BASELINE SURVEY REPORT

Integrated Flood Resilience Programme (IFRP): Phase 3

Ministry of Foreign Affairs
Republic of Korea

KOICA
Korea International
Cooperation Agency

IFRC

Prepared by

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Supported By

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Acknowledgments

Bangladesh Red Crescent Society (BDRCS) and the International Federation of Red Cross and Red Crescent Societies (IFRC) would like to acknowledge the community people and respondents of the four communities of Tangail district under the Integrated Flood Resilience Programme (IFRP): Phase-3 for providing cooperation and information to complete the fieldwork of the Baseline Survey. Thanks to the representatives of Dainya and Durgapur Union Parishad, Tangail for providing essential information and commitment to work during the programme implementation period. It is also acknowledged to the Unit Level Officer of Tangail Red Crescent Unit and Programme Officer of IFRP: Phase-3, Tangail. Thanks also go to the different level stakeholders including Upazila Agriculture Officer, Upazila Livestock Officer, Upazila Social Service Officer, Project Implementation Officer, School Teachers, and other concerned key persons for providing valuable information and suggestions. Appreciation goes to the Red Crescent Youths (RCYs) of Tangail Unit for collecting data from households. Special thanks go to the PMER Department of BDRCS and IFRC for their active involvement during the whole period, especially for supporting the development of the tools of the Baseline Survey. Finally, BDRCS and IFRC are grateful to the Ministry of Foreign Affairs (MoFA), Republic of Korea for providing the funds and the Korea International Cooperation Agency (KOICA) for working as the monitoring and liaison partner to implement the programme in four flood-vulnerable communities to make them resilient.

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List of Acronyms

BDRCS	Bangladesh Red Crescent Society
BDT	Bangladeshi Taka
CBDRR	Community-Based Disaster Risk Reduction
CCA	Climate Change Adaptation
CDMC	Community Disaster Management Committee
CDRT	Community Disaster Response Team
C-DREF	Community -Disaster Relief Emergency Fund
CO	Community Organizer
CRM	Feedback and Complaints Response Mechanism
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
FGD	Focus Group Discussion
GoB	Government of Bangladesh
H.S.C	Higher School Certificate
IEC	Information, Education, and Communication
IFRC	International Federation of Red Cross and Red Crescent Societies
IFRP	Integrated Flood Resilience Programme
IPCC	Intergovernmental Panel on Climate Change
KOICA	Korea International Cooperation Agency
KII	Key Informant Interview
LGED	Local Government and Engineering Department
MoFA	Ministry of Foreign Affairs
NGO	Non-governmental Organization
PASSA	Participatory Approach to Safe Shelter Awareness
PP	Programme Proposal
PWD	Persons with Disabilities
RCRC	Red Cross and Red Crescent
RCY	Red Crescent Youth
ROK	Republic of Korea
SDG	Sustainable Development Goal
SMS	Short Message Service
S.S.C	Secondary School Certificate
UDMC	Union Disaster Management Committee
ULO	Unit Level Officer
UN	United Nations
UNISDR	United Nations Office for Disaster Risk Reduction
UP	Union Parishad
USA	United States of America
USAID	United States Agency for International Development
WASH	Water, Sanitation and Hygiene
WB	World Bank
WDMC	Ward Disaster Management Committee
WFP	World Food Programme

Glossary and Terms

Adaptation	Adaptation refers to adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts. It refers to changes in processes, practices, and structures to moderate potential damages or to benefit from opportunities associated with climate change
Capacity	The combination of the strengths and resources available within a community, society, or organization that can be used to achieve agreed-upon goals or targeted actions
Capacity Building	Process of developing technical skills, institutional capability, and personnel expertise
Char	Chars in Bangladesh are defined as the 'by-product' of the hydro-morphological dynamics of its rivers. The people living in the chars in Bangladesh have been facing climate change disasters and river erosion
Climate Change	Climate change refers to any change in climate over time because of both natural variability and human activity
COVID-19	COVID-19 is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It was first identified in December 2019 in Wuhan, Hubei, China, and has spread worldwide, leading to the global pandemic
Dhaleshwari River	The Dhaleshwari River is a distributary 160 kilometers from the Jamuna River in central Bangladesh. It starts off the Jamuna near the northwestern tip of the Tangail District. After that, it divides into two branches: the north branch retains the name Dhaleshwari and merges with the other branch, the Kaliganga River, at the southern part of Manikganj District. Finally, the merged flow meets the Shitalakshya River near Narayanganj District. This combined flow goes southwards to merge into the Meghna River. The average depth of the river is 37 metres and and maximum depth is 81 metres
Disaster Management	Disaster management is the process of dealing with the human, material, economic, or environmental impacts of any type of disaster. It is the process of preparing and responding to its impacts
Disaster Response	Disaster response is the second phase of the disaster management cycle. It consists of several elements, like warning/evacuation, searches, and rescue, providing immediate assistance, assessing damage, continuing assistance, and the immediate restoration or construction of infrastructure
Flood	The inundation of a normally dry area caused by rising water in an existing waterway, such as a river, stream, or drainage ditch, is called a flood. A flood is a longer-term event than flash flooding: it may last days or weeks
Hazard	A hazard is a physical event (natural hazard) that can pose a threat to a system if the system is vulnerable to the hazard
Hut	A hut is a primitive dwelling that may be constructed of various local materials
Impacts	Impacts refer to how human or natural systems are affected by climate change

Jamuna River	The Jamuna River is one of the three main rivers of Bangladesh. It is the main distributary channel of the Brahmaputra River as it flows from India to Bangladesh. The Jamuna flows south and joins the Padma River (Podda), near Goalundo Ghat, before meeting the Meghna River near Chandpur. It then flows into the Bay of Bengal as the Meghna River
Kobiraj	Kobiraj is an occupational title found in persons of India or Indian origin. In the old days, the people practicing "Ayurveda" in India were also called Kabi (Vaidhya). Many of them were attached to the Royal courts to treat the kings and the royal family. As such, they were given the title of Kobiraj
KoBo Toolbox	KoBo Toolbox is a free, open-source tool for data collection. It helps to collect data in the field using mobile phones or tabs
Kaccha House	Houses made from mud, thatch, or other low-quality materials are called kaccha houses
Livelihood	Livelihoods comprise the capabilities, assets, and activities required for a means of living. It is considered sustainable when it can cope with and recover from stresses and shocks and maintain its capabilities, assets, and activities both now and for future, while not undermining the natural resources
Logical Framework	The logical framework or log frame is a document that gives an overview of the objectives, activities, and resources of a program. It also provides information about external elements that may influence the program, called assumptions
Mitigation	Mitigation is the lessening or limitation of the adverse impacts of hazards and related disasters
PASSA	Participatory Approach for Safe Shelter Awareness (PASSA) is a participatory method of disaster risk reduction (DRR) related to shelter safety. The PASSA aims to develop local capacity to reduce shelter-related risk by raising awareness and developing skills in joint analysis, learning, and decision-making at the community level
Preparedness	The knowledge and capacities developed by governments, professional response and recovery organizations, communities, and individuals to effectively anticipate, respond to, and recover from the impacts of forthcoming or current hazard events and conditions
Pucca House	Pucca house refers to dwellings that are designed to be solid and permanent
Risk	Risk is the combination of the probability of negative consequences of an event
Resilience	Resilience refers to absorbing stresses and maintaining function in the face of external stresses imposed upon it by climate change and reorganizing, and evolving into more desirable configurations that improve the sustainability of the system, leaving it better prepared for future climate change impacts

Recovery	Recovery from disasters indicates a set of policies, tools and procedures to enable the recovery or continuation of vital technology infrastructure and systems
SDGs	The Sustainable Development Goals (SDGs) are part of Resolution 70/1 of the United Nations General Assembly in 2015 "Transforming our World: the 2030 Agenda for Sustainable Development". 17 goals of SDGs are broad and interdependent, yet each has a separate list including 169 targets to achieve
Topography	Topography is the study of the shape and features of land surfaces. The topography of an area could refer to the surface shapes and features themselves, or a description (especially their depiction in maps)
Union Parishad	Union Parishad is the smallest rural administrative and local government unit in Bangladesh
Upazila	The Upazila is the second-lowest tier of regional administration in Bangladesh
Vulnerable	The vulnerable are the victims of vulnerability. And vulnerability is the susceptibility of groups or individuals to harm because of climatic changes
Ward	In Bangladesh, each Union is made up of nine Wards. Usually, one village is designated as a Ward

Executive Summary

The Integrated Flood Resilience Programme (IFRP): Phase-3 through Community-Based Disaster Risk Reduction (CBDRR) is a comprehensive initiative led by the Bangladesh Red Crescent Society (BDRCS) with technical guidance from the International Federation of Red Cross and Red Crescent Societies (IFRC). Funded by the Ministry of Foreign Affairs (MoFA), Republic of Korea and monitored by the Korea International Cooperation Agency (KOICA), the programme aims to enhance community resilience in flood-prone areas of Tangail District by strengthening capacities, reducing vulnerabilities, and promoting community-led risk reduction.

As part of the programme's inception, a baseline survey was conducted in four targeted wards - Ward 7 and 8 in Durgapur Union (Kalihati Upazila) and Ward 7 and 9 in Dainya Union (Tangail Sadar Upazila) - to assess the current conditions, vulnerabilities, and capacities of the communities. The survey used a mixed-method approach, combining 2,554 household surveys, 08 focus group discussions (FGDs), and 09 key informant interviews (KIIs). Data was disaggregated by gender, age, and disability status to ensure inclusivity.

The majority of respondents were women (73 percent), reflecting gendered household roles. The predominant age group was 30–39 years, followed by 40–49 years, highlighting a relatively young population. The majority (96 percent) identified as Muslim, with Hinduism (4 percent) as the minority.

Education levels were low: 43 percent of respondents had no formal education, and only 1.3 percent had tertiary education, indicating limited human capital development. Livelihoods predominantly depended on informal sectors such as day labor (30 percent) and agriculture (22 percent), with minimal access to formal employment. Only 1.2 percent of households reported members with disabilities, mostly physical (48 percent), but inclusion in planning and preparedness remained limited.

Access to drinking water was high during normal periods (93 percent), but decreased to 83 percent during floods, with 28 percent of households relying on inundated or unimproved water sources. While 84 percent of households owned tube wells, only 72 percent were flood-resilient. Sanitation facilities were similarly challenged: 87 percent of households had latrines, but only 43 percent

were improved, and 36 percent became inaccessible during floods. Open defecation (5 percent) and defecation into floodwater (3 percent) were reported, posing serious health risks.

Hygiene practices were sub-optimal. Only 25 percent of respondents knew correct handwashing techniques, and 64 percent washed hands for less than the WHO-recommended 20 seconds. Handwashing was mostly practiced after defecation (33 percent) and before eating (23 percent), but rarely after returning home from outside (4 percent).

Housing conditions were predominantly fragile, with 56 percent living in kaccha (temporary) structures and 40 percent in semi-pucca houses. Only 3 percent lived in fully pucca houses. About 17 percent of houses were inundated during the last flood, and 34 percent reported inadequate plinth heights. Only 4 percent of respondents participated in community consultations on flood-resilient housing design.

Floods significantly disrupted livelihoods: 75 percent of households reported flood-related impacts, including loss of occupation (27 percent), temporary income loss (19 percent), restricted mobility (18 percent), and crop/livestock losses (13 percent and 19 percent). To cope, households relied on cost-cutting (28 percent), savings (23 percent), and informal loans (36 percent). Formal support from government or NGOs was minimal (1 percent).

Only 3 percent of community members reported receiving any skills training in the past three years, mainly in animal husbandry or agriculture, indicating limited opportunities for vocational development and diversification.

Preparedness levels were critically low. Only 15 percent of respondents were aware of disaster risk reduction (DRR) or climate change issues, and 26 percent were familiar with heatwave risks. Although 27 percent reported receiving flood early warnings, actionable preparedness was lacking. Early warning sources included miking (30 percent), neighbors (20 percent), and mobile phones (13 percent), with limited institutional engagement (16 percent).

Only 29 percent of households took preparedness actions such as raising plinths or preserving food. Post-flood recovery strategies focused on repairing homes and managing debt. Community contingency plans, disaster funds, or information centers were reported by only 1 percent of households.

Health vulnerabilities were linked to inadequate WASH facilities and disaster impacts. During the last flood, 12 percent of households reported illnesses, predominantly diarrhea, fever, and cholera. The majority of affected households (69 percent) reported single cases, while some faced multiple illnesses. Healthcare-seeking behaviors varied: government hospitals (25 percent), pharmacies (24 percent), and community clinics (22 percent) were common sources of care, though informal providers like village doctors and traditional healers remained significant.

For pregnant women, treatment was primarily sought at government hospitals (29 percent), home-based care (27 percent), and community clinics (23 percent). Nutritional support during floods was limited, focusing mainly on staples like eggs, fish, and rice, with lower consumption of fruits and honey. Participation in health-related awareness sessions was low (6 percent).

Protection concerns during floods included women's and girls' safety (9 percent) and cases of children going missing (5 percent). Post-disaster, 0.5 percent of households reported incidents of violence, debt bondage, or neglect. Community responses often involved restricting women's mobility or seeking support from local leaders, though such measures could limit access to resources.

Women continued to bear a disproportionate burden in household responsibilities, particularly water collection (90 percent) and caregiving, yet had limited participation in community planning and decision-making. Only 4 percent of respondents reported that community opinions were considered in project design, and 65 percent were unaware of participation opportunities. Information sharing was primarily done through community meetings (50 percent) and miking (18 percent).

