected regions (UNICEF, 2025). In an area vulnerable to flooding, 93.8% of students encountered academic difficulties, 66.2% of children discontinued their education, and 17.5% were reported to have skipped classes entirely after the flood (Habiba et al., 2021). Severe weather incidents like floods, cyclones, and heat waves have forced families to remain indoors for prolonged periods, interrupting children's daily activities and social engagements. This situation has resulted in heightened anxiety, depression, and emotional distress, especially among children living in flood-prone areas of Bangladesh (Pinto, 2025). Children in Bangladesh experiencing prolonged confinement show reduced social interactions, resulting in greater dependence on devices and sleep disturbances (Kakon et al., 2024).

Families in Bangladesh employ various coping mechanisms to mitigate the effects of climate change, such as taking financial initiatives through loans, reducing food consumption and daily necessities, and selling domestic and productive assets, which increases family vulnerability (Hossain et al., 2020).

Chapter III: Methodology

a. Research Design: This research adopted a mixed-method approach to explore comprehensively what parents know about climate change, how they perceive its effects on their children's development and well-being, and the coping mechanisms families use to address these challenges. The research combined quantitative and qualitative methods to provide insight into the research questions. Structured surveys collected quantitative data from parents to determine the prevalence of knowledge about climate change and climate-related health and developmental issues in their young children. Concurrently, qualitative data were gathered through focus group discussions with parents to gain detailed insights into their perceptions, experiences, and strategies for managing the challenges posed by climate change. By integrating these methods, the research aims to validate and enhance the quantitative findings with qualitative insights, ensuring a comprehensive analysis. This mixed-methods design enabled the identification of patterns and correlations while uncovering the depth and complexity of individual experiences, ultimately contributing to the development of effective interventions and policies to safeguard children's health and development in the face of climate change.

b. Research Site: The research site was Satkhira, a coastal area of Bangladesh highly susceptible to cyclones, sea-level rise, saline intrusion, floods, and extreme heat. The people in this region face challenges related to changing agricultural patterns, food security, and access to clean water (Das et al., 2024). Children in this area are particularly vulnerable, facing a heightened risk of diseases and malnutrition, along with disrupted access to education and medical services. Additionally, they are exposed to mental health issues stemming from poverty, frequent migration, and domestic violence (Mondal et al.,

2024). The two Upazilas of Satkhira district, namely Shyamnagar and Kaliganj, served as the research sites that provided relevant and comprehensive data for the study.

c. Research Participants: Parents with children aged 4 to 8 years who lived in areas prone to climate-related occurrences were selected as research participants.

d. Participation Selection Procedure: A purposive sampling technique was applied for the research. Parents of 4-8-year-old children were informed that they would participate in the study with the coordination of the government primary school authorities. Parents who willingly agreed to participate were enlisted. Participants were selected from the parents of Shyamnagar and Kaliganj Upazila, consisting of 52374 children aged 4 to 8 years (BBS, 2022). Among them, 80 participants who had 4-8-year-old children were selected, comprising 74 mothers and 06 fathers for the survey. The sample size represented 0.15% of the parents of the total number of children. Both fathers and mothers were invited to participate in the survey. However, due to the fathers' unwillingness and unavailability, a sufficient number of surveys could not be conducted with them. This gender imbalance in participant numbers posed a limitation to the research. Additionally, 12 participants were selected for two FGDs, both of which were conducted by mothers. The limited availability of fathers once again restricted the ability to conduct FGD sessions with them.

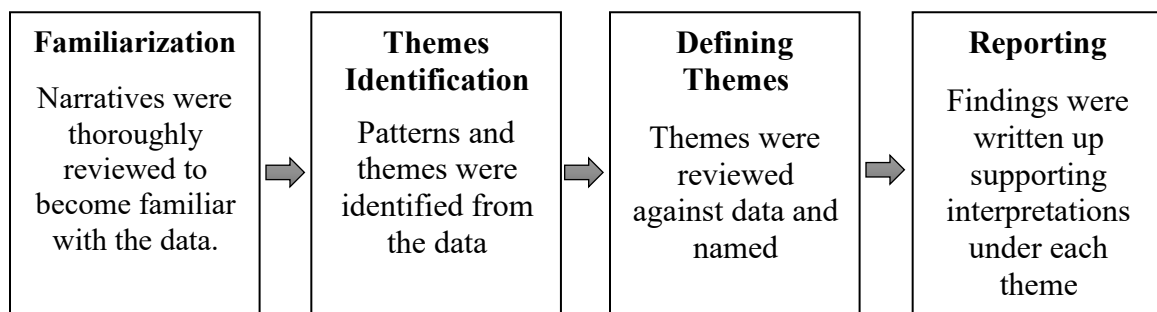
e. Data Collection Tool: A structured questionnaire was prepared for the survey and reviewed by experts. 2 participants participated in a pilot test to check the questionnaire's clarity, and it was refined based on the requirements identified during the pilot phase to enhance its effectiveness. A semi-structured FGD guideline was developed to collect qualitative data and was reviewed by experts.

f. Data Collection Method and Procedure: Written consents were taken from all participants of the survey and FGDs prior to data collection. Quantitative data were

collected through a face-to-face survey with parents. The interviews were taken using a structured survey questionnaire. Answers were recorded in a Google Datasheet, and each survey took 10 to 15 minutes to complete.

Qualitative data were collected to explore in-depth perspectives on the effects of climate change, personal experiences, and coping strategies by conducting FGDs that facilitated moderated discussions and gathered diverse viewpoints. FGDs were held at convenient locations and times for the participants and lasted 40 to 55 minutes. Both FGD sessions were recorded, and handwritten notes were taken. Both participants from the survey and the FGDS were sincerely thanked for their valuable contributions to the study.

g. Data Management and Analysis: To prepare the data for quantitative analysis, all survey responses were automatically gathered in a Google Datasheet, and the data were copied into a Microsoft Excel sheet for convenience. Then, frequency distributions and percentages across multiple variables were calculated using descriptive statistics. Figures, graphs, and tables were created to present the data visually. The audio recordings of both FGDs were transcribed into narrative form for qualitative data analysis. To ensure accuracy, the hand notes taken during the FGD sessions were checked against the transcribed data. The content analysis technique was applied to interpret the data by following the steps.



Quantitative and qualitative data were combined to cross-verify the findings and highlight similarities and differences between the two data sets. The qualitative findings were utilized to explain and elaborate on the quantitative results, providing enriched context and comprehensive understanding.

h. Validity and Reliability of the Research Tool: To ensure the research tool covers all relevant aspects of the research concept and accurately measures its intended outcomes, survey questions and FGD guidelines were thoroughly reviewed based on existing literature and theories related to climate change effects on children. Additionally, experts evaluated the survey questionnaire and FGD guidelines to confirm that the items were clear, relevant, and effectively measured the intended concepts. A pilot test was conducted with a limited sample from the target population to identify any issues with the research tools, and the tool was refined based on the feedback received.

i. Ethical Issues: The research proceeded with prior approval from the authorities of BRAC Institute of Educational Development, BRAC University, and both written and oral consent were obtained from the participants. They received information regarding the study's objectives, procedures, risks, and benefits, and their involvement was entirely voluntary. They could opt out of the research without any consequences. Participants could answer questions at their discretion and skip any questions they chose not to respond to. The confidentiality of personal information was strictly maintained, ensuring that all participants' identities remained anonymous. Every effort was made to prevent physical or psychological harm to participants. Cultural sensitivity was prioritized by deliberately respecting diverse perspectives and behaviors. Transparency in the research process was upheld through honest practices in data collection, analysis, report writing, and addressing any conflicts of interest. Participants were informed about how their data would be utilized.

i. Limitations of the Study: Among participants, fathers showed less willingness to participate in the survey, resulting in a gender imbalance in sample size and fewer responses from the fathers. Due to social desirability bias, participants might not give truthful or precise answers, impacting data validity. Cultural differences might have affected how questions were understood and answered, and misinterpreting questions or responses might lead to the accuracy of findings. Climate change impacts vary widely based on local environmental and contextual factors, such as geographic location. The findings might not be universally applicable, as different regions experience and respond to climate change differently. Ensuring the reliability and validity of newly developed tools was challenging. Any issues with the research tools could affect the overall credibility of the study's findings. Lack of resources, like time and workforce constraints, limits the sample size to a smaller number.

Chapter IV: Results/Findings and Discussion

a. Findings:

The research aims to explore parents' knowledge of climate change, their perceptions of its effects on children's physical, emotional, and social development, and the strategies families use to cope with its challenges. A mixed method is employed in the research, and the findings are compiled by analyzing quantitative and qualitative data using descriptive statistics and content analysis.

For quantitative data collection, a survey was conducted using an interview schedule from February 10 to 13, 2025. A total of 80 participants, including fathers and mothers with children aged 4 to 8 years, participated in the survey. Two Focus Group Discussions (FGDs) for qualitative data were held on February 11 and February 13, 2025, using a semi-structured guideline. 12 mothers participated in FGDs, 6 in each group.

The findings are presented in three segments, focusing on parents' knowledge about climate change, their perceptions of the effects of climate change on their children's development and well-being, and the adaptive strategies they employ to address these challenges. The findings section is presented in two parts corresponding to the research questions: Quantitative Data Findings and Qualitative Data Findings.

Quantitative Findings:

Demographic Information

80 responses were collected from parents in the survey. Table 1 shows the demographic characteristics of the participants, indicating that 92.5% (f=74) were mothers and 7.5% (f=6) were fathers. The age cohort of 18-25 years comprised 15% (f=12) of participants, those aged 26-33 years made up 58.8% (f=47), 34-41 years accounted for 18.8% (f=15), 42-49 years represented 5% (f=4), and those above 50 years constituted 2.5% (f=2) of participants. Among the respondents, 7.5% had no formal education, 16.3% had completed primary education, 60% had attended secondary education, 11.3% had finished higher secondary education, 3.8% had graduated, and 1.3% held a post-graduate degree. Most participants were housewives (78.8%). The rest included business professionals (12.5%), private sector employees (3.8%), and individuals in farming occupations (5%). 47.5% had a monthly income of less than 10000 BDT, 40% had an income between 10000 and 20000 BDT, 5% earned between 20001 and 30000 BDT, 3.8% had an income between 30001 and 40000 BDT, and another 3.8% earned a monthly income above 50000 BDT. Among the parents, 21.3% had one child, 45% had two, 26.3% had three, and 7.5% had four or more children. (Table 1)

Table 1: Demographic Characteristics of the Participants

Variables	Frequency	Percentage
Gender		
Female (Mothers)	74	92.5%
Male (Fathers)	6	7.5%
Age (yr.)		
18-25	12	15%
26-33	47	58.8%
34-41	15	18.8%
42-49	4	5%
Above 50	2	2.5 %
Level of Education		
No formal education	6	7.5%
Primary education	13	16.3%
Secondary education	48	60%
Higher secondary education	9	11.3%
Graduation	3	3.8%
Post-graduation	1	1.3%
Occupation		
Housewife	63	78.8%
Business	10	12.5%
Government employee	0	0%
Private sector employee	3	3.8%
Farming	4	5%
Monthly Income		
Below BDT 10,000	38	47.5%
BDT 10,000 - 20,000	32	40%
BDT 20,001 - 30,000	4	5%
BDT 30,001 - 40,000	3	3.8%
BDT 40,001 - 50,000	0	0%
Above BDT 50,000	3	3.8%
No. of Children		
1	17	21.3%
2	36	45%
3	21	26.3%
4 or more	6	7.5%

1. Parental Knowledge of Climate Change: This section focused on parents' knowledge of climate change, including where they obtained information, whom they believed were mainly affected, and which incidents they experienced due to climate change.

1.1. Knowledge about Climate Change

Figure 1 illustrates parents' responses regarding the meaning of climate change. 56.3% of respondents identified flooding, 55% reported cyclones, and 48.8% identified heat waves. Additionally, 17.5% mentioned river erosion, 12.5% identified heavy rainfall, 11.3% recognized rising sea levels, and 7.5% noted drought. 13.8% did not respond regarding the meaning of climate change to them.

Figure 2 shows parents' responses about incidents caused by climate change. 57.5% identified Floods, 52.5% mentioned Cyclones, 51.2% reported Heatwaves, 21.3% noted River Erosion, 10% identified Sea Level Rise, 8.8% pointed to Heavy Rainfall, and 7.5% referred to Drought. Additionally, 10% reported being unaware of the incidents related to climate change. Multiple responses were collected from participants on each instance.

Figure 1: Parents' Responses on the Meaning of Climate Change.

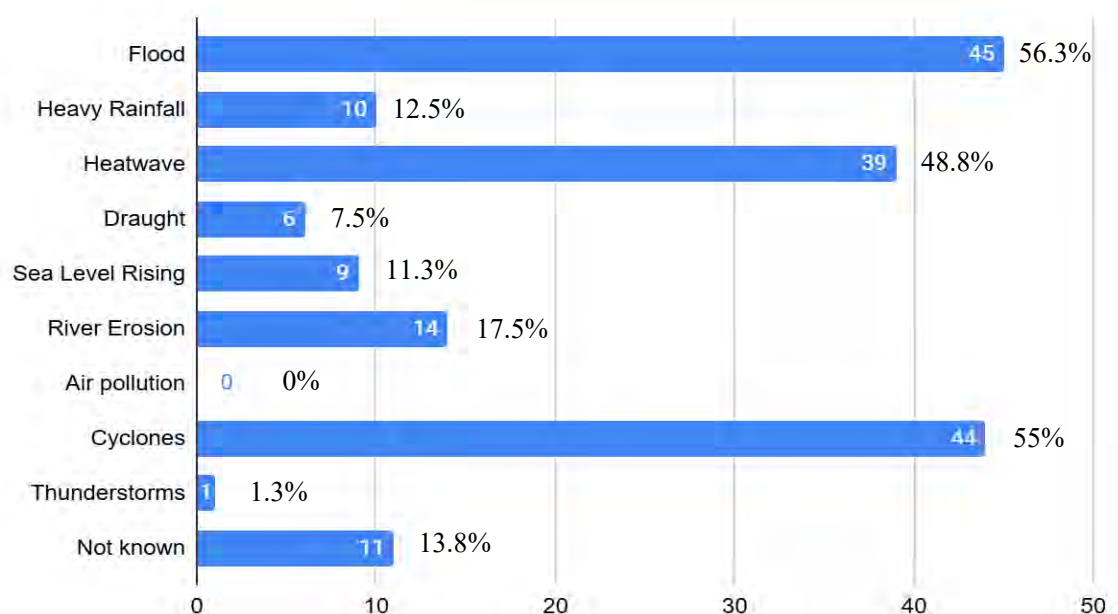
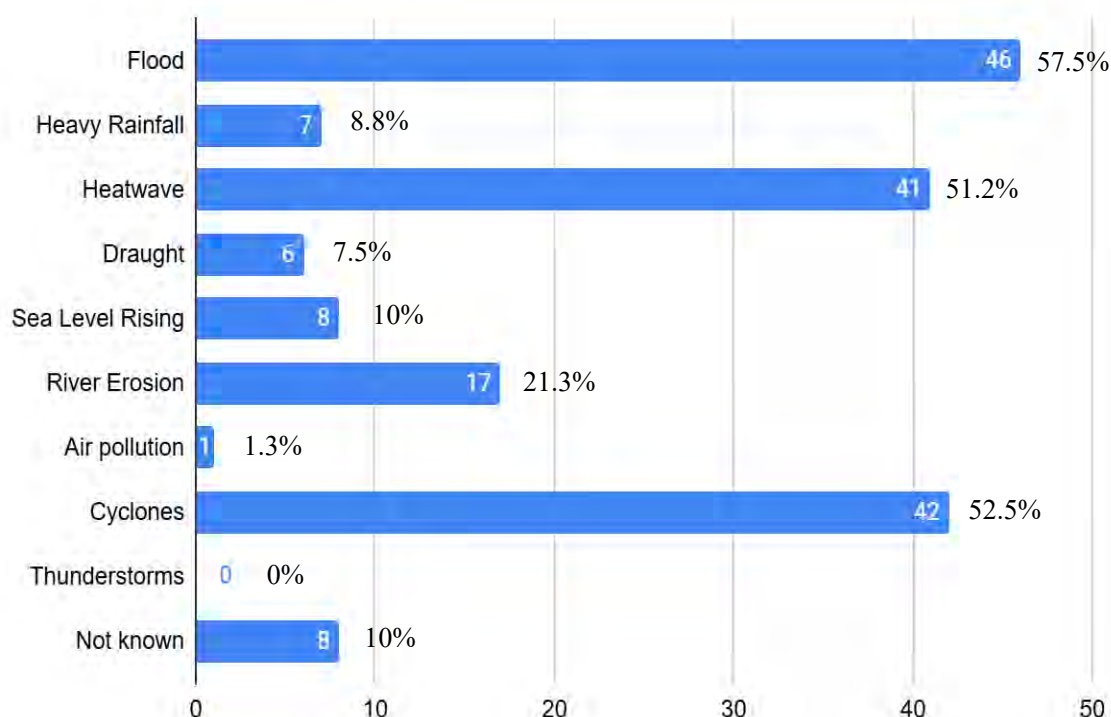


Figure 2: Parents' Responses on Incidents Caused by Climate Change



1.2 Source of Information about Climate Change

The survey was conducted in remote areas, including some isolated islands, and many respondents came from lower socio-economic backgrounds. Table 2 presents the sources of information from which parents acquire knowledge about climate change. The highest percentage of participants (47.5%) reported not receiving any information about climate change and stated that they do not know much about it. 30% of participants reported gaining insights on climate change issues from community meetings, while 13.8% referred to television, 12.5% learned from NGO activities, 11.3% accessed information via the internet, and 8.8% reported schools and colleges. Additionally, a smaller fraction mentioned newspapers (5%) and social media (2.5%). Multiple responses were collected from participants to determine the various sources of information.

Table 2: Source of Information on Climate Change

Sources	Frequency	Percentage
Television	11	13.8%
Internet	9	11.3%
Social media	2	2.5%
Newspaper	4	5%
Schools/Colleges	7	8.8%
Community Meetings	24	30%
NGO Activities	10	12.5%
Not Known / Not getting information	38	47.5%

1.3 Knowledge from Experiencing Climate Change Occurrences

Table 3 indicates that among the incidents related to climate change, 58.8% of participants identified cyclones as the most prevalent occurrence for them. Additionally, 57.5% expressed concern about heat waves, 52.5% considered floods, and 32.5% mentioned river erosion among the most common occurrences they encountered due to climate change. 92.5% of participants thought climate change incidents mainly impacted children, whereas 61.3% believed older adults suffered the most (Table 3).

Table 3: Most Exposed Occurrences and Most Affected Populations Due to Climate Change

Variables	Responses	Frequency	Percentage
Most Exposed Climate Change Occurrences	Cyclones	47	58.8%
	Heat waves	46	57.5%
	Floods	42	52.5%
	River Erosion	26	32.5%
Most affected Populations due to Climate Change	Children	74	92.5%
	Elderly	49	61.3%

2. Effects of Climate Change on Children

This section focuses on understanding the perceived effects of climate change on children's development, learning, and physical and mental health issues. Table 4 illustrates that 97.5% of participants believed climate change negatively impacted their children's development due to physical health issues. Meanwhile, 81.3% of parents felt that frequent extreme weather events, like floods and heatwaves, limited their children's outdoor play opportunities and hindered their physical and socio-emotional development. 57.5% of parents observed behavioral changes and socio-emotional well-being issues in their children, and 67.5% believed that climate-related events impacted their children's learning abilities and cognitive development.

Table 4: Issues Affecting Children Due to Climate Change

Issues Affecting Children	Frequency	Percentage
Physical Health Problem	78	97.5%
Lack of Play Opportunity for Development	65	81.3%
Socio-Emotional Well-being Issues and Behavioral Changes	46	57.5%
Learning Interruption	54	67.5%

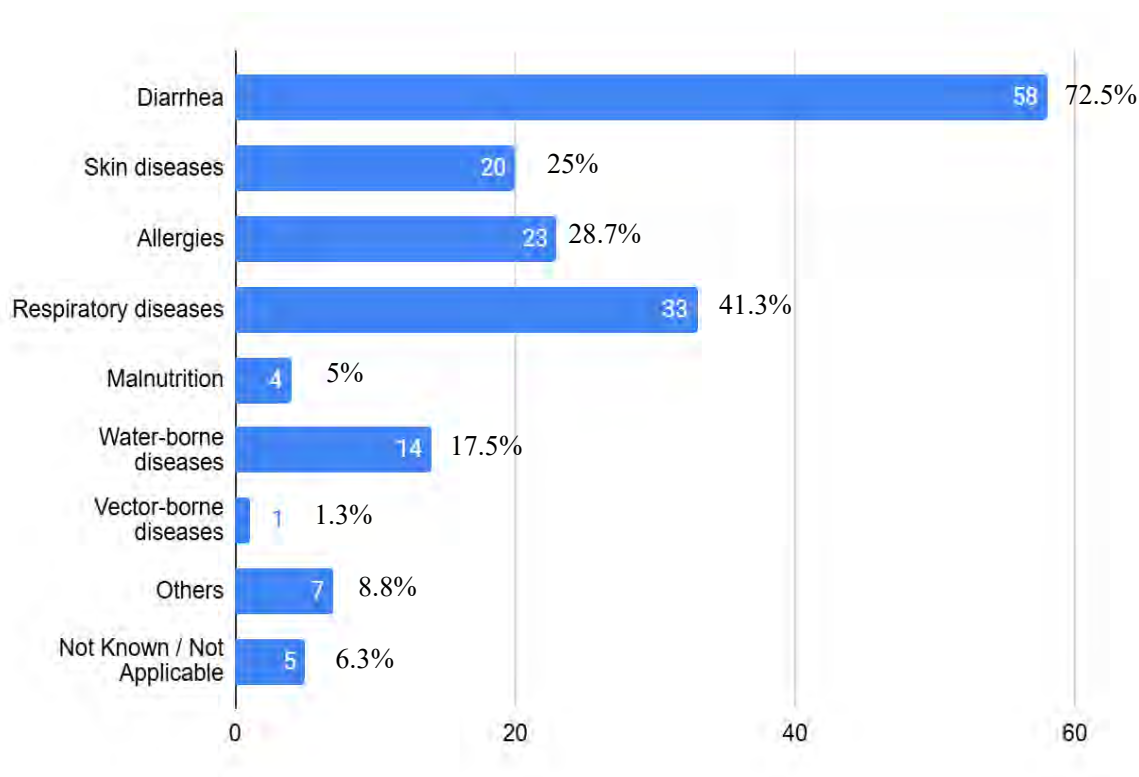
2.1 Physical Health Issues and Development

43.8% of participants believed different physical problems severely affected their children, while 53.8% felt it had a moderate effect. Climate disasters, such as extreme heat or floods, can result in various physical conditions and diseases.

Figure 3 illustrates the physical health issues children encountered due to climate change, as reported by their parents. 72.5% of parents associated diarrhea, 25% thought of skin

diseases, 28.7% related allergies, 41.3% associated respiratory diseases, 5% noted malnutrition, and 17.5% linked waterborne diseases to climate change, which they believed was affecting their children.

Figure 3: Physical Health Issues Children Encountered due to Climate Change



2.2 Learning Interruption Due to Climate Change

81.3% of parents agreed that extreme weather events, such as floods and heat waves, limit outdoor play for children (Table 4), impacting their physical and social development, and mental well-being. Furthermore, these outcomes reduce learning opportunities for children. 67.5% of parents mentioned that extreme weather causes learning disruption (Table 4) due to school closures, physical health issues, and psychological impacts on the children. Table 6 illustrates that 37.5% of parents believed children faced challenges in completing their education. 31.3% cited school closures, while 11.3% identified physical health issues as barriers to children's educational completion.

Table 5: Parents' Responses on Learning Interruption due to Climate Change

Features	Responses	Frequency	Percentage
Learning Interruption	Children Faced Challenges in Completing School Life	30	37.5%
	School Closure as a Barrier	25	31.3%
	Physical Health Issues as a Barrier	9	11.3%

2.3 Effects on Socio-Emotional Well-Being

41.3% of parents believed that extreme heat conditions and 30% felt that severe weather events, including storms and floods, significantly affected their children's well-being.