The baseline survey paints a picture of high vulnerability and low resilience among the target communities, characterized by:

- Poor WASH infrastructure and hygiene practices, exacerbated during floods.
- Fragile housing and inadequate shelter solutions.
- Limited livelihood opportunities and weak safety nets.
- Low disaster preparedness and response capacities.
- Inadequate health infrastructure and outreach services.

- Gender disparities in roles, access, and leadership, with inadequate inclusion of vulnerable groups.

The IFRP: Phase-3 baseline survey provides critical evidence of high vulnerability and low resilience among the surveyed communities. Limited awareness of disaster risks, poor access to inclusive infrastructure, and a lack of preparedness mechanisms compound the impact of floods on already fragile livelihoods and social systems. The findings reinforce the need for multi-dimensional, inclusive, and scalable interventions. Key priorities should include:

- Strengthening disaster risk governance at the community level
- Improving WASH and shelter resilience
- Enhancing flood-resilient health infrastructure and services
- Facilitating vocational and livelihood training for women and youth
- Promoting gender equity and social inclusion
- Institutionalizing early warning systems and community contingency planning

The findings of the baseline survey offer a crucial lens through which the vulnerabilities, capacities, and aspirations of the target communities can be clearly understood. They underscore the urgent need for integrated, inclusive, and locally grounded interventions that go beyond reactive relief and instead focus on long-term resilience, risk reduction, and community empowerment. As IFRP: Phase-3 progresses toward implementation, the insights drawn from this baseline will serve as both a benchmark and a strategic compass ensuring that every action taken is responsive to local realities, driven by data, and rooted in the principles of equity, dignity, and sustainability.

1. Introduction

1.1 Background and context of the programme

Bangladesh is among the world's most disaster-prone countries, with its low-lying deltaic geography, dense population, and socio-economic vulnerabilities contributing to frequent natural hazards, especially floods. Situated at the confluence of the Ganges, Brahmaputra, and Meghna (GBM) river systems, the country experiences severe flooding almost every year, with major events recorded in 1966, 1988, 1998, and more recently, 2017 and 2020. Climate change has amplified these challenges, causing erratic weather patterns, prolonged heatwaves, and rising temperatures, which intensify flood risks and unpredictability. Seasonal monsoon rains inundate vast areas, disrupting livelihoods, damaging infrastructure, and exacerbating poverty, especially in flood-prone districts like Tangail.

The compounded vulnerabilities of low-income populations, particularly those residing in floodplains and informal settlements, are worsened by limited access to resilient infrastructure and economic opportunities. The COVID-19 pandemic has further deepened these vulnerabilities, disrupting healthcare, livelihoods, and education, and highlighting the critical link between public health and disaster risk reduction (DRR).

In this evolving context, resilience—the capacity of individuals and communities to anticipate, absorb, adapt, and recover from shocks—has become a core focus of DRR strategies. The Red Cross and Red Crescent (RCRC) Movement, including the IFRC and BDRCS, has long been engaged in community-based resilience programming across Bangladesh. IFRC's Strategy 2030 prioritizes climate-smart DRR, improved health outcomes, and climate-resilient livelihoods, aligning with national frameworks such as the Sendai Framework for DRR, the National Adaptation Plan (NAP), and the Mujib Climate Prosperity Plan.

Building on the experiences of earlier phases, the IFRP: Phase-3 was launched to enhance the resilience of flood-prone communities in Tangail District. Implemented by BDRCS with technical support from IFRC and funding from the Ministry of Foreign Affairs (MoFA) of the Republic of Korea, with KOICA as a monitoring partner, the programme adopts a comprehensive, multi-sectoral, and CBDRR approach. It aims to reduce disaster-induced losses, improve adaptive capacities, and strengthen local institutions through inclusive, locally-led interventions.

The programme aims to achieve the following four outcomes:

- Communities have increased capacities to effectively respond to floods, heatwaves, pandemic and adapting to the changing climatic condition.
- Most vulnerable households have improved livelihood and shelter to withstand small scale floods and other climate-induced disasters.
- Community people have increased access to appropriate and sustainable water, sanitation and hygiene practices focused on pandemic and other epidemics.
- BDRCS' capacity to effective coordination and collaboration with other relevant sectoral actors to deliver scaled up climate smart DRR and resilience programmes is enhanced.

The programme incorporates key components including climate change adaptation, disaster risk reduction (DRR), livelihoods, shelter, WASH, health, and capacity-building tailored to the specific needs and contexts of the targeted communities. Through a comprehensive, community-based DRR strategy, it aims to enhance local capacity, reduce life and livelihood risks, and foster resilience. It also integrates Community Engagement and Accountability (CEA) and Protection, Gender, and Inclusion (PGI) as cross-cutting themes, ensuring that women, adolescents, persons with disabilities, elderly individuals, and marginalized groups are actively involved at every stage of the project cycle—from planning and implementation to monitoring and evaluation. Central to the programme's approach is the promotion of local leadership and the empowerment of vulnerable groups.

Additionally, the programme aligns with broader international and national frameworks:

- It contributes to the Sendai Framework by improving risk understanding, community-based preparedness, and "Build Back Better" recovery.
- It supports several Sustainable Development Goals (SDGs), notably SDG 1 (No Poverty), SDG 3 (Good Health and Wellbeing), SDG 6 (Clean Water and Sanitation), and SDG 13 (Climate Action).
- It promotes knowledge-sharing, innovation, and partnerships through alignment with the UNDRR, RCRC Movement strategies, and national DRR platforms.

To ensure impact and scalability, IFRP: Phase-3 is designed to align with national plans and be replicable in other vulnerable districts of Bangladesh. By documenting best practices, success

stories, and lessons learned, the programme aims to inform policy, influence future programme design, and contribute to a broader culture of resilience. Through investments in household-level disaster risk reduction, the empowerment of women, and inclusive governance, IFRP: Phase-3 seeks to catalyze sustainable, long-term change.

The Baseline Survey is a pivotal part of this strategic approach, providing the crucial evidence base upon which the programme's interventions are built. By systematically capturing the pre-intervention realities of the targeted communities—including their vulnerabilities, capacities, knowledge, and practices related to flood resilience, WASH, shelter, health, livelihoods, and social inclusion—the baseline ensures that Phase-3 interventions are tailored to local contexts and grounded in real needs.

Moreover, the Baseline Survey Report not only offers a benchmark for measuring progress but also amplifies the voices and experiences of community members who are at the heart of the programme's success. Their insights illuminate the challenges and strengths that define resilience in disaster-prone areas, highlighting the importance of adaptive, inclusive, and community-led solutions.

As IFRP: Phase-3 transitions from planning to implementation, the findings of this baseline will serve as both a compass and a commitment—guiding the design, delivery, and monitoring of activities, and ensuring that each intervention contributes meaningfully to a safer, more resilient future for the communities most at risk.

1.2 Profile of the targeted area

The baseline study was conducted in four disaster-prone communities under Dainya Union of Tangail Sadar Upazila and Durgapur Union of Kalihati Upazila in Tangail District, Bangladesh. These communities were selected based on their high exposure to recurring floods, riverbank erosion, heatwaves, and other climate-induced hazards, which significantly affect the lives and livelihoods of the local population. The four targeted communities are:

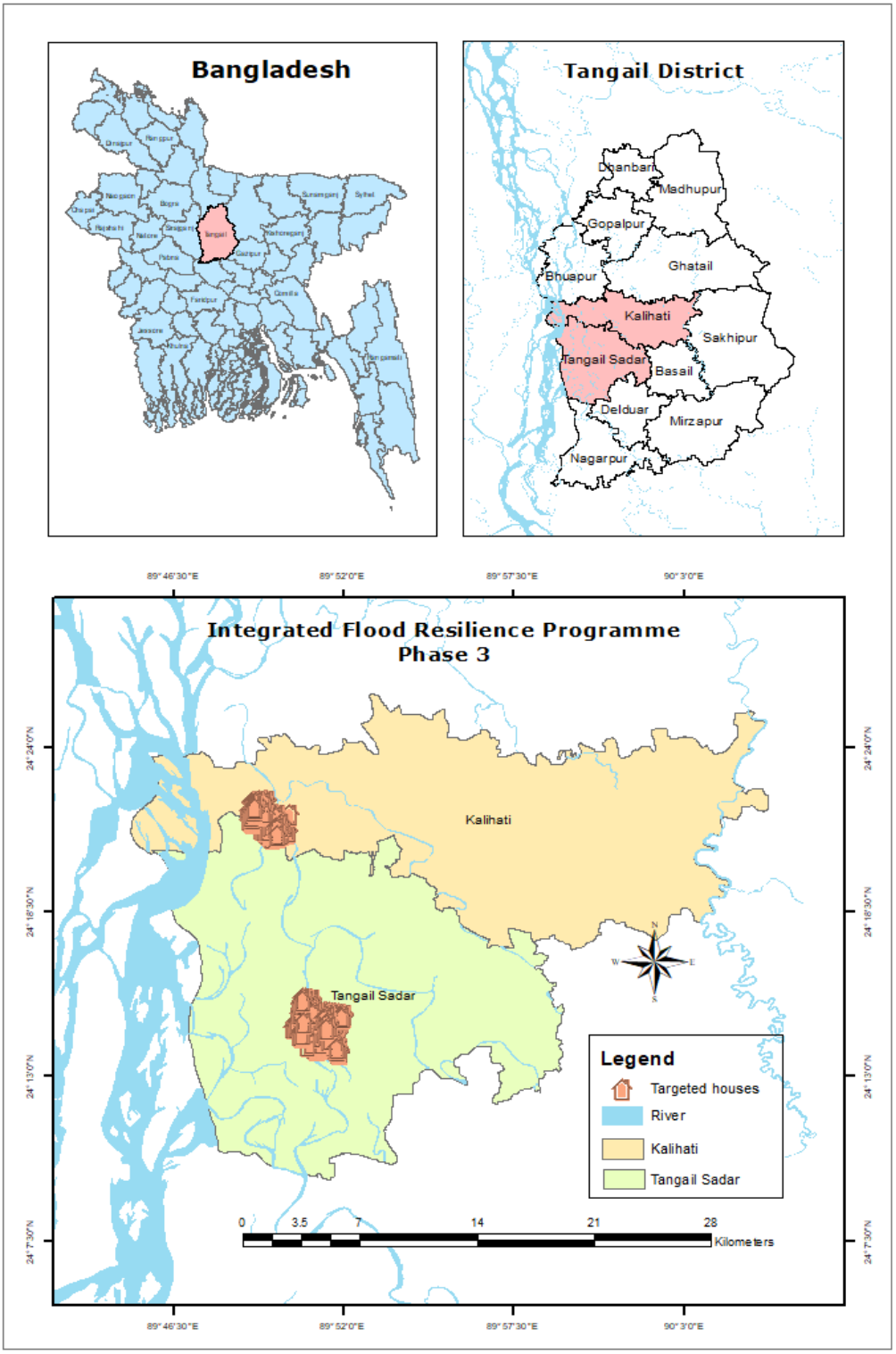
1. Ward no 7, Dainya Union, Tangail Sadar Upazila, Tangail.
2. Ward no 9, Dainya Union, Tangail Sadar Upazila, Tangail.
3. Ward no 7, Durgapur Union, Kalihati Upazila, Tangail.
4. Ward no 8, Durgapur Union, Kalihati Upazila, Tangail.

These areas are geographically located along the banks of the Jamuna and Dhaleshwari River, making them particularly vulnerable to seasonal flooding and river erosion. The communities are characterized by a mix of rural settlements with limited infrastructure, poor access to basic services, and high levels of socio-economic vulnerability.

The households in these areas primarily depend on agriculture, day labor, fishing, and small-scale businesses for their livelihoods. However, due to frequent natural disasters, the residents face persistent challenges such as crop loss, displacement, food insecurity, and inadequate access to safe drinking water and sanitation facilities.

The population in the study areas comprises both Muslim and Hindu communities, and there exists a relatively strong sense of social harmony. Educational institutions are present but under-resourced, and healthcare facilities are distant and often difficult to access, particularly during floods.

Due to their geographical location, socio-economic conditions, and exposure to climate-induced risks, these communities have been prioritized under the IFRP: Phase-3 for targeted disaster risk reduction (DRR), climate change adaptation (CCA), and resilience-building interventions.



Picture: IFRP: Phase-3 target area

1.3 Rationale of the Baseline Survey

The Baseline Survey was a designed activity under IFRP: Phase-3. For implementing the activities of the programme, it was important to know the basic information on climate change, community resilience and DRR; COVID-19 knowledge and practices, WASH, livelihoods; health and shelter of the four communities. Strategies of implementation of the interventions and activities will be designed based on the findings of the Baseline Survey and the achievement of the programme depends on its successful completion.

1.4 Objectives of the Baseline Survey

The baseline survey employed a descriptive cross-sectional design research approach while the objective of the baseline survey was to collect primary and secondary data based on the indicators of the IFRP from four communities of Tangail district. The baseline survey accumulated data and information from the selected communities on climate change, community resilience, disaster risk management, livelihoods, shelter, WASH, health, and capacity building of the communities and targeted stakeholders following the components of the programme. The major objectives of the baseline survey were:

- To collect primary and secondary data based on the indicators of the IFRP: Phase Two from four communities of Tangail district.
- To identify and document the existing situation of the four communities regarding climate change, community resilience, disaster management, livelihoods, shelter, WASH, health, and capacity building of the communities and targeted stakeholders.
- To explore the community's knowledge, attitudes, practices and capacities to respond flood and other climate-induced disasters.
- To identify the needs of targeted communities to increase community resilience to flood through modifying interventions and implementation modality.
- To provide a key reference to the mid-term and end line evaluation to assess and monitor the change of programme results.