Table 5 presents the issues affecting children's well-being due to climate change events. 36.3% of parents reported sudden mood swings, 3.8% observed persistent sadness, 32.5% noticed irritability, 11.3% noted extreme worry or fear, 15% mentioned changes in eating habits, 8.8% observed changes in sleep patterns, and 7.5% expressed difficulties in concentrating due to climate-related events. Conversely, 42.5% of parents were unaware of the effects of climate change on their children's mental health and thought that their children were not exhibiting any behavioral changes due to climate change issues.

Table 6: Issues Affecting Children's Well-being due to Climate Change

Issues Affecting Children's Wellbeing	Frequency	Percentage
Sudden mood swings	29	36.3%
Persistent sadness	3	3.8%
Irritability	26	32.5%
Extreme worry or fear	9	11.3%
Changes in eating habits	12	15%

Changes in sleep patterns	7	8.8%
Difficulty concentrating	6	7.5%
Not known	34	42.5%

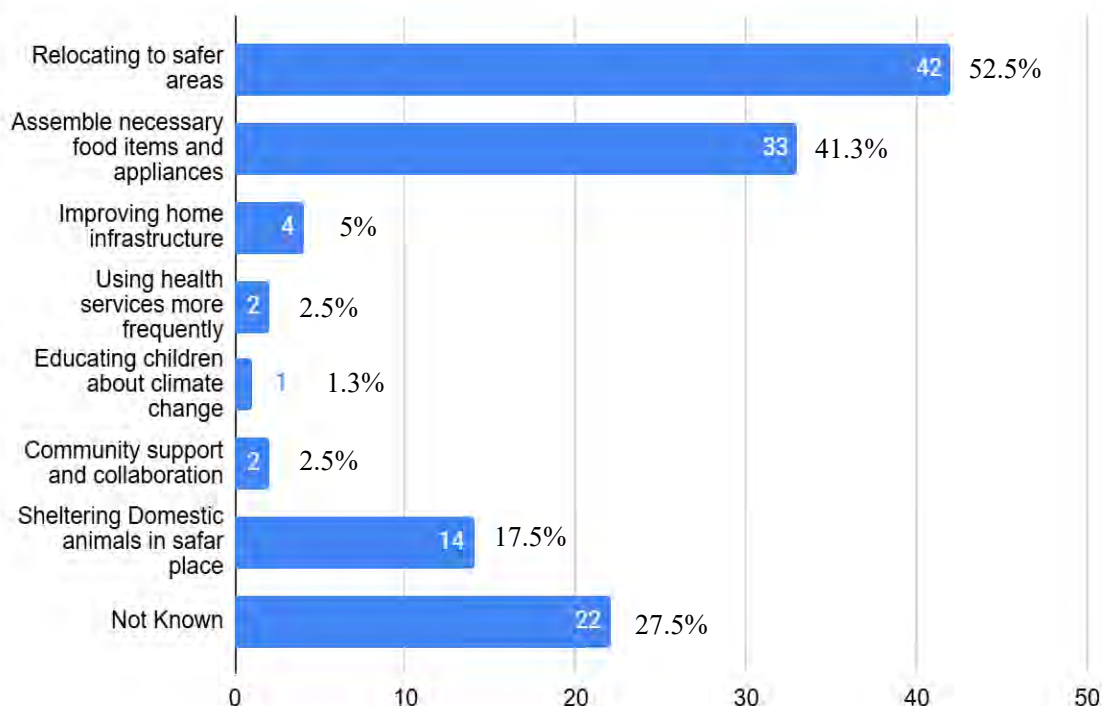
3. Coping Mechanisms and Support System

This section focuses on identifying the adaptive strategies that parents employed to mitigate the effects of climate change and assessing their effectiveness as reported by the parents themselves. It also seeks their involvement in community activities addressing climate change and tackling the challenges of taking further action against it. Finally, it aims to identify the assistance received from the government, NGOs, or community groups in addressing the impacts of climate change, determine the effectiveness of that support, and outline actions that the government and community could take for better support.

3.1 Family Adaptation Strategies

Figure 4 illustrates the strategies parents employ to cope with the effects of climate change. 27.5% of parents could not identify any strategies to implement during extreme climate events. 52.5% of parents consider moving to safer areas an effective strategy during severe weather events and implement it accordingly. 41.3% mentioned gathering essential food items and appliances, 17.5% indicated relocating domestic animals and birds to safer locations, and 5% articulated the need to enhance home infrastructure. 56.3% believe these strategies are moderately effective in mitigating the impacts of climate change, while 16.2% consider them very effective.

Figure 4: Strategies Taken by the Parents to Cope with the Effects of Climate Change



3.2 Community Engagement in Climate Action

Table 7 presents the parents' responses regarding their involvement in community activities. 78.8% of parents never participated in any community activities to learn strategies for mitigating the effects of climate change. Only 20% reported attending community programs organized by NGOs, schools, or other organizations. Additionally, 56.3% cited a lack of information, and 65% believed that limited community support prevents them from taking more action against climate change. Furthermore, 53.8% of parents have never discussed climate change and its effects with their children, while 43.8% reported discussing some basic actions to take during extreme weather events.

Table 7: Parents' Involvement in Community Activities

Variables	Responses	Frequency	Percentage
Participation in community activities	Never	63	78.8%
	Sometimes	16	20%
	Always	1	1.3%
Barriers that prevent taking action	Lack of information	45	56.3%
	Limited community support	52	65%
	Not known	10	12.5%
Discussion with children about climate change	Never	43	53.8%
	Sometimes	35	43.8%
	Always	2	2.5%

3.3 Institutional Support from Government and NGOs

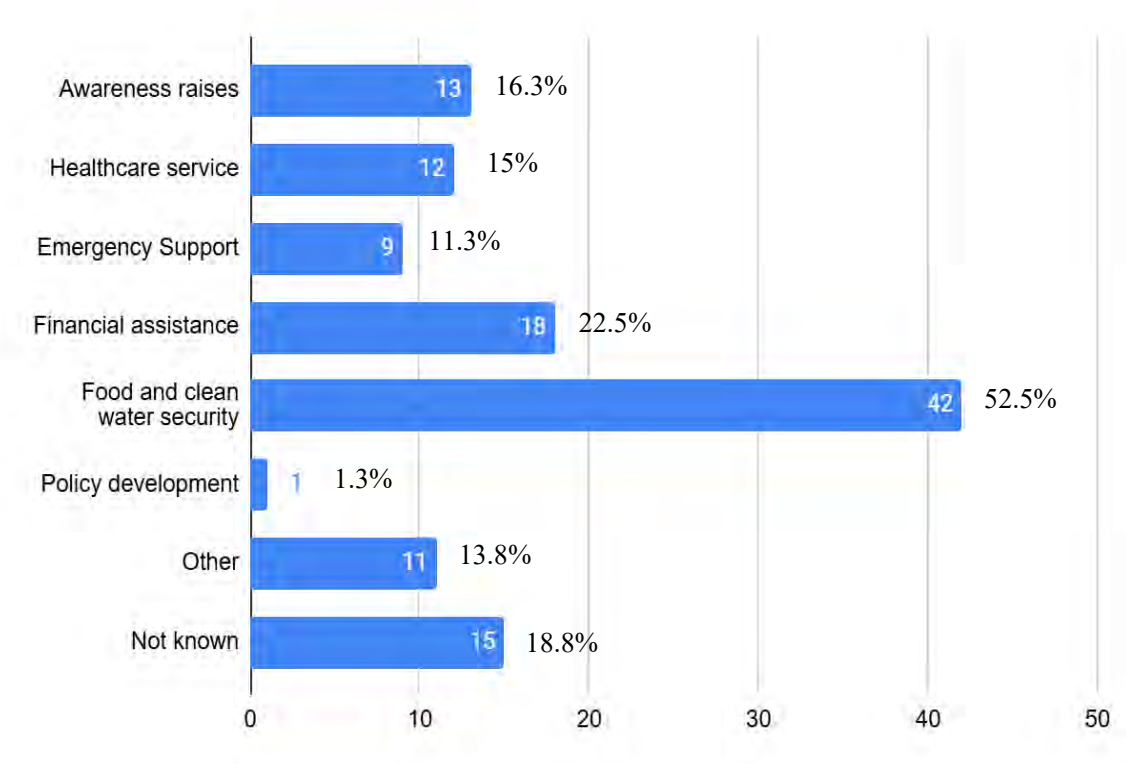
Table 8 reveals that 76.3% of parents reported never receiving any assistance or support from the Government or NGOs to cope with the effects of climate change. In comparison, 23.8% mentioned having received support at some point in their lives. Among the parents, 21.3% found the assistance and support from the Government / NGOs to be moderately helpful, while 5% believed it was not beneficial.

Table 8: Support Received from the Government/ NGO and Its Effectiveness

Variables	Responses	Frequency	Percentage
Support from the Government or NGOs	Never Received	61	76.3%
	Received	19	23.8%
Effectiveness of the Support	Moderately Helpful	17	21.3%
	Not Beneficial	4	5%

Figure 5 outlines various areas where the government can support children and families affected by climate change, according to parents. 52.5% of parents believed the government could protect children and families by ensuring food and clean water security. Furthermore, 16.3% emphasized the importance of raising awareness, 15% suggested that healthcare services should be provided, 11.3% indicated a need for emergency support, 22.5% highlighted a demand for financial assistance, and 18.8% were uncertain about the type of support they required.

Figure 5: Parents' Views on Various Ways the Government Can Assist



Qualitative findings:

This research explores parents' experiences navigating their understanding of climate change and its effects on their children's development and well-being. Through two focus group discussions (FGDs), the study reveals the nuanced perspectives of parents from climate-affected regions, highlighting their understanding of climate change, their

perceptions of its impact on their children's physical, emotional, and social development, and the strategies they employ to cope with its challenges. All 12 participants were mothers; 83.3% were aged between 26 and 33 years. All participants had education levels below secondary, and 91.7% were housewives. 75% had a family income under BDT 10,000 monthly, while 83.3% had two or more children.

The findings are organized within a thematic framework established through rigorous qualitative analysis. Participants' insights were categorized into three main themes: (1) Parental Understanding of Climate Change, (2) Perceived Effects of Climate Change on Children, and (3) Coping Mechanisms and Adaptive Strategies.

Each theme and its associated subthemes are supported by direct quotes and rich descriptions that capture the key insights of the participants' lived experiences.

Theme 1: Parental Knowledge of Climate Change

Subtheme 1.1: Knowledge about Climate Change

Most of the participants struggled to express their thoughts about climate change. They could not articulate much about it, only highlighting irregular weather patterns. They were unaware of the underlying causes of climate change. Many participants highlighted the effects of extreme weather events by sharing their experiences. One of the participants stated, *“We are facing various disasters due to climate change. We constantly face multiple types of damage due to breaches of dams and embankments, which cause saltwater to enter our coastal areas”* (FGD#2, February 13, 2025).

However, only one participant knew about deforestation, carbon dioxide accumulation, rising temperatures, and glacial melting. She mentioned, *“There are not enough trees, meaning that trees cannot absorb the carbon dioxide we release. As a result, I have heard*

that the amount of carbon dioxide in the atmosphere is accumulating, which is why temperatures are rising” (FGD#1, February 11, 2025). She also described the connection between increased heat and the frequent floods they experience. She stated, “The Himalayan glaciers of large countries are melting and flowing, resulting in flooding low-lying areas and widespread damage” (FGD#1, February 11, 2025).

Several participants believe environmental degradation, including dam breaches and river erosion, is linked to deforestation. One parent specified, *“I believe that the primary cause of climate change is deforestation. The cutting down of trees is impacting the climate.”* (FGD#2, February 13, 2025). Another said, *“The afforestation that used to exist in our river erosion area on this riverbank is no longer there. Because it has disappeared into the riverbed, there is no place for us to plant”* (FGD#1, February 11, 2025).

The participants described the effects of climate change on the environment as cyclones, floods, heat waves, and irregular weather patterns. These events have numerous detrimental effects on life by damaging crops, homes, and livestock. One parent remarked, *“Due to climate change, cyclones are increasing, crops are being damaged, and houses and animals are affected everywhere”* (FGD#2, February 13, 2025).

These damages lead to financial burdens due to the loss of income sources. Saline water intrusion resulting from the dam breach and prolonged water retention affects their farming, making it difficult to grow crops and leading to food shortages. Many people suffer from diseases spread by contaminated water, and their struggle worsens even more. One of the parents recognized, *“Crops are damaged, dams break, and saltwater fills, causing financial losses. There is a food shortage, and children are struggling to play. Additionally, many people are falling ill and suffering from illnesses such as colds, coughs, or diarrhea caused by contaminated water”* (FGD#1, February 11, 2025).

Subtheme 1.2: Source of Information about Climate Change

Information about climate change and its cause and effect was obtained through books, television, the internet, mobile phones, NGOs, and community announcements. Participants highlighted the significance of awareness while noting differences in knowledge levels. One parent mentioned, *“I believe that when we were children, we learned about it in school; now, we encounter it through mobile phones and the Internet. An NGO once visited our area to discuss climate change, and I also learned about it from them”* (FGD#1, February 11, 2025).

Living in a coastal area, any natural disaster can profoundly affect the environment and communities. Therefore, they stay alert and take the initiative whenever they hear the news, whether from community announcements or other electronic media. One parent stated, *“We live in a river area and constantly face disasters, so we are always concerned about what might happen. We stay informed about the news and keep up with the latest updates”* (FGD#1, February 11, 2025).

Subtheme 1.3: Knowledge from Experiencing Climate Change Occurrences

Many participants noted the gradual increase in temperature in the present day. Summers in recent years feel significantly hotter and more unbearable than they did in childhood. One participant said, *“I feel the heat is significantly higher now compared to before. I can't quantify how much higher it is, but I know it is considerably increased. We experience the impacts of heat in various ways.”* (FGD#1, February 11, 2025).

Some participants mentioned that irregular weather patterns were occurring frequently. Untimely rain, extreme heat during the monsoon, and prolonged winter are among the observations they discussed. One parent expressed, *“Due to climate change, winters are becoming colder, and summers are growing hotter. I feel like it's spring in the morning,*

yet we experience cold temperatures. What is supposed to happen isn't occurring as expected; instead, it seems to be happening at an unexpected time to some extent” (FGD#1, February 11, 2025).

The frequent fluctuations in temperature lead to physical issues such as fever and other respiratory problems. One parent described, *“The excessive heat and cold are causing physical problems; children are experiencing difficulty breathing and asthma. For such physical issues, we may need to seek treatment. In severe cases, hospitalization could be necessary due to the effects of climate change.” (FGD#2, February 13, 2025).*

Saline intrusion and prolonged flooding change the region's land characteristics, leading to declining agricultural productivity and making it difficult for regular plants to grow. One parent said, *“All the trees in our area have died from salty water. The beautiful trees that were there before no longer grow. The crops are also less” (FGD#2, February 13, 2025).*

The reduced number of trees increases the dust level, which causes respiratory illness and other physical complications. Another parent stated, *“Cyclone Aila occurred in 2009. Before Aila, the vegetation in our village was typical. We used to live a good life. After this flood, our plants were severely reduced due to saltwater and freshwater mix-ups. After that, I noticed excess dust, and we experienced breathing problems due to the dust” (FGD#2, February 13, 2025).*

Theme 2: Effects of Climate Change on Children

Subtheme 2.1: Physical Health Issues and Development

Due to climate change, children are experiencing various health issues that affect their physical well-being and development, such as diarrhea, fever, coughs, asthma, skin diseases, vector-borne diseases, irregular food and sleep habits, and malnutrition. Diarrhea

is a common condition among children, occurring during extreme heat and extended periods of flooding. Extreme heat altered the children's food habits, and they showed disinterest in eating. One parent stated, *“During extreme heat, children do not want to eat properly; if they eat in the morning, they tend not to eat in the afternoon. Feeding them forcefully can cause the child's stomach problems, such as diarrhea. This is how children can become problematic”* (FGD#2, February 13, 2025).

Another mother expressed concern about food safety, as chemicals are used to produce regular vegetable plants. She said, *“Due to climate change, vegetables here or everywhere are not growing or do not want to grow that way. Due to this, various types of chemicals are used to produce those vegetables. Those foods contain chemicals that affect children more”* (FGD#1, February 11, 2025).

Many children suffer from diarrhea and other waterborne diseases during floods due to contaminated water and poor sanitation management. One of the parents detailed, *“Most of our children suffer from diarrhea because of contaminated water. Out of a hundred children, perhaps 99 will be sick. Clean water is not available anywhere. We still have some good water here, but the quality declines as you move down from the plainlands. This salty water creates significant challenges, particularly for the child”* (FGD#1, February 11, 2025).

Several participants stated that their children suffer from fevers, coughs, colds, and respiratory diseases such as asthma due to extreme heat and irregular weather patterns of fluctuating temperatures. One parent mentioned, *“Exposure to cold and heat causes children to develop snoozing, coughing, and fever, leading to a terrible feeling. They feel unwell and lack appetite”* (FGD#2, February 13, 2025).

Prolonged exposure to contaminated water and unsanitary conditions during floods can increase the incidence of various skin diseases. One mother stated, *“During floods, children suffer from diarrhea, itching, scabies, allergies, asthma, and breathing problems; these are constant”* (FGD#1, February 11, 2025).

Several parents mentioned their children's irregular food and sleep habits during extreme heat conditions. One of the parents mentioned, *“They cannot be fed when they return home as they do not want to eat, they do not want to sleep as well; they get tired from the extreme heat”* (FGD#2, February 13, 2025).

Children in flood-affected regions were found to have lower immunity and be more susceptible to diseases due to malnutrition. One parent stated, *“My child always suffers from fever, cold, and cough, and this is due to malnutrition”* (FGD#1, February 11, 2025).

Subtheme 2.2: Lack of Outdoor Play Opportunity and Decline in Social Interaction

Several parents noted that children encountered obstacles to playing outside and engaging with peers during floods and extreme heat. Parents believe this barrier to outdoor play affects their children's opportunities for physical development and social skills. One of the parents expressed, *“My child wants to play outside. During the flood, mud and water seemed everywhere; where would he play? What will he do? The child will not act according to my wishes but at his own pace. He will be restrained for two to three months. A child's mentality can become negative; when we ask him to play, he refuses, and his attitude is off”* (FGD#1, February 11, 2025).

Parents believe playing is essential and want their children to interact with their peers to develop their social skills. However, they can only express their concern and not create a solution. Another parent mentioned, *“We always strive to keep our children happy and*

engage with ten more people while providing additional places for children to play with others. When a disaster strikes, these dams break, and water enters our lands, leaving no safe area for children to play. We had to adapt to the pace of time; when the water recedes, our children can play a little, and their mentality will shift” (FGD#1, February 11, 2025).

Children are experiencing increased screen time due to their inability to play outside during extreme heat or prolonged flooding. Parents feel helpless and resort to giving their children gadgets as they become impulsive from spending extended periods at home. One mother stated, *“They cannot play with their peers, mingle, or talk. Even though they want to go outside, we do not let them because of the scorching sun. We pressure them, saying it is getting hot and they cannot go out. But they are experiencing physical problems again. What can they do at home? I then noticed my child fidgeting to get the phone and staring at the phone for hours. At that time, he mentioned that his eyes were hurting and he had a headache.”* (FGD#2, February 13, 2025).

Many children remain sick during extreme heat and flood periods, gradually losing their enthusiasm for playing and mingling with their peers. Parents believe this mental enthusiasm comes while their children are physically fit; otherwise, children lose interest. One parent mentioned, *“I think the mental excitement for socializing or playing games with peers is decreasing. If one’s mental state does not improve, then it will be significantly disrupted. A healthy physical state is essential for a healthy mental state”* (FGD#1, February 11, 2025).

Prolonged peer isolation during extreme weather events hinders children’s social interactions and skill-building by delaying their communication and teamwork skills. One parent said, *“They could not socialize or play with their friends, which affected the development of social skills”* (FGD#2, February 13, 2025).

Subtheme 2.3: Learning Interruption Due to Climate Change

During a natural disaster, the school premises serve as a rescue center where villagers take shelter, sometimes for extended periods. The entire period remains closed for school activities, significantly hampering children's learning process and disrupting their daily routines. One parent expressed, *“No education was available, and no place to play in that situation. Regarding learning, they believe they could have learned if they had attended school and their teacher had given them any lesson materials to read. They must study according to their routine during the school closure; it has not been instilled in them yet. However, their enthusiasm for learning will not last while the school is closed”* (FGD#2, February 13, 2025).

Parents believe their children maintain a routine during school hours. When school is closed, children often become indifferent and undisciplined in their studies, eating habits, and sleeping routines, making it challenging for parents to consistently maintain their children's daily activities. One parent mentioned, *“During the school day, children go to school in the morning, come home, take a bath, eat, and sleep. Then they get up and play sports. They sit down to study at night, and their minds are clear. However, during school closures, they struggle to wake up in the morning. Since they are uninterested in studying, they spend time playing mobile games and neglect their meals. It feels quite frustrating as if it would have been better for them to be in school instead.”* (FGD#2, February 13, 2025).

During school closures, children lose concentration and enthusiasm for learning, and sometimes, they unlearn what they have been taught because of discontinuity. Parents also found it difficult to assist them in learning the earlier lessons. One parent stated, *“During school closures, focus on learning is lacking; children are used to sitting quietly in one place. They also forget their previous studies. Since the studies are not ongoing, they begin*

to forget. This is why we also face a struggle. It becomes challenging to teach those concepts again” (FGD#1, February 11, 2025).

Subtheme 2.4: Effects on Socio-Emotional Well-Being

Social network disruptions such as isolation from peers, school closures, barriers to outdoor play, parental stress, and the natural disaster itself all contribute to mental unwillingness, as these interconnected factors hinder a child's emotional well-being. These emotional states brought significant changes in the behavior patterns of the children. While describing the behavior shown by her children during extreme hot weather, one mother stated, *“Their mood becomes irritable due to the excessive heat. They do not want to sleep on time and do not want to eat either. The civilized behavior that was once present is no longer evident; it becomes rather rude”* (FGD#1, February 11, 2025). Another mother, while describing home isolation of her child, defined, *“They misbehave by throwing tantrums. They throw everything around the house when I say something cannot be done. They refuse to eat and continue to insist. Then they start crying. Their minds seem agitated when they can't go outside. They cannot express what they feel, but you can see they are suffering from mental stress”* (FGD#2, February 13, 2025).

Children have lost enthusiasm and interest in daily activities, including play, study, and interaction with parents and siblings. One parent stated, *“Children bring excitement; they will be enthusiastic. However, if there is flooding, they will have to stay indoors. If a child is locked up for a month, a week, or even a day, their mental change will occur, meaning the excitement will no longer be sustained”* (FGD#1, February 11, 2025).

While children undergo emotional or behavioral difficulties due to physical illness or extended periods of confinement at home, parents also become stressed and develop feelings of helplessness regarding the behavioral reactions of their children. This reciprocal

stress from the parents intensifies the situation, as they are confined to the same space. One of the mothers, sharing her experience, stated, *“Children may not want to eat food; if you force them, they will spit it out. We have to establish a discipline here, but much crying and nagging is involved. The child feels uncomfortable and even more reactive with this, and we as parents also become stressed, helpless, and anxious about solving the issue easily”* (FGD#2, February 13, 2025).

Theme 3: Coping Mechanisms and Support System

Subtheme 3.1: Family Adaptation Strategies

As families became aware of natural disasters, various initiatives emerged, especially those aimed at providing shelter for all family members, particularly children and older people, storing dry food, essential medicines, drinking water, and ensuring a safe place for domestic animals. One parent said, *“We quickly pack our essentials, take dry food, and try to go to the shelter with elderly people and children. We leave the domestic animals and birds in a safe place before heading to the shelter”* (FGD#1, February 11, 2025).