2. Survey Methodology

2.1 Reviewing Secondary Data Sources

The Baseline Survey for IFRP: Phase-3 was conducted in four communities across two unions of Tangail Sadar Upazila, employing both quantitative and qualitative research methodologies. The survey was jointly carried out by the BDRCS and IFRC, with active support from the Tangail Red Crescent Unit and the local programme implementation team.

To ensure a robust understanding of the contextual landscape, an extensive desk review was conducted prior to field data collection. This included a thorough examination of relevant secondary data sources such as research studies, policy papers, peer-reviewed literature, and global and national publications focused on climate change adaptation, disaster risk reduction (DRR), and community resilience. Special attention was given to materials related to flood resilience and sustainable livelihood strategies in the context of Bangladesh—particularly within the Jamuna River Basin, where the target communities are located.

Additionally, key programme documents from IFRP: Phase-2, including the project proposal and logical framework, were reviewed to ensure continuity and alignment in research objectives and indicators. Comparative insights were also drawn from regional and international practices related to community-based disaster risk management, helping to situate the Phase-3 survey within a broader South Asian and global resilience framework. This comprehensive literature review significantly informed the survey design and analytical approach, ensuring the relevance, accuracy, and strategic alignment of the baseline study.

2.2 Survey tools

The survey covered the entire programme area at 4 communities in the Tangail district and the data were collected from 2,554 households. Both qualitative and quantitative research methods were used to conduct the survey. The tools for the survey include:

- Structured questionnaires for a survey of the targeted households
- Focus group discussions (FGDs)
- Semi-structured questionnaire for Key Informant Interviews (KIIs).

2.2.1 Household Survey

A household survey was conducted in 2,554 households at targeted 4 communities of Tangail districts using portable electronic devices. The digital data collection software called KoBo Toolbox with a structured questionnaire was used for the survey purpose. The selected 25 volunteers (Male-17, Female-8) were provided training on online data collection using questionnaire through Kobo. Then, the trained unit volunteers collected data from households.

The BDRCS and IFRC programme and PMER team facilitated the data collection process and enumerators' training and supervised the whole data collection process. The total data collection took 08 working days to complete the survey by the enumerators.

2.2.2 Focus Group Discussion (FGD)

A total of 8 FGDs with a structure questionnaire was conducted at the 4 targeted communities under the programme area. The FGDs were done with male and female groups. The FGDs primarily focused on the issues of the communities' socio-economic condition, knowledge about climate change, community resilience and disaster risk reduction, flood vulnerability in the communities and actions to flood before, during and after floods , understanding on early warning system, water, sanitation and hygiene condition at the communities, shelter and livelihood situation, locally led adaptation, community engagement and accountability and way of improving capacities of the communities.

2.2.3 Key Informant Interviews (KIIs)

A total of 9 KIIs with a semi-structure questionnaire was conducted with school’s teachers, health promoters, community leaders, local government representations, NGOs and Project Implementation Officer, Upazila Livestock Officer, and Upazila Agriculture Officer.

2.3 Ensuring Data Quality

All the data were reviewed and checked daily through the consultative meeting with enumerators and feedback was provided during the meeting to crosscheck the data before submission. Spot-checking was done during the survey time to review the data collection. The interviewed households were randomly revisited during the survey time to cross-check of the data collected by the RCYs.

2.4 Data collection team

The Baseline data collection team was led by BDRCS NHQ and IFRC officials and they guided and trained the enumerators and monitored the survey. They also managed the entire process of household survey and the qualitative data collection. A total of 25 RCYs including 17 male and 08 female RCYs from Tangail Red Crescent Unit collected quantitative data from the household level. One day full orientation was provided to the RCYs at the district level. Orientation was given on the data collection procedure and proper understanding of the questionnaire and issues of the programme, climate change adaptation, disaster risk reduction, community resilience, etc. By the orientation, all RCYs were able to understand the survey perspective uniformly. The RCYs were oriented about the ways of rapport building and interview techniques with the community people by using KoBo Toolbox. So, the RCYs were easily oriented on the data collection procedure, and they provided their practical feedback after getting the orientation. Finally, they successfully completed the household data collection during the last week of January 2025.

2.5 Data Analysis

Collected surveyed data from the targeted households was imported from KoBo toolbox in an excel version. MS Excel was used for analyzing the data. Data were displayed as tables and graphs based on nature and unit of analysis bases on the program indicator. Thematic analysis was done for qualitative data and triangulated it with quantitative findings to provide richer insights. In addition, component-wise data as per the programme's logical framework was shown in the different parts of the report so that the data can be compared during the mid-term and end-line evaluation.

2.6 Report preparation

BDRCS and IFRC programme and PMER team members drafted the report first and reviewed the report and findings through a consultative discussion process among the team members and programme personnel. Then, the report was further shared with the program and PMER colleagues at the country and regional levels to get their insights. After receiving feedback from them, the report was finally upgraded.

2.7 Ethical Issues

Ethical issues were maintained while doing the fieldwork and the total process of the survey. All the targeted respondents, community people, and other stakeholders were informed about the objectives of IFRP: Phase-3, objectives of the baseline survey, and activities of BDRCS. The culture and sensitivity of the community people, respondents, and other govt. and non-govt. stakeholders were prioritized from the principles and values of the RCRC movement. Permission was taken from the respondents whose opinions and photos had been used in the report. The respondents and community people were clearly informed that the findings of the survey will be used by BDRCS and IFRC for the implementation of interventions of the IFRP: Phase-3 as well as achieve community resilience in the targeted programme areas.

2.8 Limitations of the survey

While the baseline survey for the Integrated Flood Resilience Programme (IFRP): Phase-3 was conducted with rigorous effort and attention to quality, several limitations were encountered during its implementation:

1. Due to a limited timeframe, the number of qualitative data collection activities had to be reduced. Originally, 8 FGDs and 12 Key KIIs were planned to ensure diverse and in-depth community insights. However, 8 FGDs and 9 KIIs could ultimately be conducted.

2. Although the enumerators aimed to collect quantitative data from all households in the project communities, a small number of households were missed. This was primarily due to the unavailability of respondents at their homes during the survey period. As a result, the data set may not fully reflect the perspectives of all households in the target communities.

3. The survey team encountered several technical and operational issues while using the Kobo Collect App in the initial stages of data collection. These challenges delayed the data collection effort on the first day of the survey. However, with strengthened coordination and communication between enumerators and supervisors, these issues were identified and resolved in a timely manner, minimizing disruptions. In future, more times should be given for pre-testing and validation while using online data collection tools.

4. In some cases, respondents exhibited fatigue due to the length of the questionnaire or hesitancy in responding to sensitive questions related to income, health, or vulnerabilities. Despite the enumerators' efforts to maintain a respectful and engaging approach, this may have affected the depth or accuracy of responses to certain questions.

Despite these limitations, the survey team made continuous efforts to ensure data quality through real-time supervision, regular debriefings, and corrective measures. The findings of this baseline report should be interpreted in light of these constraints, while also recognizing the overall reliability and representativeness of the collected data.

3. Literature Review

Community resilience has emerged as a critical framework in contemporary disaster risk reduction (DRR) and climate change adaptation strategies, particularly in highly vulnerable geographies such as Bangladesh. In the face of increasing frequency, intensity, and unpredictability of disasters—both climate-induced and human-driven—resilience thinking shifts the focus from reactive crisis response to proactive risk reduction, system transformation, and long-term sustainability. The core principle of community resilience is the ability of individuals, households, and systems to anticipate, absorb, adapt, and recover from adverse shocks without compromising future well-being. This approach aligns closely with the objectives of the Integrated Flood Resilience Programme (IFRP): Phase-3, which emphasizes community-led disaster preparedness, sustainable livelihoods, inclusive development, and institutional capacity-building in flood-prone areas of Tangail district.

The importance of building resilient communities has been underscored globally in major frameworks such as the Sendai Framework for Disaster Risk Reduction (2015–2030), the Sustainable Development Goals (SDGs), and the Paris Agreement on Climate Change (2015). The Sendai Framework calls for substantial reduction in disaster losses by investing in resilience at all levels, including infrastructure, basic services, and livelihoods. It places strong emphasis on inclusive, participatory approaches and advocates for local-level risk governance as a central pillar of sustainable development. Similarly, the SDGs—particularly Goals 1 (No Poverty), 2 (Zero Hunger), 6 (Clean Water and Sanitation), 11 (Sustainable Cities and Communities), and 13 (Climate Action)—position resilience as a precondition for progress, especially in vulnerable regions. The Paris Agreement identifies resilience-building as a key component of climate adaptation, recognizing the need to enhance the adaptive capacity of local communities to climate-related risks and slow-onset events.

In Bangladesh, the relevance of resilience-focused interventions cannot be overstated. The country is consistently ranked among the most climate-vulnerable nations in the world (IPCC, 2014; UNDRR, 2011). Its geography—positioned at the confluence of the Ganges-Brahmaputra-Meghna (GBM) river basin—and its dense population render it particularly susceptible to recurrent flooding, river erosion, and extreme weather events. According to the Ministry of Foreign Affairs (2018), around 25 percent of Bangladesh is inundated annually by floods, and in severe events

such as those in 1988 and 1998, up to 70 percent of the country was submerged. These floods have devastating impacts on housing, infrastructure, agriculture, health, education, and the local economy. In rural areas, where livelihoods are largely dependent on agriculture and informal labor, floods disrupt not only income and employment but also access to food, clean water, education, and healthcare.

Numerous studies and institutional reports highlight the structural and non-structural factors that heighten Bangladesh's flood vulnerability. These include low elevation, high rainfall, poor drainage systems, and increasing sedimentation in rivers. In addition, the social vulnerability of the population—characterized by poverty, limited access to services, and weak governance—makes disaster impacts more severe and long-lasting. A 2016 report by The Fletcher School, USA, noted that over one-third of Bangladesh's land is vulnerable to flooding annually, with climate change expected to worsen the situation in both intensity and frequency. The Department of Disaster Management (2014) echoes this concern, projecting that climate-related flood hazards will become more erratic due to glacier melt, sea-level rise, and changing precipitation patterns across the GBM basin.

Climate change acts as a threat multiplier, aggravating existing vulnerabilities and creating new risks. Rising temperatures, changing rainfall patterns, and increased glacial melt are expected to accelerate both fluvial and pluvial flooding. The USAID Climate Risk Profile (2016) for Bangladesh notes that large-scale floods not only cause immediate damage but also have long-term consequences such as loss of productive assets, increased health burdens, and social displacement. These effects are felt most acutely by marginalized groups—particularly women, children, the elderly, and persons with disabilities—who face multiple barriers in access to resources, participation in decision-making, and recovery processes.

In resilience thinking, adaptive capacity is recognized as a key attribute of resilient systems. According to Berkes and Ross (2013), adaptive capacity is shaped by factors such as people-place connections, social capital, governance structures, local knowledge, and economic diversity. A resilient community is one that not only withstands shocks but also evolves, transforms, and thrives in the face of adversity. This concept moves beyond passive coping to emphasize agency, learning, innovation, and collective action.

The COVID-19 pandemic, which began in 2020, has further revealed the fragility of community systems in Bangladesh. The crisis disrupted health services, education, livelihoods, and food security—especially in rural and flood-affected areas. According to the UNDP Report (2020), the pandemic pushed over 20 million people into a state of economic vulnerability, raising the national poverty level to an estimated 40.9 percent. The compounded effects of COVID-19 and recurring floods have intensified community fragility and placed enormous strain on public systems. These overlapping shocks have highlighted the importance of integrated programming that combines DRR, public health, and social protection under a resilience framework.

The IFRP: Phase-3 adopts a Community-Based Disaster Risk Reduction (CBDRR) approach, grounded in the idea that sustainable resilience must be driven by the communities themselves. This approach recognizes that local people are the first responders and must be at the center of risk assessments, planning, and implementation. By promoting participatory Vulnerability and Capacity Assessments (VCAs), community contingency plans, and inclusive governance mechanisms, CBDRR ensures that interventions are locally appropriate, context-sensitive, and sustainable. Moreover, the programme's emphasis on Community Engagement and Accountability (CEA) and Protection, Gender, and Inclusion (PGI) ensures that the needs of the most at-risk groups are addressed systematically throughout the project cycle.

Resilience-building is inherently linked to the concept of sustainable livelihoods. Chambers and Conway (1992) defined sustainable livelihoods as those that "can cope with and recover from stress and shocks, maintain or enhance their capabilities and assets, and provide sustainable livelihood opportunities for the next generation." In the context of flood-prone areas, this means diversifying income sources, strengthening local markets, ensuring food security, and integrating risk-informed planning into household and community economic activities. The IFRP: Phase-3 integrates livelihood strategies such as training on tailoring, poultry rearing, veterinary services, and mobile servicing for women and unemployed youth to strengthen economic resilience and reduce dependency on climate-sensitive sectors.

WASH (Water, Sanitation, and Hygiene) is another vital pillar of community resilience. Floods regularly damage water sources, latrines, and hygiene facilities, resulting in increased outbreaks of waterborne and skin-related diseases. The World Food Programme (2013) highlights the need for inclusive WASH solutions that account for the needs of women, girls, and persons with

disabilities. The IFRP: Phase-3 addresses these challenges through the installation of flood-resilient WASH infrastructure and behavior change campaigns on hygiene and menstrual health management.