Parents mentioned providing disaster management education to their children to familiarize them with extreme weather conditions and the necessary actions to take. One parent stated, *“When natural disasters occur, we must help children understand that these events are a natural part of the world; this is how they happen. We discussed with the children whether it was worse in the past or whether even worse could happen in the future. They have no idea about this, and we warn them”* (FGD#1, February 11, 2025).

Families build their homes based on a plan to reduce the damage disasters inflict on their lives and property. One parent mentioned, *“Due to the tidal wave, we raise the house's base or build a fence around it. We cut the tree branches on the side of the roof to prevent*

them from breaking and falling onto the roof. The cattle house is built high.” (FGD#2, February 13, 2025).

Families adopted measures like keeping children hydrated and encouraging indoor activities to prevent the harmful effects of extreme hot weather. One mother said, *“When it gets too hot, we keep saline at home. Maybe because the children sweat a lot, we keep saline at home to compensate for their deficiency”* (FGD#2, February 13, 2025).

Subtheme 3.2: Community Engagement in Climate Action

The community has an emergency communication arrangement to warn people about natural disasters and advise them to evacuate or take safety measures. Additionally, the community has a Cyclone-Center where families can seek shelter during a disaster. One participant mentioned, *“We know when a storm is coming because they announce over the mic that it is approaching. They advised us to be cautious with our belongings and to reach a shelter as quickly as possible with all family members”* (FGD#2, February 13, 2025).

The community had access to a resource: an equipment kit provided by an NGO for use during the natural calamity crisis. One parent stated, *“An NGO has provided some equipment for climate change events, such as cyclones, tidal waves, and other natural disasters. They offered two sets: one is stored in our union parishad, and the other in the mosque.”* (FGD#1, February 11, 2025).

Community education programs, including disaster preparedness initiatives, were organized to respond to the warning and take necessary actions to protect families. An NGO conducted drills to help people become familiar with the appropriate procedures for responding during a disaster. One parent specified, *“An NGO visited our school and conducted a disaster drill. Many spectators attended, and the drill effectively conveyed*

important information. It taught children how to respond to a disaster and find shelter, all delivered through entertainment. As a result, the children were excited to watch.” (FGD#1, February 11, 2025)

Subtheme 3.3: Institutional Support from Government and NGOs

The embankment along the riverside is one of the most critical structures safeguarding the community from severe flooding caused by storm surges and heavy rainfall. If the embankments are strengthened from their current condition, future damage from storms or other disasters can be effectively prevented. The embankment has damaged and faulty sections that allow water to enter the plainlands easily. One parent mentioned, *“These problems should not occur if the embankment is strengthened. For instance, in our river area, the main issues are tidal waves and river erosion. I cannot explain how river erosion can be prevented. However, it would have been better if this embankment had been reinforced with some government assistance”* (FGD#1, February 11, 2025).

An educational program designed to teach disaster management would be beneficial in raising awareness and informing individuals about the necessary actions they can take to protect themselves and their families effectively. One parent said, *“During the cyclone, Educo Bangladesh illustrated how to efficiently lift individuals with disabilities, pregnant women, and older adults. If such initiatives could be implemented annually at the government level, they would greatly benefit the community. The children and the local population would become much more aware.”* (FGD#1, February 11, 2025).

Tree plantation has been emphasized as a solution to climate change and a safeguard against natural disasters, and government support has been requested. One mother stated, *“Plant as many trees as possible, and they should be planted wherever there is space. It*

would be beneficial if the government led this initiative or distributed some trees. I believe trees are a major contributor to climate change” (FGD#1, February 11, 2025).

Some recommendations for development include improving access to water and electricity, installing solar panels for school operations, providing medicines and medical support, increasing the number of cyclone shelters, and establishing additional community clinics to enhance healthcare access.

b. Discussion:

This study examines parental perceptions of climate change and its effects on children’s development and well-being in climate-vulnerable regions. A mixed-methods approach integrates quantitative survey data with qualitative insights from Focus Group Discussions (FGDs). This allows a holistic understanding of how families conceptualize, experience, and respond to climate-induced challenges. The findings indicate critical gaps in climate awareness, severe health and psychological consequences for children, educational setbacks, developmental challenges, and insufficient coping mechanisms among families. This section contextualizes these findings within existing literature, linking them to broader discussions on climate resilience, childhood vulnerability, and policy interventions. It also highlights structural barriers that prevent effective climate adaptation at the family and community levels, reinforcing the need for systemic changes in institutional support strategies.

1. Parental Knowledge of Climate Change

1.1 Knowledge about Climate Change

Many parents lack an understanding of climate change, perceiving it only through their direct experiences with extreme weather events like cyclones, floods, and heat waves.

However, only a small fraction of participants could describe causal mechanisms, such as deforestation and carbon accumulation. This reflects findings by Monroe et al. (2017), who emphasize that climate literacy is highly dependent on exposure to formal education and reliable information sources.

A concerning 47.5% of parents reported receiving no climate information, suggesting that rural and low-income populations remain disconnected from environmental education initiatives. Parth et al. (2020) also argue that socioeconomic conditions influence climate knowledge disparities. This reinforces this study's observation that lower-income communities are more likely to experience climate risks but have limited resources to understand or mitigate them.

1.2 Source of Information about Climate Change

The study found that community meetings, television, and NGO programs were the most accessed sources of information, while digital sources, such as the internet and social media, remained underutilized. This suggests that traditional media and grassroots engagement are more influential than newer digital education platforms in climate-vulnerable communities. Sanson et al. (2018) assert that proactive climate information dissemination enhances adaptation strategies, highlighting the need to expand accessible and localized education programs.

1.3 Knowledge from Experiencing Climate Change Occurrences

Quantitative and qualitative findings revealed that parents overwhelmingly identified floods, cyclones, and heat waves as effects of climate change. However, long-term environmental shifts, such as rising sea levels and drought, were less recognized. This mirrors Reyes-Angel et al. (2022), who found that immediate, visible disasters dominate community perceptions over slower, systemic climate changes. This highlights a potential

educational gap that should be addressed through community engagement and an increased awareness of climate forecasting.

2. Effects of Climate Change on Children

2.1 Physical Health Issues and Development

Children are disproportionately affected by climate-induced health risks. In both quantitative and qualitative findings, parents reported increased cases of diarrhea, respiratory diseases, malnutrition, and skin infections. These findings align with Ebi et al. (2021) and D'Amato et al. (2015), who emphasize that rising temperatures, extreme weather events, poor air quality, and water contamination exacerbate childhood health vulnerabilities. Children living in coastal areas face food insecurity. Chemical-induced food production poses health risks, resulting in reduced immunity, higher susceptibility to diseases, malnutrition, and developmental delays. These findings resemble those from Phalkey (2015) and Parvin et al. (2015), who identified the increased threats of food insecurity, disease spread, and malnutrition in climate-affected regions.

2.2 Lack of Outdoor Play Opportunity and Decline in Social Interaction

Flooding and extreme heat have restricted outdoor play, leading to a reduction in children's physical activity and social interactions. Restrictions on mobility may hinder children's motor development. Limitations on outdoor play with peers hamper the development of children's communication abilities, problem-solving skills, and socialization skills. Findings from Bastianello et al. (2024) regarding the effects of outdoor play restriction precisely align with what was mentioned about physical, socio-emotional and cognitive regulation skills. Due to limited play areas, parents are concerned about their children's increasing reliance on screens. This aligns with Strife (2011), who noted that climate disruptions contribute to childhood isolation and behavioral difficulties.

2.3 Learning Interruption Due to Climate Change

Prolonged school closures hinder children's learning continuity, reducing academic engagement and knowledge retention. Parents have observed that children lose enthusiasm for their studies after extended gaps. Bhuiyan et al. (2024) found that climate-induced displacement significantly affected academic performance, highlighting the need for more resilient education strategies.

2.4 Effects on Socio-Emotional Well-Being

Parents described various mental health effects, including irritability, mood swings, sleep disturbances, changes in eating habits, and emotional distress. These symptoms correlate with existing studies on climate-related PTSD and anxiety (Rataj et al., 2016; Dyregrov et al., 2018), highlighting that children in disaster-prone regions experience prolonged psychological stress due to uncertainties about the future, loss of familiar environments, and limitations on attending school or participating in outdoor activities with friends. Furthermore, 42.5% of parents were found to be unaware of their children's mental well-being, reflecting an awareness gap among parents regarding their children's mental health issues.

3. Coping Mechanisms and Institutional Support

3.1 Family Adaptation Strategies

Parents employ various survival strategies, including relocation, stockpiling food and supplies, and protecting domestic animals. However, 27.5% of families did not have a coping plan, highlighting significant gaps in disaster preparedness. Seddighi et al. (2020) argue that effective disaster literacy strengthens climate resilience, emphasizing the need for structured household preparedness initiatives.

3.2 Community Engagement in Climate Action

Only 20% of parents participated in climate-related community programs, with 65% citing limited community support as a major barrier. Qualitative findings also support these results, as participants noted that the initiatives to mitigate adverse effects were minimal due to insufficient community support. This mirrors Torres & Casey (2017), who found that social networks play a crucial role in disaster adaptation, reinforcing the need for stronger grassroots engagement and supportive community-led initiatives.

3.3 Institutional Support from Government and NGOs

An astonishing 76.3% of parents reported that they have never received help from the government or NGOS, and many parents felt that the support provided was ineffective in delivering it at an optimal level. This aligns with findings from Clark et al. (2020), which emphasize the pressing requirement for institutional action to aid families impacted by climate change. Key deficiencies in climate adaptation policies include financial support, healthcare access, and infrastructure protection.

Bangladesh ranks globally among the top climate-risk nations (Rakib et al., 2018). Frequent floods, cyclones, and salinity intrusion disrupt vital services such as healthcare and education (Rahman et al., 2019). Respiratory illnesses, diarrheal diseases, and malnutrition disproportionately affect Bangladeshi children (Kabir et al., 2016; Kaiser, 2023). Furthermore, food shortages exacerbate developmental challenges (Hanifi et al., 2022). Siddik et al. (2024) found high rates of PTSD and depression among flood-affected children, reinforcing the study's concerns about climate-induced psychological distress. Climate instability also disrupts learning, damages school infrastructure, and forces families to adopt economic survival strategies (Hossain et al., 2020).

This study highlights that climate change presents a crisis specifically affecting children by worsening health risks, increasing psychological distress, leading to educational disruptions, and revealing insufficient institutional support. Parental insights confirm previous studies, emphasizing the structural obstacles that hinder adaptation and resilience efforts. Without focused policy actions, the effects of climate change on children are likely to intensify, exacerbating inequalities and increasing vulnerabilities. The results underscore the critical need for improved education, better healthcare access, resilient disaster infrastructure, and stronger governmental support.

c. Conclusion:

This study thoroughly analyzes how climate change affects children's health, development, education, and overall well-being from the parents' perspective in vulnerable regions. Integrating quantitative and qualitative findings highlights the immediate and long-term consequences of climate disruptions on childhood experiences, emphasizing risks to physical health, development, mental well-being, educational setbacks, and strained coping mechanisms.

The results indicate that while parents recognize the tangible effects of climate change, such as extreme weather events, increased illnesses, and disrupted routines, many lack a deeper understanding of its underlying causes. Limited climate awareness remains a significant barrier, affecting families' ability to respond effectively to environmental threats. Moreover, the study underscores the disproportionate burden placed on children, particularly in low-income and disaster-prone areas, where access to healthcare, education, and safe living conditions is often compromised.

Parental reports of respiratory issues, waterborne diseases, and malnutrition align with established research linking climate instability to rising health vulnerabilities in children. Similarly, the disruption of learning, loss of peer interactions, and increased emotional distress reinforce the growing concern that climate-induced displacement and uncertainty are significantly shaping developmental outcomes. The study further highlights the inadequacy of institutional support structures, with many families lacking access to government or NGO assistance, forcing them to rely on fragmented and often ineffective coping mechanisms.

The findings emphasize that climate change is not merely an environmental crisis but a child rights issue that demands urgent intervention. The growing body of evidence regarding climate impacts in Bangladesh reinforces the need for stronger community engagement, more accessible climate education, and policy reforms that prioritize children's welfare in disaster preparedness and resilience strategies.

Without decisive action, the consequences of climate change on children will continue to intensify, exacerbating vulnerabilities and widening the gap in access to essential resources. This research provides valuable insights into the discourse on climate adaptation, urging policymakers, educators, and humanitarian organizations to prioritize child well-being in their strategies for addressing environmental instability.

d. Recommendations:

Building on this study's findings, the following recommendations target key areas for intervention to alleviate the effects of climate change on children and families. These recommendations emphasize education, health, disaster preparedness, and policy action, ensuring a systematic approach to boosting resilience.

1. Strengthening Climate Education and Awareness

- **Integrate Climate Education in Schools:** Develop educational programs that inform children and parents about climate change, disaster preparedness, and sustainable practices.
- **Expand Community Outreach Initiatives:** Conduct awareness campaigns in remote areas using accessible formats like visual aids, TV/Radio programs, and community workshops.
- **Improve Parental Engagement:** Encourage parents to engage in discussions about climate risks with their children to enhance understanding and preparedness for extreme weather events.

2. Promoting Alternative Play Activities

- **Adaptive Indoor Play Opportunity:** Encourage more indoor play activities to support children's physical activity and engagement during home restrictions.
- **Parental Engagement in Play:** Strategies and educational programs to enhance parental involvement in a child's indoor play activities.

3. Enhancing Healthcare and Nutrition Support

- **Increase Access to Clean Water and Sanitation:** Implement measures to ensure safe drinking water and enhance hygiene practices in flood-prone areas to reduce waterborne illnesses.
- **Strengthen Child Health Programs:** Expand medical outreach services for vulnerable communities to tackle respiratory diseases, malnutrition, and climate-related health complications.

4. Developing Resilient Educational Infrastructure

- **Adapt Schools for Climate Resilience:** Reinforce school buildings to withstand extreme weather and equip them with alternative learning resources, such as digital education options. Ensure the school has solar energy-supported electricity to maintain uninterrupted classes during disaster periods.
- **Implement Disaster Recovery Education Plans:** Establish structured remote learning models to reduce academic disruptions during disaster periods.
- **Promote Child-Centered Disaster Training:** Train teachers and school staff to assist children during climate-related emergencies.

5. Strengthening Family and Community Disaster Preparedness

- **Enhance Family Preparedness Strategies:** Provide training and resources for parents on disaster response, emergency planning, and survival strategies, specifically designed for children.
- **Expand Community-Based Climate Adaptation Projects:** Encourage local initiatives like tree planting, flood control measures, and early warning systems.
- **Increase Accessibility to Safe Shelters:** Increase the number of cyclone centers and emergency shelters to support families and create a child-friendly environment during disasters.

6. Strengthening Government and NGO Interventions

- **Increase Policy Focus on Child-Centric Climate Action:** Advocate for governmental policies that specifically address children's vulnerabilities and provide tailored protective measures.
- **Expand Social Protection Programs:** Develop financial aid packages for low-income families affected by climate disasters, supporting recovery and adaptation efforts.

- **Enhance Collaboration Between Stakeholders:** Strengthen coordination among NGOs, government agencies, and local organizations to provide holistic support for families in climate-affected regions.

These recommendations aim to enhance resilience, reduce risks, and promote the well-being of children and families affected by climate change. Strengthening education, healthcare, community preparedness, and institutional support systems is vital for sustainable climate adaptation strategies. By addressing these areas, policymakers and organizations can strive for a more effective response to the ongoing challenges posed by climate change.

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Appendices

Appendix 1:

Research Tool: Survey Questionnaire & FGD guideline (English)

Survey Questionnaire:

Section 1: Demographic Information

Name:

1. What is your age?
 - ☐ 18-25
 - ☐ 26-33
 - ☐ 34-41
 - ☐ 42-49
 - ☐ 50 and above
2. What is your gender?
 - ☐ Male
 - ☐ Female
3. What is your highest level of education?
 - ☐ No formal education
 - ☐ Primary education
 - ☐ Secondary education
 - ☐ Higher secondary education
 - ☐ Graduation
 - ☐ Post-graduation
4. What is your occupation?
 - ☐ Unemployed
 - ☐ Housewife
 - ☐ Business
 - ☐ Government employee
 - ☐ Private sector employee
 - ☐ Farming
 - ☐ Others _____

5. What is your household's monthly income?

- ☐ Below BDT 10,000
- ☐ BDT 10,000 - 20,000
- ☐ BDT 20,001 - 30,000
- ☐ BDT 30,001 - 40,000
- ☐ BDT 40,001 - 50,000
- ☐ Above BDT 50,000

6. How many children do you have?

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4 or more

Section 2: Knowledge about Climate Change

7. What do you mean by climate change? (Multiple Answers)

- ☐ Flood
- ☐ Heavy Rainfall
- ☐ Heatwave
- ☐ Draught
- ☐ Sea Level Rising
- ☐ River Erosion
- ☐ Air pollution
- ☐ Cyclones
- ☐ Thunderstorms
- ☐ Others _____
- ☐ Not Known / Not Applicable

8. Which one of the following do you think is caused by climate change? (Multiple Answers)

- ☐ Flood

- ☐ Heavy Rainfall
- ☐ Heatwave
- ☐ Draught
- ☐ Sea Level Rising
- ☐ River Erosion
- ☐ Air pollution
- ☐ Cyclones
- ☐ Thunderstorms
- ☐ Others _____
- ☐ Not Known / Not Applicable

9. Where do you get most of your information about climate change? (Multiple Answers)

- ☐ Television
- ☐ Internet
- ☐ Social Media
- ☐ Newspapers/Magazines
- ☐ School/College
- ☐ Community meetings
- ☐ NGO Activities
- ☐ Others _____
- ☐ Not Known / Not Applicable

10. In your opinion, who are the people seriously affected by climate change?

- ☐ Children
- ☐ Adults
- ☐ Elderly people
- ☐ Others _____
- ☐ Not Known / Not Applicable

11. Which climate change situation have you been exposed to in your area? (Multiple Answers)

- ☐ Flood
- ☐ Heavy Rainfall
- ☐ Heatwave
- ☐ Draught
- ☐ River Erosion
- ☐ Air pollution
- ☐ Cyclones
- ☐ Others _____
- ☐ Not Known / Not Applicable

Section 3: Perceived Effects of Climate Change on Children

12. What areas do you think Climate change affects children? (Multiple Answers)

- ☐ Physical health problem
- ☐ Socialization problem
- ☐ Lack of play opportunity
- ☐ Mental health problem
- ☐ Learning interruption
- ☐ Financial problems of the child's family
- ☐ Others _____
- ☐ Not Known / Not Applicable

13. Have you noticed changes in your children's physical health (e.g., respiratory issues) due to climate-related factors?

- ☐ Yes
- ☐ No

14. How much does climate change affect your children's physical health?

- ☐ Not affected
- ☐ Moderately affected
- ☐ Very affected
- ☐ Not Applicable if the previous question answer is NO

15. Climate disasters (such as extreme heat /floods/ air pollution) affect children's physical health by which of the following? (Multiple Answers)

- ☐ Diarrhea
- ☐ Skin diseases
- ☐ Allergies
- ☐ Respiratory diseases
- ☐ Malnutrition
- ☐ Water-borne diseases
- ☐ Vector-borne diseases like Malaria, Dengue
- ☐ Others _____
- ☐ Not Known / Not Applicable

16. Have you noticed any changes in your children's behavior and mental health issues that might be related to climate change?

- ☐ Yes
- ☐ No

17. Which mental health issues do you think are caused by climate change among children? (Multiple Answers)

- ☐ Sudden mood swings
- ☐ Persistent sadness
- ☐ Irritability
- ☐ Extreme worry or fear
- ☐ Changes in eating habits
- ☐ Changes in sleep patterns
- ☐ Difficulty concentrating
- ☐ Withdrawing from friends and family
- ☐ Others _____
- ☐ Not Known / Not Applicable

18. Which climate-related events do you think have the most significant impact on your child's well-being? (Multiple Answers)

- ☐ Extreme heatwaves
- ☐ Increased air pollution
- ☐ Severe weather events (e.g., storms, floods)
- ☐ River Erosion
- ☐ Others _____
- ☐ Not Known / Not Applicable

19. Do you think children who are affected by floods or climate issues get less opportunity to play outside?

- ☐ Yes
- ☐ No

20. Do you think climate change impacts your children's learning ability?

- ☐ Yes
- ☐ No

21. Do you think children face challenges in completing their school due to climate change effect?

- ☐ Yes
- ☐ No

22. Children affected by natural disasters have lower chances of completing their education because of- (Multiple Answers)

- ☐ School Closure
- ☐ Displacement
- ☐ Financial Hardship
- ☐ Health Issues
- ☐ Psychological impact
- ☐ Others _____
- ☐ Not Known / Not Applicable

Section 4: Coping Mechanisms

23. What strategies do you and your family adopt to cope with the impacts of climate change? (Multiple Answers)

- ☐ Relocating to safer areas
- ☐ Improving home infrastructure
- ☐ Using health services more frequently
- ☐ Educating children about climate change
- ☐ Community support and collaboration
- ☐ Assemble necessary food items and appliances
- ☐ Others _____
- ☐ Not Known / Not Applicable

24. How effective are these strategies in mitigating the impacts of climate change on your children?

- ☐ Not effective at all
- ☐ Moderately effective
- ☐ Very effective
- ☐ Not Applicable if the previous question answer is unknown

25. How often do you participate in community activities tackling climate change?

- ☐ Never
- ☐ Sometimes
- ☐ Always

26. What barriers prevent you from taking more action against climate change?
(Multiple Answers)

- ☐ Lack of information
- ☐ Financial constraints
- ☐ Lack of time
- ☐ Limited community support
- ☐ Others _____
- ☐ Not Known / Not Applicable

27. How often do you discuss climate change and its impacts with your children?

- ☐ Never
- ☐ Sometimes

☐ Always

28. Have you received any assistance or support from the government or NGOs to cope with climate change impacts?

☐ Yes

☐ No

29. If yes, how helpful was the assistance or support?

☐ Not helpful at all

☐ Moderately helpful

☐ Very helpful

☐ Not Applicable if the previous question answer is No

30. How well can the government play in protecting children from the impacts of climate change? (Multiple Answers)

☐ Awareness raises

☐ Healthcare service

☐ Emergency Support

☐ Financial assistance

☐ Food and clean water security

☐ Policy development

☐ Others _____

☐ Not Known / Not Applicable

Focus Group Discussion Guideline:

1. Can you briefly introduce yourself and tell us about your family?
2. What do you know about climate change? Can you describe its causes and effects in your own words?
3. How did you learn about climate change? Where do you usually get information about climate change?
4. Have you noticed any changes in your area's local environment or weather patterns over the past few years? What are they?

5. In what ways do you think climate change affects your children's physical health and development?
6. How do environmental changes affect children's outdoor play and physical development opportunities?
7. In what ways do you think climate change impacts children's social skills and interactions with peers?
8. What changes did you find in daily activities and the learning process during school closure due to climate issues (floods/extreme heatwaves)? How do school closures affect children's learning ability?
9. Have you noticed any changes in your children's behavior or mental health that might be related to climate change? Please elaborate.
10. What strategies have you and your family adopted to cope with the impacts of climate change?
11. How effective do you find these strategies in mitigating the effects on your children?
12. Have you received any support from the government, NGOs, or community groups to help deal with climate change impacts? How effective were those?
13. What actions should the government, schools, or communities take to better support families in dealing with climate change?

Appendix 2:

Research Tool: Survey Questionnaire & FGD guideline (Bangla)

Survey questionnaire (Bangla)

বিভাগ ১: জনসংখ্যা সংক্রান্ত তথ্য

নাম:

১. আপনার বয়স কত?

☐ ১৮-২৫

☐ ২৬-৩৩

☐ ৩৪-৪১

☐ ৪২-৪৯

☐ ৫০ এবং তার বেশি

২. আপনার লিঙ্গ কী?

- ☐ পুরুষ
- ☐ মহিলা

৩. আপনার সর্বোচ্চ শিক্ষাগত যোগ্যতা ?