The literature also emphasizes the importance of institutional resilience—that is, the capacity of local organizations, including government bodies and humanitarian actors, to anticipate, manage, and recover from crises. The Asia-Pacific Disaster Report (2015) by UN-ESCAP and the IFRC (2014) both advocate for strengthening coordination among DRR actors and aligning community-level interventions with national plans and policies. The BDRCS, with its auxiliary status to the Government of Bangladesh and deep community presence, is well positioned to operationalize this institutional linkage.

Finally, conceptual clarity around disaster risk is essential to designing effective interventions. The UNDRR (2009, 2011) defines disaster risk as a function of hazard, exposure, and vulnerability. While hazard refers to the physical event (e.g., flood), exposure denotes the presence of people and assets in harm's way, and vulnerability reflects the susceptibility to harm due to socio-economic and environmental conditions. Effective DRR requires addressing all three dimensions simultaneously—reducing hazard exposure through land-use planning and infrastructure, lowering vulnerability through social protection and education, and enhancing preparedness through early warning systems and contingency planning.

In conclusion, the literature reviewed for the IFRP: Phase-3 Baseline Survey confirms that resilience must be approached holistically, integrating risk reduction, sustainable livelihoods, health, gender equity, governance, and local leadership. It reinforces the need for localized, inclusive, and adaptive strategies that empower communities to prepare for, respond to, and recover from disasters in a sustainable and equitable manner. The findings from this literature review have informed the design of the baseline survey, the selection of indicators, and the overall implementation strategy of the programme. By anchoring its work in global best practices and local realities, IFRP: Phase-3 seeks to contribute meaningfully to national and international goals for disaster risk reduction and climate resilience.

4. Findings and Discussion

This section presents a comprehensive analysis of the key findings derived from the baseline data collection under the Integrated Flood Resilience Programme (IFRP): Phase-3. The data, gathered from selected wards in Durgapur and Dainya unions, covers various aspects of household demographics, socio-economic status, gender composition, disaster preparedness, health practices, and community resilience indicators. The purpose of this section is not only to highlight the quantitative results but also to interpret their implications in the context of community vulnerability, resilience capacity, and programme relevance.

Through comparative analysis and contextual interpretation, this section aims to identify existing strengths, gaps, and opportunities within the target communities. It further explores patterns and anomalies that may inform future programming decisions, guide tailored interventions, and ensure inclusive, evidence-based planning. Each sub-section presents thematic findings supported by visual data representations, followed by analytical discussions to shed light on underlying trends and contextual realities.

4.1 Gender Analysis

4.1.1 Gender of Household Members

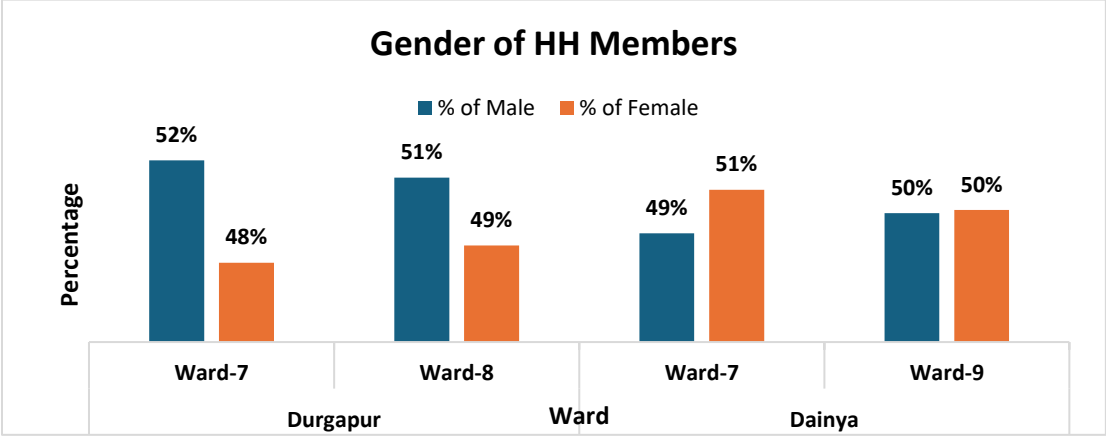


Figure 1 Gender distribution of household members

The figure 1 illustrates the gender distribution among household members in four selected wards - two from Durgapur (Ward-7 and Ward-8) and two from Dainya (Ward-7 and Ward-9). The data compares the percentages of male and female household members in each location, providing insight into gender dynamics at the community level.

In Durgapur, both Ward-7 and Ward-8 show a slightly higher number of male members. In Ward-7, males constitute 52 percent of household members, while females make up 48 percent. Similarly, in Ward-8, the male population stands at 51 percent, compared to 49 percent females. Although the margins are narrow, this pattern indicates a marginally higher presence of males in household compositions in Durgapur.

Conversely, the data from Dainya presents a more balanced gender scenario. In Dainya's Ward-7, females slightly outnumber males, accounting for 51 percent of household members compared to 49 percent males. Meanwhile, Ward-9 in Dainya demonstrates perfect gender parity, with both males and females making up exactly 50 percent of the household population. This balance suggests a more equitable gender distribution within households in Dainya compared to Durgapur.

4.1.2 Gender of Household Heads

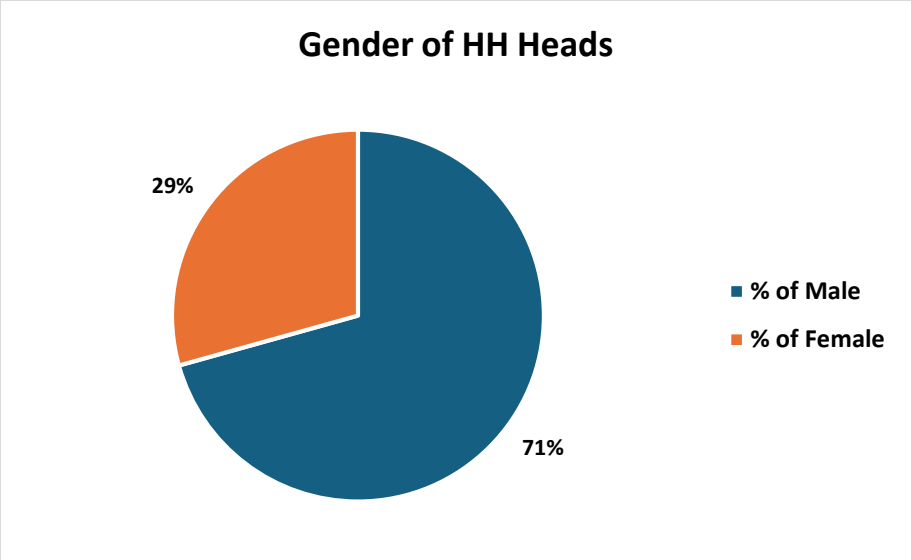


Figure 2 Gender of Household Heads

The pie chart indicates a significant dominance of male household heads, constituting 71 percent of the surveyed households across the four wards. The household head ratio of 71:29 highlights the prevailing paternal structure in the country.

4.1.3 Gender of Respondents

Table 1 Gender of Respondents across the wards

Community description			Gender of Respondents			Total
Upazila	**Union**	**Ward**	**Female**	**Male**	**Not Willing to disclose**	
Kalihati	Durgapur	Ward-7	338	140	1	479
		Ward-8	174	90	0	264
Tangail Sadar	Dainya	Ward-7	712	207	1	920
		Ward-9	640	249	2	891
Grand Total			**1864**	**686**	**4**	**2554**

The table provides the gender distribution of respondents across four wards in the Kalihati and Tangail Sadar upazilas. A total of 2,554 individuals participated in the survey, with 1,864 females, 686 males, and 4 individuals who chose not to disclose their gender. Among the wards, Kalihati's Ward-7 had the highest number of female respondents (338), while Tangail Sadar's Ward-9 recorded the highest number of male respondents (249). The data shows that females are outnumbering males across all wards. The qualitative data reveals the reason behind this – as the males are out for work or business, the females are the ones staying at home and responding to the survey.

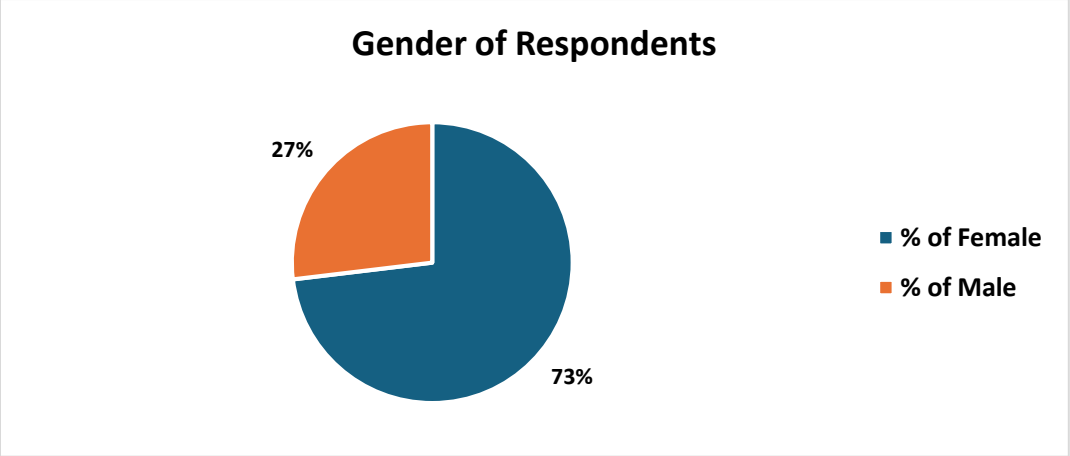


Figure 3 Gender of Respondents

The pie chart shows that 73 percent of the respondents in the household survey were female, while only 27 percent were male. Since the survey was conducted during the daytime, it was observed that most male members were away for work. As a result, the majority of respondents were female.

4.2. Age group of Respondents

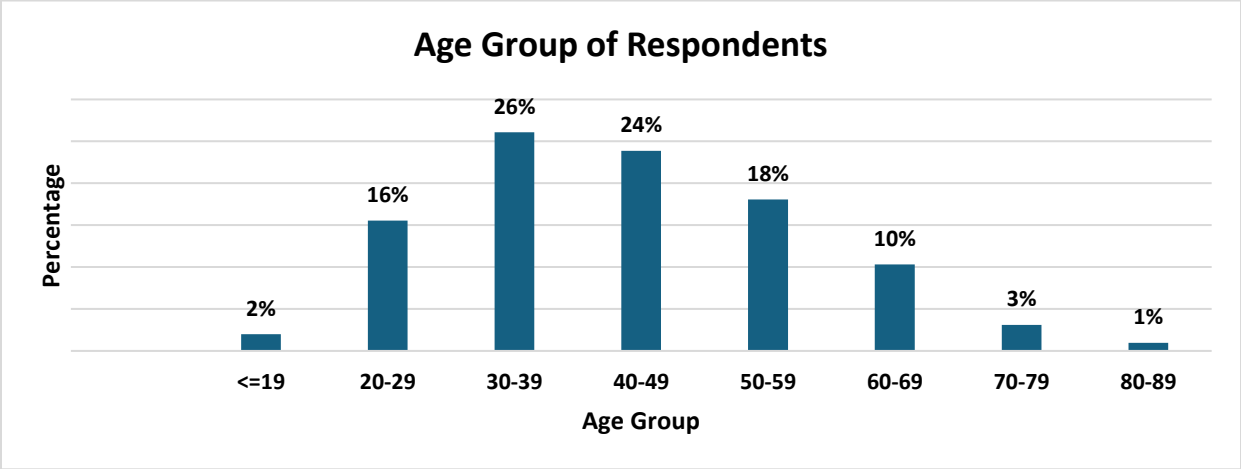


Figure 4 Age distribution of the respondents

The age distribution of survey respondents reveals a concentration of participants within the middle-age brackets, reflecting the demographic reality of the target communities. The highest proportion of respondents belongs to the 30–39 age group, accounting for 26 percent of the total, followed closely by the 40–49 age group at 24 percent, and the 50–59 bracket at 18 percent. The 20–29 age group comprises 16 percent, indicating moderate engagement of younger adults in the survey process. Participation drops noticeably at both ends of the age spectrum. Only 2 percent of respondents were aged 19 or below, while the elderly population – those aged 70–79 and 80–89 – constituted a mere 3 percent and 1 percent, respectively. The 60–69 age group represents 10 percent, marking a moderate presence of older adults. This distribution suggests that the majority of respondents are middle-aged, who are likely to be active decision-makers within their households and communities.

4.3 Religion of Respondents

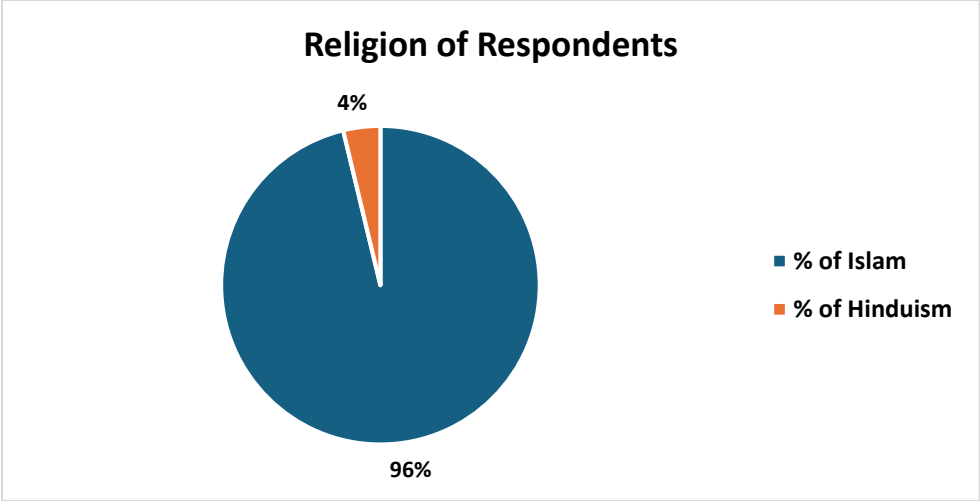


Figure 5 Religion of Respondents

The pie chart displays the significant differences between Islam and other religions. 96 percent of the respondents follows Islam and only a 4 percent of the respondents follow Hinduism religion.