- ☐ কোনও আনুষ্ঠানিক শিক্ষা নেই
- ☐ প্রাথমিক শিক্ষা
- ☐ মাধ্যমিক শিক্ষা
- ☐ উচ্চ মাধ্যমিক শিক্ষা
- ☐ স্নাতক ডিগ্রি (সম্মান)
- ☐ স্নাতকোত্তর (মাস্টার্স)

৪. আপনার পেশা কী?

- ☐ বেকার
- ☐ গৃহিণী
- ☐ ব্যবসা
- ☐ সরকারি কর্মচারী
- ☐ বেসরকারি খাতের কর্মচারী
- ☐ কৃষিজ
- ☐ অন্যান্য _____

৫. আপনার পরিবারের মাসিক আয় কত?

- ☐ ১০,০০০ টাকার নিচে
- ☐ ১০,০০০ - ২০,০০০ টাকা
- ☐ ২০,০০১ - ৩০,০০০ টাকা
- ☐ ৩০,০০১ - ৪০,০০০ টাকা
- ☐ ৪০,০০১ - ৫০,০০০ টাকা
- ☐ ৫০,০০০ টাকার উপরে

৬. আপনার কতজন সন্তান আছে?

- ☐ ১
- ☐ ২
- ☐ ৩
- ☐ ৪ বা তার বেশি

বিভাগ ২: জলবায়ু পরিবর্তন সম্পর্কিত জ্ঞান

৭. জলবায়ু পরিবর্তন বলতে আপনি কী বোঝেন? (একাধিক উত্তর)

- ☐ বন্যা

- ☐ ভারী বৃষ্টিপাত
- ☐ অত্যাধিক গরম
- ☐ খরা
- ☐ সমুদ্রপৃষ্ঠের উচ্চতা বৃদ্ধি
- ☐ নদী ভাঙন
- ☐ বায়ু দূষণ
- ☐ ঘূর্ণিঝড়
- ☐ বজ্রপাত
- ☐ অন্যান্য _____
- ☐ জানি না / প্রযোজ্য নয়

৮. জলবায়ু পরিবর্তনের কারণে নিম্নলিখিত কোনটি ঘটে বলে আপনার মনে হয়? (একাধিক উত্তর)

- ☐ বন্যা
- ☐ ভারী বৃষ্টিপাত
- ☐ অত্যাধিক গরম
- ☐ খরা
- ☐ সমুদ্রপৃষ্ঠের উচ্চতা বৃদ্ধি
- ☐ নদী ভাঙন
- ☐ বায়ু দূষণ
- ☐ ঘূর্ণিঝড়
- ☐ বজ্রপাত
- ☐ অন্যান্য _____
- ☐ জানি না / প্রযোজ্য নয়

৯. জলবায়ু পরিবর্তন সম্পর্কে বেশিরভাগ তথ্য আপনি কোথা থেকে পান? (একাধিক উত্তর)

- ☐ টেলিভিশন
- ☐ ইন্টারনেট
- ☐ সামাজিক মাধ্যম
- ☐ সংবাদপত্র/পত্রিকা
- ☐ স্কুল/কলেজ
- ☐ কমিউনিটি আলাপচারিতা
- ☐ এনজিও কার্যকলাপ
- ☐ অন্যান্য _____
- ☐ জানি না / প্রযোজ্য নয়

১০. আপনার মতে, জলবায়ু পরিবর্তনের ফলে কারা গুরুতরভাবে ক্ষতিগ্রস্ত হচ্ছে?

- ☐ শিশু
- ☐ প্রাপ্তবয়স্ক
- ☐ বয়স্ক ব্যক্তির
- ☐ অন্যান্য _____
- ☐ জানি না / প্রযোজ্য নয়

১১. আপনার এলাকায় জলবায়ু পরিবর্তনের কারণে নিচের কোন পরিস্থিতির সম্মুখীন হয়েছেন?

(একাধিক উত্তর)

- ☐ বন্যা
- ☐ ভরী বৃষ্টিপাত
- ☐ অত্যাধিক গরম
- ☐ খরা
- ☐ নদী ভাঙন
- ☐ বায়ু দূষণ
- ☐ ঘূর্ণিঝড়
- ☐ অন্যান্য _____
- ☐ জানি না / প্রযোজ্য নয়

বিভাগ ৩: জলবায়ু পরিবর্তনের অনুভূত প্রভাব

১২. জলবায়ু পরিবর্তন শিশুদের কোন কোন ক্ষেত্রে প্রভাবিত করে বলে আপনার মনে হয়?

- ☐ শারীরিক স্বাস্থ্য সমস্যা
- ☐ সামাজিকীকরণ সমস্যা
- ☐ খেলার সুযোগের অভাব
- ☐ মানসিক স্বাস্থ্য সমস্যা
- ☐ শেখার ব্যাঘাত
- ☐ শিশুর পরিবারের আর্থিক সমস্যা
- ☐ অন্যান্য _____
- ☐ জানি না / প্রযোজ্য নয়

১৩. জলবায়ু-সম্পর্কিত কারণে আপনার শিশুদের শারীরিক স্বাস্থ্যের (যেমন, শ্বাসযন্ত্রের সমস্যা) কোন পরিবর্তন লক্ষ্য করেছেন?

- ☐ হ্যাঁ
- ☐ না

১৪. জলবায়ু পরিবর্তন শিশুদের শারীরিক স্বাস্থ্যের উপর কতটুকু প্রভাব ফেলে?

- ☐ প্রভাবিত করে না
- ☐ মাঝারিভাবে প্রভাবিত করে
- ☐ খুব প্রভাবিত করে
- ☐ পূর্বের প্রশ্নোত্তর না হলে প্রযোজ্য নয়

১৫. জলবায়ু বিপর্যয় (যেমন চরম তাপ/বন্যা/বায়ু দূষণ) শিশুদের শারীরিক স্বাস্থ্যের উপর নিচের কোনটির মাধ্যমে প্রভাব ফেলে- (একাধিক উত্তর)

- ☐ ডায়রিয়া
- ☐ চর্মরোগ
- ☐ অ্যালার্জি
- ☐ শ্বাসযন্ত্রের রোগ
- ☐ অপুষ্টি
- ☐ জলবাহিত রোগ
- ☐ ম্যালেরিয়া, ডেঙ্গুর মতো ভেক্টর-বাহিত রোগ
- ☐ অন্যান্য _____
- ☐ জানি না / প্রযোজ্য নয়

১৬. জলবায়ু পরিবর্তনের সাথে সম্পর্কিত আপনার বাচ্চাদের আচরণগত বা মানসিক সুস্থতার কোন পরিবর্তন লক্ষ্য করেছেন?

- ☐ হ্যাঁ
- ☐ না

১৭. জলবায়ু পরিবর্তনের কারণে শিশুদের মধ্যে কোন ধরনের মানসিক সমস্যা দেখা দেয় বলে আপনার মনে হয়? (একাধিক উত্তর)

- ☐ হঠাৎ মেজাজের পরিবর্তন
- ☐ দীর্ঘস্থায়ী বিষণ্ণতা
- ☐ বিরক্তি ভাব
- ☐ চরম উদ্বেগ বা ভয়
- ☐ খাদ্যাভ্যাসে পরিবর্তন
- ☐ ঘুমের ধরণে পরিবর্তন
- ☐ মনোযোগ কেন্দ্রীভূত করতে অসুবিধা
- ☐ বন্ধুবান্ধব এবং পরিবারের কাছ থেকে দূরে থাকা
- ☐ অন্যান্য _____
- ☐ জানি না / প্রযোজ্য নয়

১৮. জলবায়ু পরিবর্তনের সাথে সম্পর্কিত কোন ঘটনাগুলি আপনার সন্তানের মানসিক সুস্থতার উপর সবচেয়ে উল্লেখযোগ্য প্রভাব ফেলে বলে আপনি মনে করেন? (একাধিক উত্তর)
- ☐ অত্যাধিক তাপপ্রবাহ
 - ☐ বায়ু দূষণ বৃদ্ধি
 - ☐ তীব্র আবহাওয়ার ঘটনা (যেমন, ঝড়, বন্যা)
 - ☐ নদী ভাঙন
 - ☐ অন্যান্য _____
 - ☐ জানি না / প্রযোজ্য নয়
১৯. আপনার কি মনে হয় বন্যা বা জলবায়ু সমস্যায় আক্রান্ত শিশুরা বাইরে খেলার সুযোগ কম পায়?
- ☐ হ্যাঁ
 - ☐ না
২০. আপনার কি মনে হয় জলবায়ু পরিবর্তন আপনার বাচ্চাদের শেখার ক্ষমতাকে প্রভাবিত করে?
- ☐ হ্যাঁ
 - ☐ না
২১. জলবায়ু পরিবর্তনের প্রভাবের কারণে শিশুরা কি তাদের স্কুলজীবন শেষ করতে চ্যালেঞ্জের সম্মুখীন হয় বলে আপনার মনে হয়?
- ☐ হ্যাঁ
 - ☐ না
২২. নিচের কোন কারণে প্রাকৃতিক দুর্যোগে ক্ষতিগ্রস্ত শিশুদের শিক্ষাজীবন শেষ করার সম্ভাবনা কম থাকে? (একাধিক উত্তর)
- ☐ স্কুল বন্ধ
 - ☐ স্থানের পরিবর্তন
 - ☐ আর্থিক কষ্ট
 - ☐ স্বাস্থ্য সমস্যা
 - ☐ মানসিক প্রভাব
 - ☐ অন্যান্য _____
 - ☐ জানি না / প্রযোজ্য নয়

বিভাগ ৪: মোকাবেলা করার প্রক্রিয়া

২৩. জলবায়ু পরিবর্তনের প্রভাব মোকাবেলা করার জন্য আপনি এবং আপনার পরিবার কোন কৌশল গ্রহণ করেন? (একাধিক উত্তর)
- ☐ নিরাপদ এলাকায় স্থানান্তর
 - ☐ বাড়ির অবকাঠামো উন্নত করা

- ☐ স্বাস্থ্যসেবা আরও অধিক ব্যবহার করা
- ☐ জলবায়ু পরিবর্তন সম্পর্কে শিশুদের শিক্ষিত করা
- ☐ কমিউনিটির সহায়তা এবং সহযোগিতা
- ☐ প্রয়োজনীয় খাবার ও জিনিসপত্র গুছিয়ে নেয়া
- ☐ অন্যান্য _____
- ☐ জানি না / প্রযোজ্য নয়

২৪. আপনার শিশুদের উপর জলবায়ু পরিবর্তনের প্রভাব কমাতে এই কৌশলগুলি কতটুকু কার্যকর?

- ☐ মোটেও কার্যকর নয়
- ☐ মাঝারি কার্যকর
- ☐ খুব কার্যকর
- ☐ পূর্বের প্রশ্নোত্তর জানা না থাকলে প্রযোজ্য নয়

২৫. জলবায়ু পরিবর্তন মোকাবেলায় আপনি কি কমিউনিটির কার্যকলাপে বা পদক্ষেপে অংশগ্রহণ করেন?

- ☐ কখনও না
- ☐ মাঝেমাঝে
- ☐ সর্বদা

২৬. জলবায়ু পরিবর্তনের বিরুদ্ধে আরও পদক্ষেপ নিতে আপনাকে কোন গুলি বাধা দেয়? (একাধিক উত্তর)

- ☐ তথ্যের অভাব
- ☐ আর্থিক সীমাবদ্ধতা
- ☐ সময়ের অভাব
- ☐ কমিউনিটির সীমিত সহায়তা
- ☐ অন্যান্য _____
- ☐ জানি না / প্রযোজ্য নয়

২৭. আপনি কি আপনার বাচ্চাদের সাথে জলবায়ু পরিবর্তন এবং এর প্রভাব নিয়ে আলোচনা করেন?

- ☐ কখনোই না
- ☐ মাঝে মাঝে
- ☐ সর্বদা

২৮. জলবায়ু পরিবর্তনের প্রভাব মোকাবেলায় আপনি কি সরকার বা এনজিও থেকে কোন সহায়তা বা সহযোগিতা পেয়েছেন?