4.4 Educational qualification of the Respondent

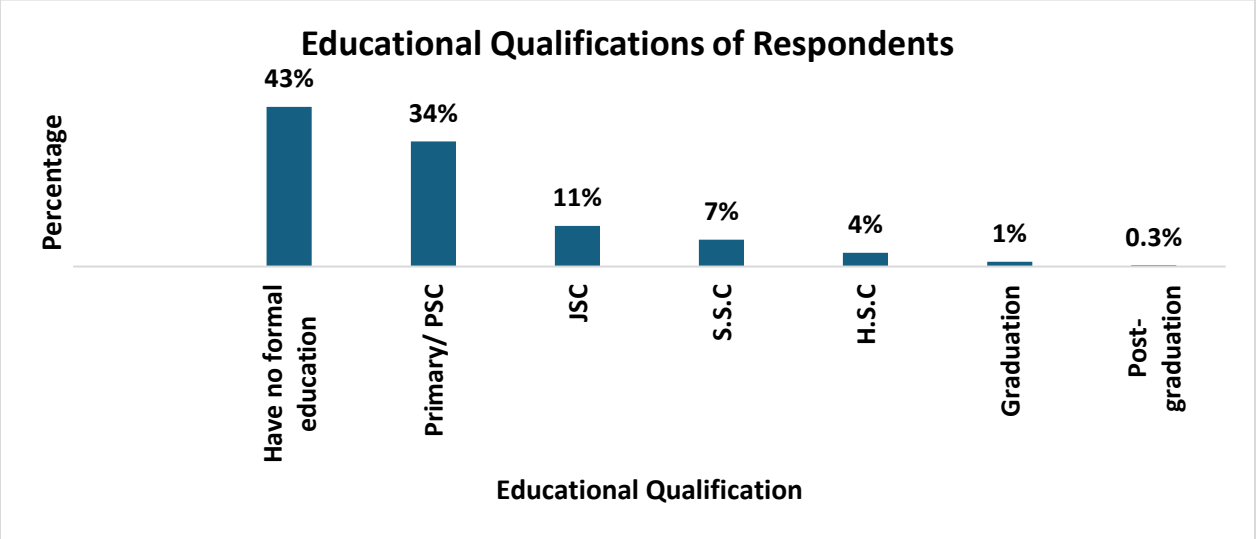


Figure 6 Educational qualification of the respondents

The data from the figure 6 highlights a significant gap in educational attainment among the respondents. A large majority (77 percent) have either no formal education (43 percent) or only primary-level education (34 percent), indicating limited access to or completion of schooling.

The percentage of respondents with secondary education (JSC, SSC, and HSC) decreases notably, with only 22 percent having completed any level of secondary schooling. This suggests that many individuals may face barriers to continuing their education beyond primary levels, possibly due to financial constraints, socio-cultural factors, or early workforce participation.
Higher education is extremely low, with only 1.3 percent of respondents completing graduation (1 percent) or post-graduation (0.3 percent). This indicates that very few individuals in the surveyed population have the opportunity to pursue tertiary education, which may limit access to skilled job opportunities and economic growth.

Overall, the data underscores the need for improved access to education and policies that support higher retention rates in secondary and tertiary education to enhance socio-economic development in the community.

Building on the educational qualification data, which highlights a significant gap in educational attainment, the figure 7 reflects its impacts on sources of income. The analysis of primary income sources offers valuable insight into the community's economic structure. The data reveals that day laboring is the most common livelihood activity, representing 30 percent of household heads. This underscores a high dependence on informal, physically demanding work, often characterized by economic instability and limited job security.

4.5 Household's Source of Income

4.5.1 Primary Source of Income of Household Heads

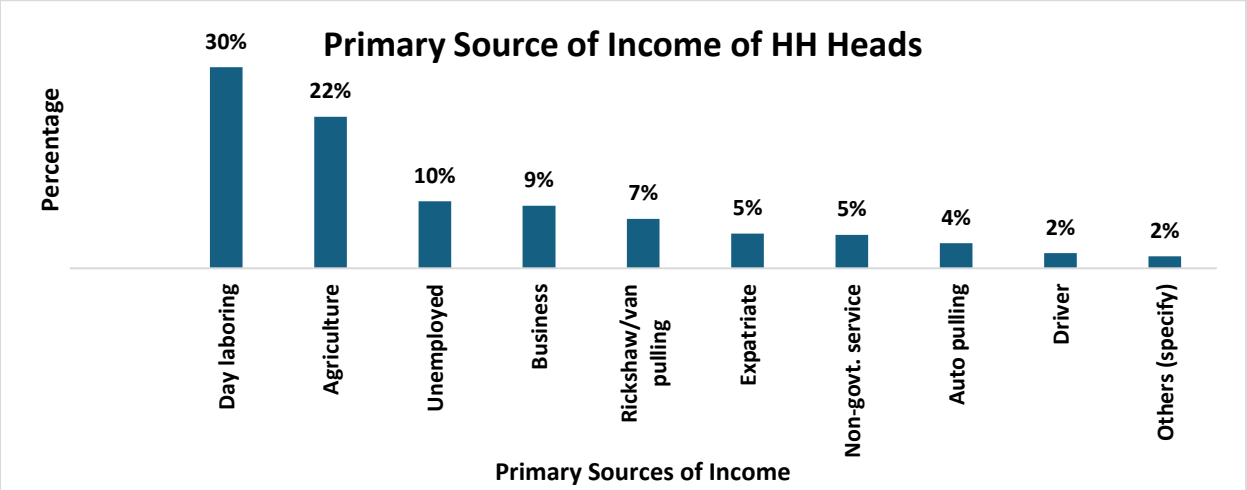


Figure 7Primary sources of income

Agriculture follows as the second most prevalent income source at 22 percent, reflecting the rural character of the surveyed areas and the continued reliance on farming as a primary means of sustenance. Meanwhile, unemployment affects 10 percent of household heads—a notable figure that signals vulnerability in economic resilience, especially in the face of shocks like floods or other disasters. Small-scale business activities account for 9 percent, indicating some level of entrepreneurial engagement within the community.

Other income sources are relatively fragmented, with rickshaw/van pulling (7 percent), expatriate earnings (5 percent), non-governmental service employment (5 percent), and auto pulling (4 percent) reflecting diverse but less common forms of livelihood.

This distribution reflects a labor-intensive, low-income economic base, heavily reliant on informal sectors with limited access to stable employment.

4.5.2 Secondary Source of Income of Household Heads

In addition to the primary income streams, the secondary sources of income sheds further light on the adaptive strategies households employ to manage financial uncertainty. The data reveals that a significant number of households depend on multiple income sources, a pattern that underscores economic vulnerability and the ongoing struggle to achieve financial stability.

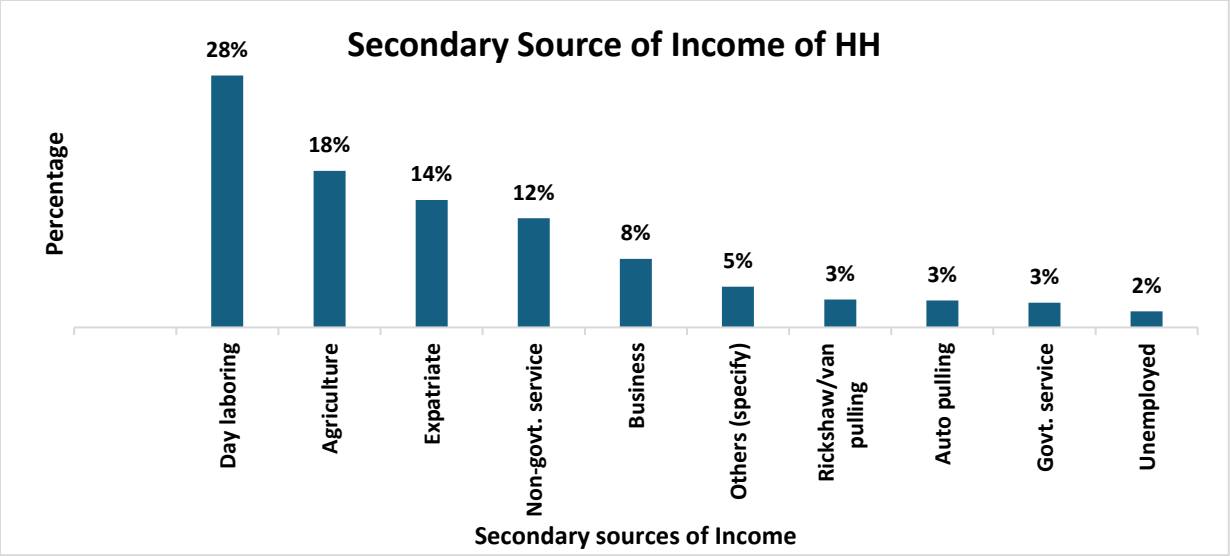


Figure 8 Secondary Source of Income of Household Heads

Day laboring remains the most reported secondary source of income (28 percent), echoing its prominence as a primary source and reinforcing the precarious nature of informal labor. Agriculture accounts for 18 percent, reflecting its deep-rooted presence in rural livelihoods, yet also highlighting its insufficiency in sustaining households on its own. Expatriate work (14 percent) and non-governmental service jobs (12 percent) contribute notably as supplemental incomes, while business activities (8 percent) indicate emerging but limited micro-entrepreneurial efforts. Other secondary income sources—such as rickshaw/van pulling, auto pulling, and government service—each make up 3 percent, with 2 percent reporting no secondary income.

Together, the patterns of both primary and secondary income sources portray a community heavily reliant on informal labor, agriculture, and remittances—sectors that are increasingly fragile in the face of climate change. Recurrent floods, shifting rainfall patterns, and environmental degradation undermine agricultural productivity and limit access to wage labor. Transport-related livelihoods are also disrupted by flood-affected infrastructure.

In this context, the importance of livelihood development support under the IFRP cannot be overstated. The IFRP's strategic focus on enhancing income-generating capacities through skills training, vocational support, promotion of climate-smart agriculture, and access to financial services is crucial for fostering household resilience.

4.6 Disability Analysis

4.6.1 Number of Persons with Disabilities (PWD)

Table 2 Number of persons with disabilities across wards

Community description			Number of Persons with Disability	
Upazila	Union	Ward	Have Disability	Don't have Disability
Kalihati	Durgapur	Ward-7	17	2,337
		Ward-8	15	1,331
Tangail Sadar	Dainya	Ward-7	52	3,702
		Ward-9	59	4,033
Grand Total			**143**	**11,403**

The table outlines the number of persons with disabilities across various wards in the Kalihati and Tangail Sadar upazilas. A total of 143 individuals with disabilities were recorded which is 1.2 percent of the total population. In Kalihati's Durgapur Union, Ward-7 had 17 persons with disabilities, while Ward-8 had 15. Tangail Sadar's Dainya Union saw higher numbers, with Ward-7 recording 52 persons with disabilities and Ward-9 having 59. The data indicates a relatively low number of persons with disabilities in comparison to the overall population in each ward.

4.6.2 Percentage of persons with disabilities

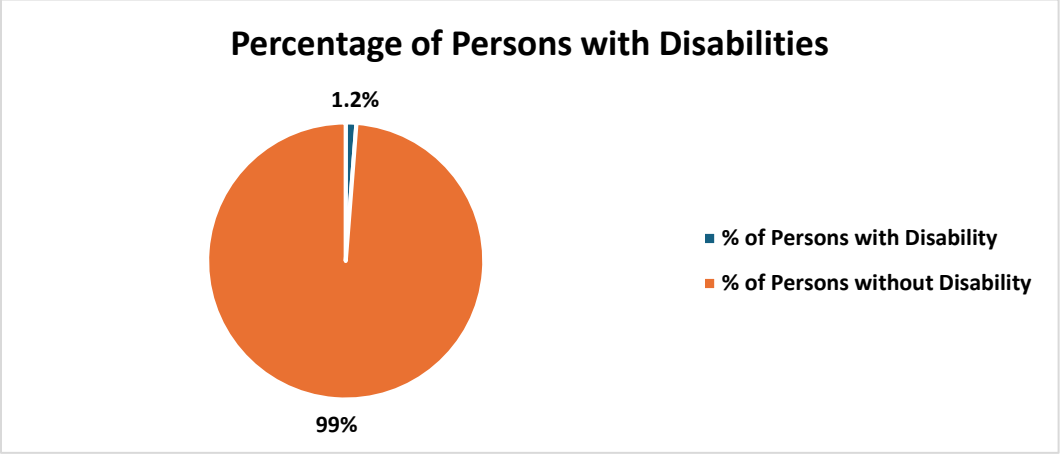


Figure 9 Percentage of Persons with Disabilities

The Pie Chart shows a very little portion of individuals having disabilities (1.2 percent) compared to those without disabilities (99 percent).

4.6.3 Types of Disabilities

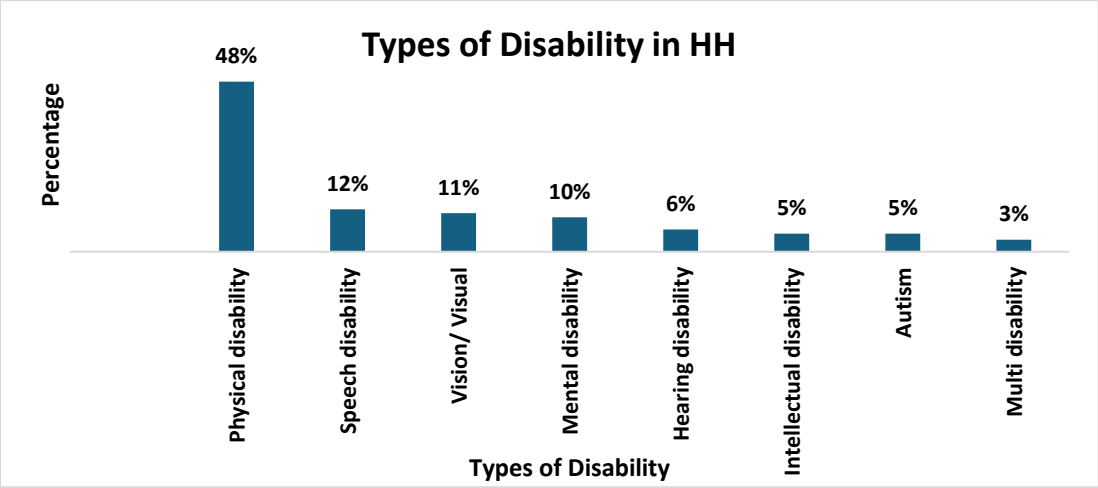


Figure 10 Types of Disabilities

The chart shows the distribution of various types of disabilities across the wards, with a total of 143 individuals with disabilities. The most common disability is physical disability, which constitutes 48 percent of the total. Speech disability accounts for 12 percent, followed by vision/visual disability at 11 percent, and mental disability at 10 percent. Hearing disability represents 6 percent, while intellectual disability and autism each make up 5 percent. Multi-disability is the least common, at 3 percent. These percentages reflect the overall prevalence of different disability types across the surveyed population.

4.7 Income-Expenditure of Households

4.7.1 Average income of Households

The economic profile of surveyed households in Tangail Sadar and Kalihati presents a revealing picture of financial conditions and coping capacities. The majority of respondents (43 percent) report an average monthly income between BDT 10,000 and 19,999. This group is followed closely by those earning less than BDT 10,000, which accounts for 35 percent of the population highlighting a substantial proportion of households with very limited financial resources. Only 15 percent of respondents earn between BDT 20,000 and 29,999, and this figure drops sharply in the higher brackets, with 4 percent earning between BDT 30,000 and 39,999, and merely 1 percent each in the BDT 40,000–49,999 and 50,000–59,999 categories. These figures collectively illustrate that a vast majority of households rely on low to moderate incomes, leaving limited room for savings or investments in resilience-building measures.

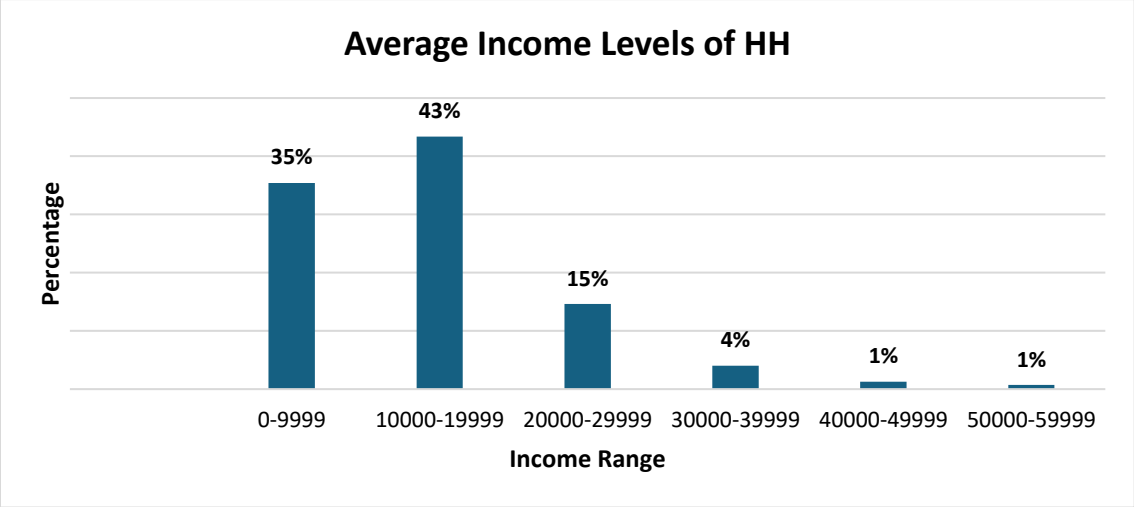


Figure 11 Average income levels of households

A parallel pattern emerges when analyzing expenditure levels. The largest segment of respondents (45 percent) report spending between BDT 10,000 and 19,999, closely mirroring the most common income group. The second largest group (41 percent) falls within the BDT 0–9,999 expenditure range, suggesting a considerable population operating within extremely tight budgets. Only 11 percent report expenditures between BDT 20,000 and 29,999, while just 2 percent spend between BDT 30,000 and 39,999. A negligible 1 percent of respondents report monthly expenditures of 40,000–49,999 BDT.

4.7.2 Average Expenditure of Households

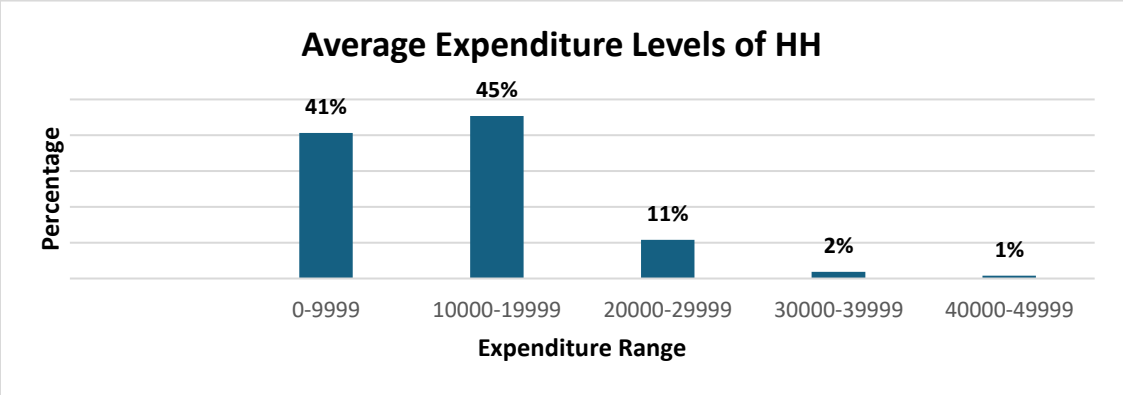


Figure 12 Average expenditure levels of households

The close alignment between income and expenditure ranges indicates that most households are living hand-to-mouth, with minimal disposable income. This financial tightrope leaves families particularly vulnerable to external shocks, including those induced by climate change—such as loss of income due to flood damage, rising food prices, or sudden health-related expenses. For the poorest, even minor disruptions can push them into deeper economic hardship.

4.8 Household's Fixed Assets

4.8.1 Fixed Asset Status

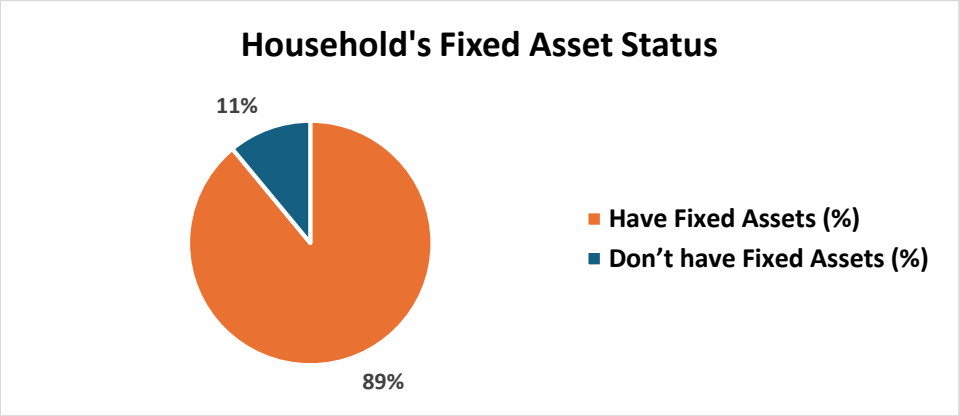


Figure 13 Household's Fixed Asset Status

The chart shows that a significant majority (89 percent) of the surveyed population owns some form of fixed asset, while only 11 percent do not. These fixed assets include items such as mobile phones, televisions, livestock, refrigerators, etc., which are often considered basic household necessities. While the presence of these assets reflects a certain level of material possession, it does not necessarily indicate strong economic stability.

4.8.2 Fixed Asset Status

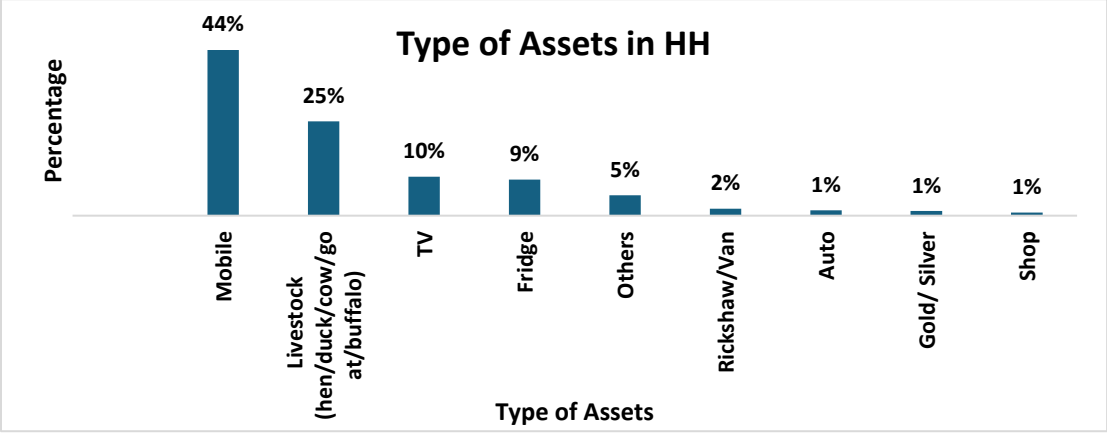


Figure 14 Household's type of Fixed Asset

The chart shows the distribution of different types of assets across the surveyed population in Tangail Sadar and Kalihati. The most common asset is mobile phones, with 44 percent of individuals owning one. Livestock, including hens, ducks, cows, goats, and buffalo, is the second most common asset, owned by 25 percent of the population. Television ownership is also widespread, with 10 percent reporting having a TV, followed by fridges at 9 percent.

Other assets include ownership of livestock, furniture or appliances, rickshaws/vans, etc. The least common assets are gold or silver and shops (both 1 percent). This distribution reflects a varied economic landscape, with mobile phones, livestock, and TVs being the most accessible and commonly owned assets, while more specialized or expensive items like autos and shops are less frequently owned.

4.9 Household's Land Ownership

4.9.1 Land Ownership Status

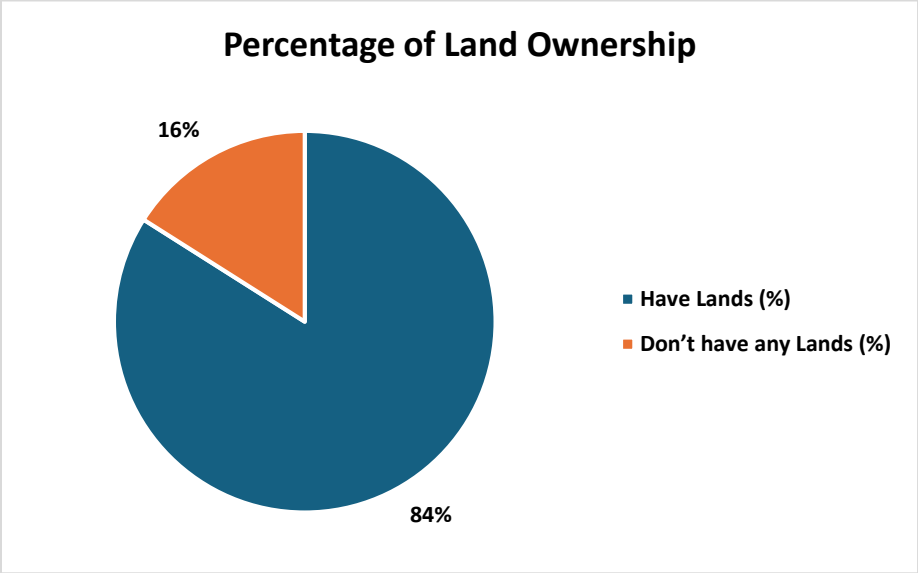


Figure 15 Percentage of Land Ownership

The Pie chart shows that land ownership is common across the surveyed areas, with 84 percent of respondents in total owning land, while 16 percent do not. Land ownership is highest in Durgapur Ward-7 (95 percent). The 16 percent of respondents without land suggest a segment of the population with potentially lower economic security and fewer resources for agriculture or investment, highlighting regional disparities in land access and economic opportunities.