- ☐ হ্যাঁ

☐ না

২৯. যদি হ্যাঁ হয়, তাহলে সহায়তা বা সহযোগিতা কতটা সহায়ক ছিল?

☐ মোটেও সহায়ক নয়

☐ মাঝারিভাবে সহায়ক

☐ খুব সহায়ক

☐ পূর্বের প্রশ্নোত্তর না হলে প্রযোজ্য নয়

৩০. জলবায়ু পরিবর্তনের প্রভাব থেকে শিশুদের রক্ষা করার জন্য সরকার কীভাবে ভূমিকা পালন করতে পারে? (একাধিক উত্তর)

☐ সচেতনতা বৃদ্ধি

☐ স্বাস্থ্যসেবা প্রদান

☐ জরুরি সহায়তা

☐ আর্থিক সহায়তা

☐ খাদ্য ও পরিষ্কার জল সুরক্ষা প্রদান

☐ নীতির উন্নয়ন

☐ অন্যান্য _____

☐ জানি না / প্রযোজ্য নয়

Focus Group Discussion Guideline (Bangla):

১. আপনারা কি সংক্ষেপে আপনাদের পরিচয় দিতে পারেন এবং আপনাদের পরিবার সম্পর্কে কিছু বলতে পারেন?
২. জলবায়ু পরিবর্তন সম্পর্কে আপনারা কী জানেন? আপনারা কি এর কারণ এবং প্রভাবগুলি আপনার ভাষায় বর্ণনা করতে পারেন?
৩. জলবায়ু পরিবর্তন সম্পর্কে আপনারা কীভাবে জানলেন? জলবায়ু পরিবর্তন সম্পর্কে আপনারা সাধারণত কোথা থেকে তথ্য পান?
৪. গত কয়েক বছরে আপনাদের এলাকার স্থানীয় পরিবেশ বা আবহাওয়ার ধরণে কোন পরিবর্তন লক্ষ্য করেছেন কি? সেগুলি কী?
৫. জলবায়ু পরিবর্তন আপনার বাচ্চাদের শারীরিক স্বাস্থ্য এবং বিকাশকে কীভাবে প্রভাবিত করে বলে আপনাদের মনে হয়?
৬. পরিবেশগত পরিবর্তন শিশুদের বাইরের খেলাধুলা এবং শারীরিক বিকাশের সুযোগগুলিকে কীভাবে প্রভাবিত করে?
৭. জলবায়ু পরিবর্তন শিশুদের সামাজিক দক্ষতা এবং বন্ধুদের সাথে পারস্পরিক বোঝাপড়াকে কীভাবে প্রভাবিত করে বলে আপনাদের মনে হয়?

৮. জলবায়ু সংক্রান্ত সমস্যাগুলির (বন্যা/ অত্যধিক গরম) কারণে স্কুল বন্ধ থাকার সময় দৈনন্দিন কার্যকলাপ এবং শেখার প্রক্রিয়ায় আপনারা কী পরিবর্তন লক্ষ্য করেছেন? স্কুল বন্ধ থাকা শিশুদের শেখার ক্ষমতাকে কীভাবে প্রভাবিত করে?
৯. জলবায়ু পরিবর্তনের প্রভাবের ফলে আপনাদের বাচ্চাদের আচরণগত বা মানসিক সুস্থতায় কোনও পরিবর্তন লক্ষ্য করেছেন কি? বিস্তারিতভাবে বলবেন দয়া করে।
১০. জলবায়ু পরিবর্তনের প্রভাব মোকাবেলায় আপনারা এবং আপনাদের পরিবার কোন কৌশলগুলি গ্রহণ করেছেন?
১১. আপনাদের সন্তানদের উপর জলবায়ু প্রভাব লাঘব করার ক্ষেত্রে এই কৌশলগুলি কতটা কার্যকর বলে আপনারা মনে করেন?
১২. জলবায়ু পরিবর্তনের প্রভাব মোকাবেলায় সহায়তা করার জন্য আপনারা কি সরকার, এনজিও বা কমিউনিটির কাছ থেকে কোনও সহায়তা পেয়েছেন? এগুলি কীভাবে কার্যকর ছিল?
১৩. জলবায়ু পরিবর্তন মোকাবেলায় পরিবারগুলিকে আরও ভালভাবে সহায়তা করার জন্য সরকার, স্কুল বা কমিউনিটির কী পদক্ষেপ নেওয়া উচিত?

Appendix 3: Consent Form (English)

Consent Form (English):

Title of the Study:

Exploring the Role of Climate Change on Children's Development and Well-being in Early Years.

Principal Investigator:

Mohammed Rezaur Rahman, MSc ECD, BRAC Institute of Educational Development.

Purpose of the Study:

You are invited to participate in a research study by Mohammed Rezaur Rahman from the BRAC Institute of Educational Development. This study aims to explore parents' knowledge, perceptions, and coping mechanisms related to climate change and its impacts on children's development and well-being.

Procedures:

If you agree to participate in this study, you will be asked to:

- Complete a survey questionnaire about your knowledge, perceptions, and experiences with climate change or

- Participate in an in-depth interview or focus group discussion, where you will be asked questions about your understanding of climate change, its effects on your children, and the strategies you use to cope with these impacts.

The survey will take approximately 15 minutes to complete, and the interview/focus group will take about 60 minutes. The sessions will be audio-recorded for accuracy.

Risks and Discomforts:

We do not anticipate any risks or discomforts associated with your participation in this study. However, discussing climate change and its impacts may be emotionally challenging for some participants. You may choose to skip any questions or withdraw from the study at any time.

Benefits:

While you may not receive a direct benefit, your participation will contribute to a better understanding of how climate change affects children's development and well-being. This information can help develop effective interventions and policies to support families in dealing with climate change.

Confidentiality

Your responses will be kept confidential. Data will be anonymized and stored securely. Only the researcher will access the data; any identifying information will be removed. The results of this study may be published or presented at conferences, but your identity will not be disclosed.

Voluntary Participation

Your participation in this study is entirely voluntary. You may withdraw from the study at any time without any consequences. Any data you have provided will be destroyed if you decide to withdraw.

Questions and Contact Information

If you have questions about this study or participation, please contact Mohammed Rezaur Rahman at Mob: +8801913626319/ email: rezvy3@gmail.com. For ethical concerns, contact BRAC IED, Academic Program, Early Childhood Development at +880258812791/ email: BRAC.ied@BRAC.net.

Consent

I have read and understood the information provided above. I voluntarily agree to participate in this study.

Participant's Name: _____

Participant's Signature: _____

Date: _____

Appendix 4: Consent Form (Bangla)

রিসার্চের টাইটেল:

প্রারম্ভিক বছরে শিশুদের বিকাশ এবং সুস্থতার উপর জলবায়ু পরিবর্তনের ভূমিকা অনুসন্ধান করা।

প্রধান গবেষক:

মোহাম্মদ রেজাউর রহমান, এমএসসি, ইসিডি, ব্র্যাক ইনস্টিটিউট অফ এডুকেশনাল ডেভেলপমেন্ট।

রিসার্চের উদ্দেশ্য:

ব্র্যাক ইনস্টিটিউট অফ এডুকেশনাল ডেভেলপমেন্ট থেকে মোহাম্মদ রেজাউর রহমানের একটি গবেষণায় অংশগ্রহণের জন্য আপনাকে আমন্ত্রণ জানানো হচ্ছে। এই গবেষণার লক্ষ্য হল জলবায়ু পরিবর্তনের সাথে সম্পর্কিত পিতামাতার জ্ঞান, উপলব্ধি এবং মোকাবেলা করার পদ্ধতি এবং শিশুদের বিকাশ এবং সুস্থতার উপর এর প্রভাবগুলি অনুসন্ধান করা।

পদ্ধতি:

আপনি যদি এই গবেষণায় অংশগ্রহণ করতে সম্মত হন, তাহলে আপনাকে বলা হবে:

- আপনার জ্ঞান, উপলব্ধি, এবং জলবায়ু পরিবর্তনের অভিজ্ঞতা সম্পর্কে একটি সমীক্ষা প্রশ্নাবলী সম্পূর্ণ করুন অথবা
- একটি ফোকাস গ্রুপ আলোচনায় অংশগ্রহণ করুন, যেখানে জলবায়ু পরিবর্তন সম্পর্কে আপনার বোঝাপড়া, আপনার বাচ্চাদের উপর এর প্রভাব এবং এই প্রভাবগুলি মোকাবেলা করার জন্য আপনি যে কৌশলগুলি ব্যবহার করেন সে সম্পর্কে আপনাকে প্রশ্ন করা হবে।

সমীক্ষাটি সম্পূর্ণ হতে প্রায় ১৫ মিনিট সময় লাগবে এবং ইন্টারভিউ/ফোকাস গ্রুপটি প্রায় ৬০ মিনিট সময় নেবে। নির্ভুলতার জন্য সেশনগুলি অডিও-রেকর্ড করা হবে।

ঝুঁকি এবং অস্বস্তি:

আমরা এই গবেষণায় আপনার অংশগ্রহণের সাথে সম্পর্কিত কোনো ঝুঁকি বা অস্বস্তি অনুমান করছি না। তবুও, জলবায়ু পরিবর্তন এবং এর প্রভাব নিয়ে আলোচনা করা কিছু অংশগ্রহণকারীদের জন্য মানসিকভাবে চ্যালেঞ্জিং হতে পারে। আপনি যেকোনো প্রশ্ন এড়িয়ে যেতে বা যেকোনো সময় অংশগ্রহণ প্রত্যাহার করতে পারবেন।

সুবিধা:

যদিও আপনি সরাসরি কোন সুবিধা পাবেন না। আপনার অংশগ্রহণ জলবায়ু পরিবর্তন কীভাবে শিশুদের বিকাশ এবং স্বাস্থ্যকে প্রভাবিত করে তা আরও ভালভাবে বুঝতে অবদান রাখবে। এই তথ্যগুলি জলবায়ু পরিবর্তন মোকাবেলায় পরিবারগুলিকে সহায়তা করার জন্য কার্যকর হস্তক্ষেপ এবং নীতি বিকাশে সহায়তা করতে পারে।

গোপনীয়তা:

আপনার প্রতিক্রিয়া গোপন রাখা হবে, তথ্য বেনামী এবং নিরাপদে সংরক্ষণ করা হবে। শুধুমাত্র গবেষক তথ্য সমীপ করবেন; যে কোনো ব্যক্তি সনাক্তকারী তথ্য মুছে ফেলা হবে। এই গবেষণার ফলাফল প্রকাশ বা সম্মেলনে উপস্থাপন করা হতে পারে, কিন্তু আপনার পরিচয় প্রকাশ করা হবে না।

স্বেচ্ছায় অংশগ্রহণ

এই গবেষণায় আপনার অংশগ্রহণ সম্পূর্ণরূপে স্বেচ্ছাসেবী। আপনি কোন ফলাফল ছাড়াই যে কোন সময় অধ্যয়ন থেকে প্রত্যাহার করতে পারবেন। আপনি প্রত্যাহার করার সিদ্ধান্ত নিলে আপনার প্রদান করা তথ্য সম্পূর্ণ মুছে ফেলা হবে।

প্রশ্ন এবং যোগাযোগের তথ্য

এই গবেষণা বা অংশগ্রহণ সম্পর্কে আপনার যদি প্রশ্ন থাকে, তাহলে অনুগ্রহ করে মোহাম্মদ রেজাউর রহমানের সাথে যোগাযোগ করুন: +8801913626319/ ইমেইল: rezvy3@gmail.com এ। নৈতিক উদ্বেগের জন্য, ব্র্যাক আইইডি, একাডেমিক প্রোগ্রাম, আর্লি চাইল্ডহুড ডেভেলপমেন্ট এর সাথে +880258812791/ ইমেইল: BRAC.ied@BRAC.net এ যোগাযোগ করুন।

সম্মতি

আমি উপরে প্রদত্ত তথ্য পড়েছি এবং বুঝেছি। আমি স্বেচ্ছায় এই গবেষণায় অংশ নিতে সম্মত।

অংশগ্রহণকারীর নাম: _____

অংশগ্রহণকারীর স্বাক্ষর: _____

তারিখ: _____

সময়: _____