4.9.2 Amount of Agricultural Land (decimal) of Households

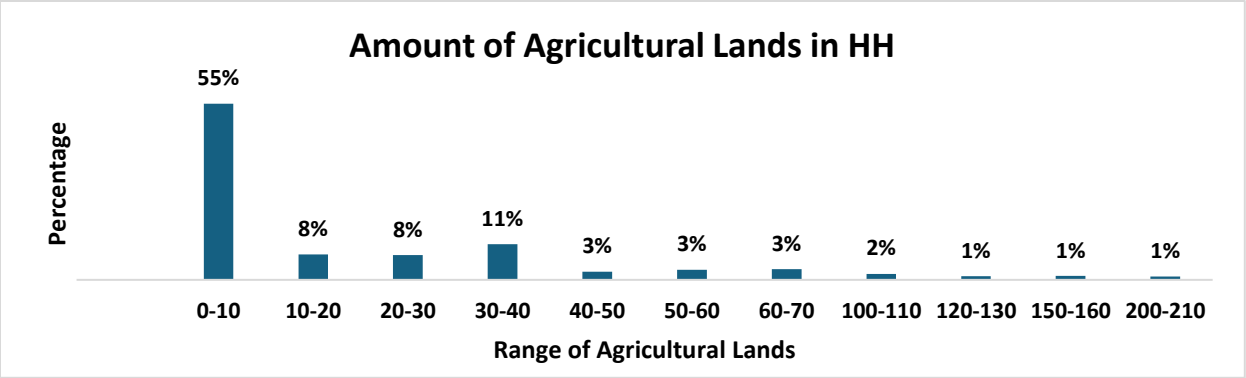


Figure 16 Percentage of Agricultural Land Ownership

The chart on agricultural land ownership reveals that the majority of respondents (55 percent) own between 0-10 decimals of land, highlighting a prevalence of subsistence-level holdings. The next most common land range is 30-40 decimals, owned by 11 percent of respondents, followed by 10-20 and 20-30 decimals, both reported by 8 percent. Overall, the chart indicates that larger land holdings are relatively rare, with almost half of the surveyed population lacking substantial agricultural land. This limited access to land constrains agricultural productivity and income potential, increasing dependence on day labor and other informal employment.

4.9.3 Amount of Homestead Land (decimal) of Households

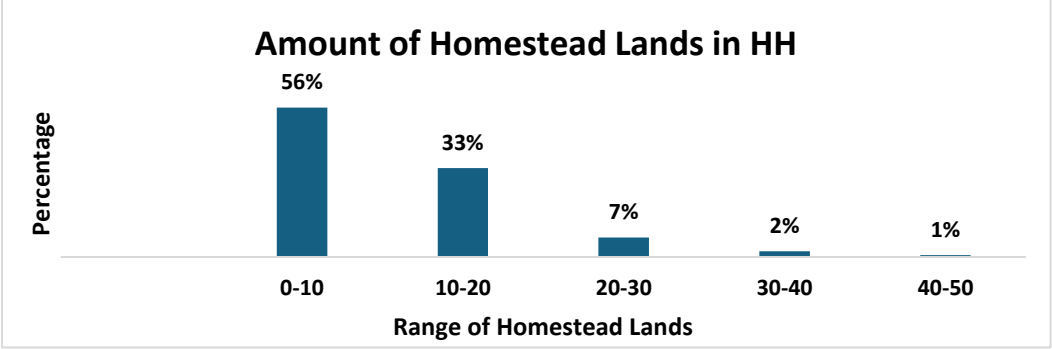


Figure 17 Percentage of Homestead Land Ownership

The chart on homestead land ownership indicates that 56 percent of the respondents own between 0–10 decimals of homestead land, while a significant proportion (33 percent) own 10–20 decimals. Only 1 percent of households reported owning 40–50 decimals of homestead land, highlighting the rarity of larger homestead holdings. This distribution suggests that a substantial segment of the population has limited homestead land, which can restrict opportunities for additional facilities, such as separate sanitation systems, kitchen gardens, or home-based livelihood activities

4.10 Respondent's knowledge of Climate Change, DRR, Covid-19, and Heatwave

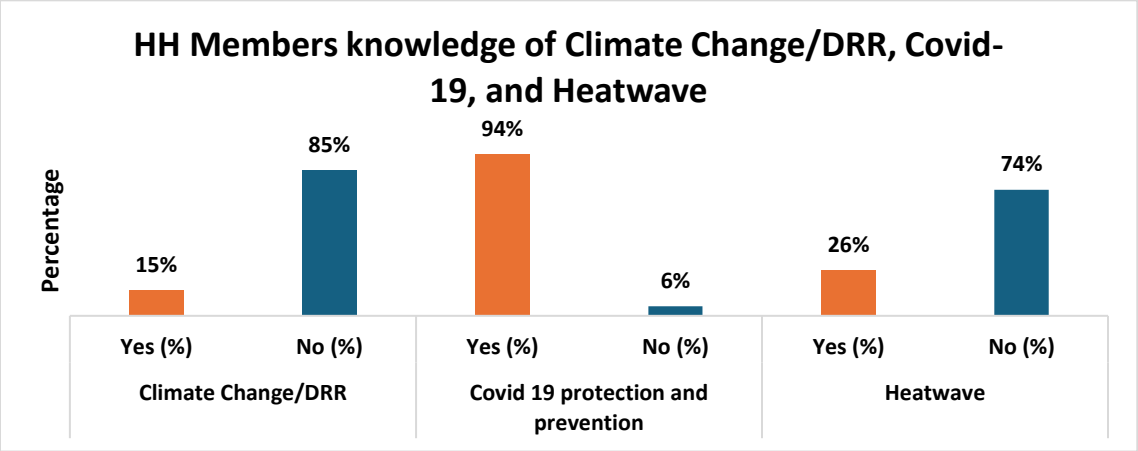


Figure 18 Knowledge level of respondent on Climate Change, DRR, COVID-19, Heatwave

The data shows the level of knowledge among household members in Kalihati and Tangail Sadar on Climate Change/DRR, COVID-19 protection and prevention, and Heatwave. On average, 15 percent of respondents are knowledgeable about Climate Change/DRR, while a significant majority (85 percent) are not. Regarding COVID-19 protection and prevention, 94 percent of individuals are well aware, with only 6 percent lacking knowledge. For Heatwave awareness, 26 percent of respondents are knowledgeable, while 74 percent are not.

Among the different wards, Durgapur Ward-7 (Kalihati) shows the lowest awareness on Climate Change/DRR (13 percent) and Heatwave (22 percent), while Dainya Ward-7 (Tangail Sadar) has the highest awareness of Climate Change/DRR (17 percent) and Heatwave (32 percent).

4.11 Flood Early Warning Message

4.11.1 Household members have any idea/get information on flood early warning

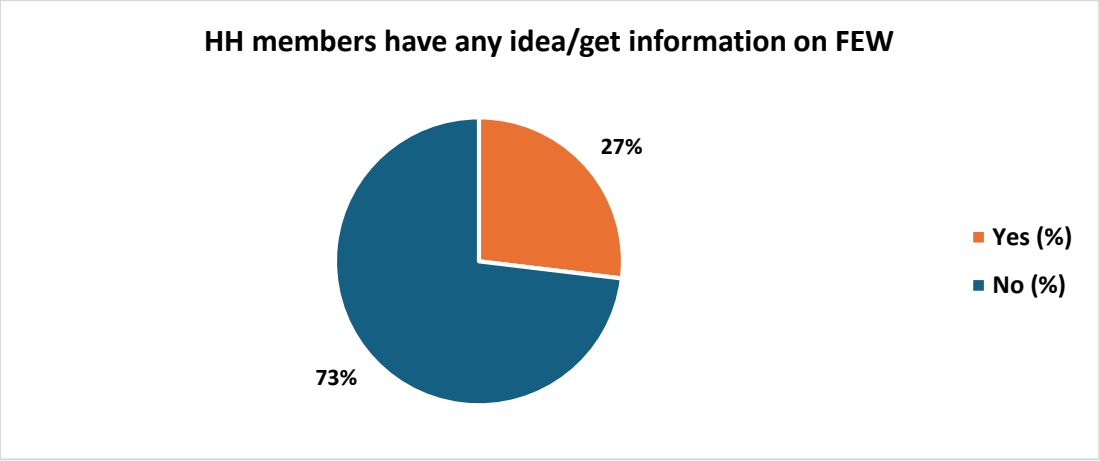


Figure 19 Percentage of Household members have idea/get information on FEW

The data shows that a total of 27 percent of household members have received information or have an idea about flood early warnings, while 73 percent have not. To further specify, the percentage of individuals aware of flood early warnings varies: 27 percent in Kalihati (Durgapur Ward-7), 22 percent in (Durgapur Ward-8), 30 percent in Tangail Sadar (Dainya Ward-7), and 25 percent in (Dainya Ward-9). Overall, awareness of flood early warning systems is relatively low, with the majority of respondents lacking this critical information.

4.11.2 Household members have received any flood early warning message

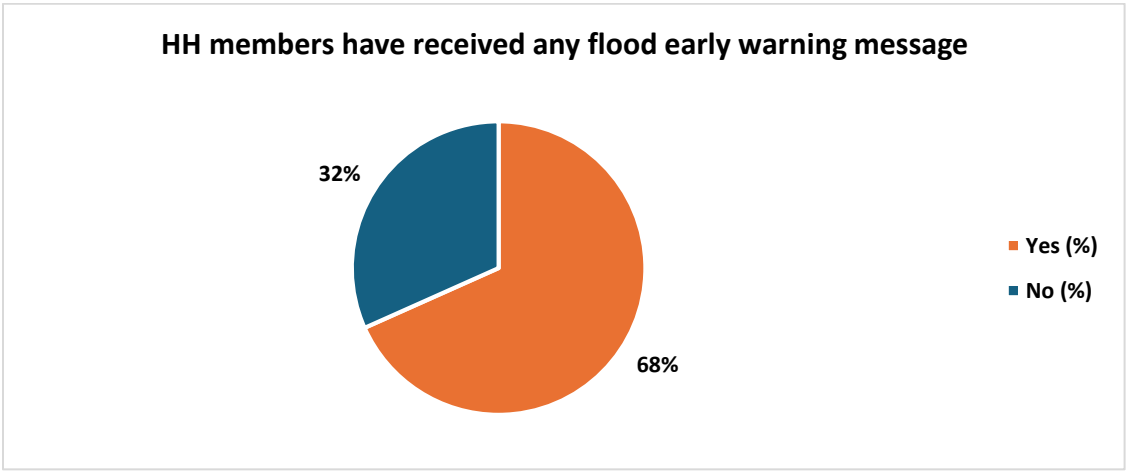


Figure 20 Percentage of Household members have received any flood early warning messages

Among the members aware of flood early warnings, 68 percent of household members have received a flood early warning message, while 32 percent have not. In specific areas, the

percentage of households that received flood early warnings varies: 69 percent in Kalihati (Durgapur Ward-7), 64 percent in Durgapur Ward-8, 72 percent in Tangail Sadar (Dainya Ward-7), and 64 percent in Dainya Ward-9. Overall, the majority of respondents who were aware of/know about flood early warning have received a flood early warning message, highlighting relatively good coverage of early warning communication in these areas.

4.11.3 Source of receiving Flood Early Warning Message

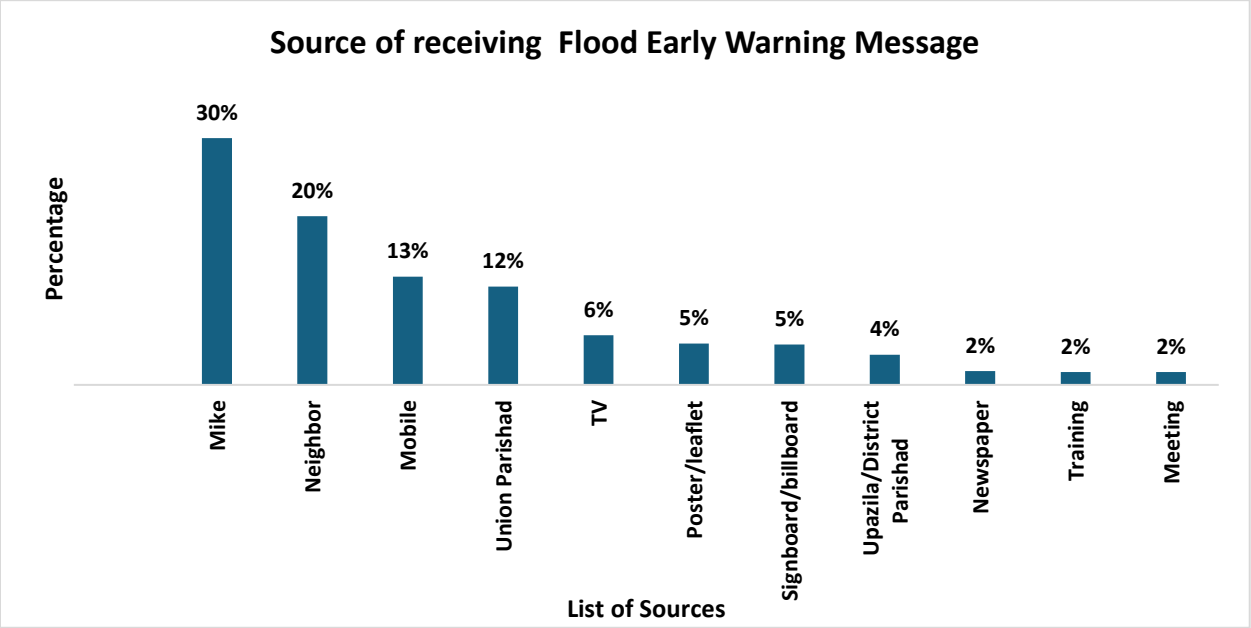


Figure 21 Percentage of sources of receiving flood early warning messages

The Chart highlights the various sources through which household members receive flood early warning messages. The most prevalent source is the mike system, which accounts for 30 percent of the respondents. Following closely is the neighbor network, with 20 percent of individuals depending on their neighbors to relay flood warnings. This highlights the strong role of community-based communication and informal networks in areas where other formal channels may be less accessible or reliable. Mobile phones, used by 13 percent of respondents, serve as a modern and more direct communication tool for early warning messages. The Union Parishad, representing local government bodies, also plays a significant role, with 12 percent of people receiving warnings from this source. Traditional media outlets like TV, leaflets, and outdoor signboards/billboards appear to reach smaller groups but are still part of the broader effort to inform the public about flood risks.

4.12 Flood effects on life and livelihood of Household

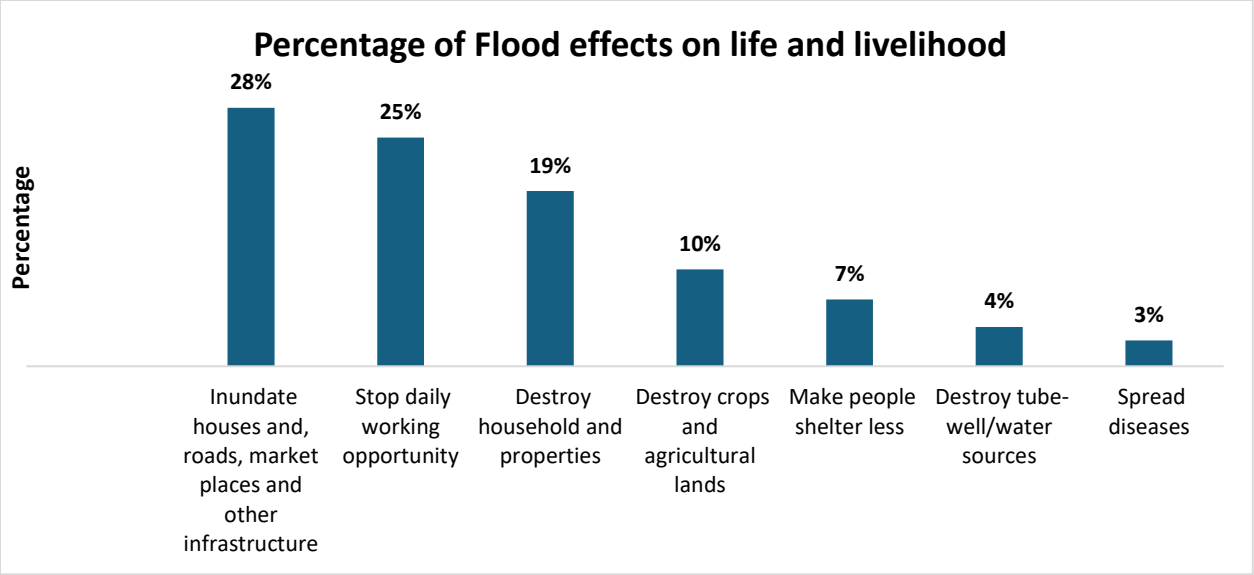


Figure 22 Percentage of Flood effects on life and livelihood

The chart outlines the various ways in which floods affect the lives and livelihoods of communities. The most significant impact is the inundation of houses, roads, marketplaces, and other infrastructure, which affects 28 percent of the population. The second most common effect is the disruption of daily work opportunities, impacting 25 percent, which suggests that floods severely hinder economic activities and livelihood options.

Floods also cause considerable damage to households and properties, affecting 19 percent of the Households. Agricultural lands and crops are destroyed for 10 percent of Households, indicating the heavy toll floods take on food production and farmers' livelihoods. Additionally, 7 percent of individuals report that floods make people shelter-less, further highlighting the displacement caused by such events. Floods also damage tube wells and water sources for 4 percent of the population, which affects access to clean water and sanitation.

Finally, 3 percent of respondents report that floods contribute to the spread of diseases, exacerbating health challenges during and after flood events. This data paints a clear picture of the wide-ranging and devastating effects floods have on both the physical infrastructure and the economic and social well-being of the community.

4.13 Actions taken by Households before, during, and after the Flood

4.13.1 Any Actions taken by Households before, during, and after Floods

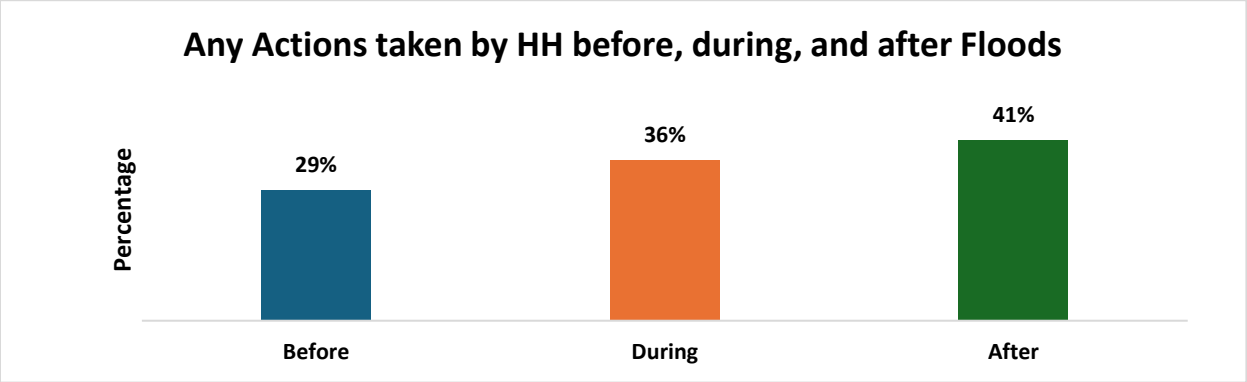


Figure 23 Percentage of any Actions taken by HH before, during, and after Floods

The chart indicates household actions taken at different stages of a flood. Before a flood, 29 percent of households take preparatory actions, which may include storing food, securing valuables items, or raising the household plinth. During the flood, 36 percent of the Households take action, likely involving evacuation, seeking shelter, or protecting materials from floods damage. The highest response rate is observed after the flood, with 41 percent of households engaging in recovery efforts such as repairing homes, restoring livelihoods, and accessing relief support. This chart suggests that while response and recovery efforts are relatively strong, preparedness actions before the flood remain lower, highlighting a potential area for improving preparedness and early mitigation strategies.

4.13.2 Type of actions taken by Households before Floods

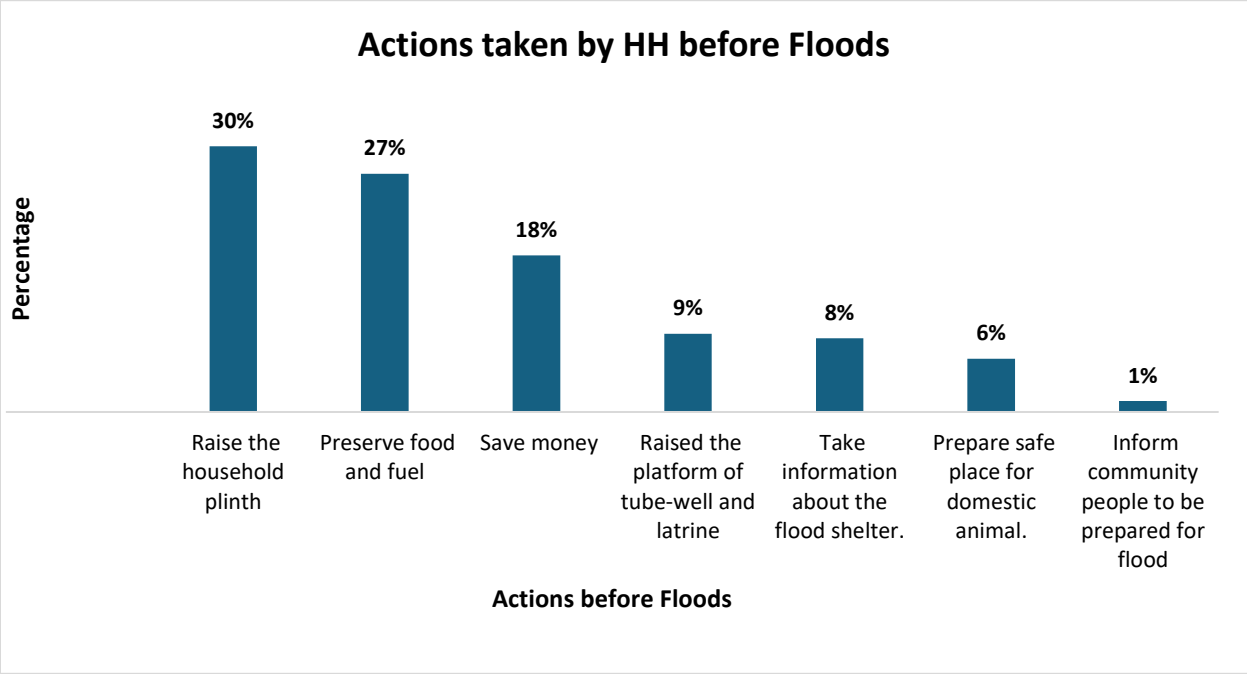


Figure 24 Percentage of Actions taken by HH before Floods

The bar chart shows various actions taken by households before floods, with a total of 1,759 households implementing different strategies. Among them, 30 percent raised the household plinth to prevent water intrusion, while 27 percent focused on preserving food and fuel. Additionally, 18 percent saved money to manage financial burdens during floods. However, community awareness efforts were minimal, with only 1 percent informing others about flood preparedness. This data highlights that while households prioritize physical and financial preparedness, proactive community-based disaster risk reduction efforts remain limited.

4.13.3 Type of actions taken by Households during Floods

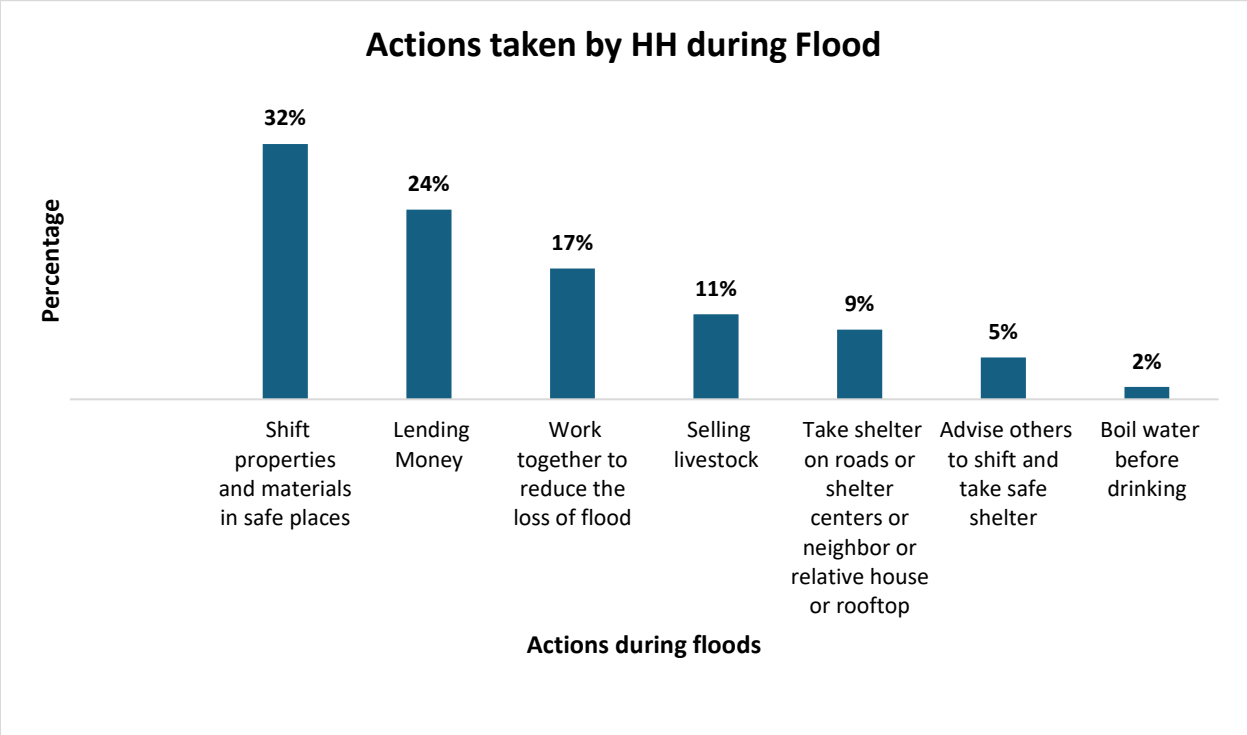


Figure 25 Percentage of Actions taken by HH during Floods

During floods, households take various coping measures, with a total of 1,738 households adopting different strategies. The most common action was shifting properties and materials to safe places, practiced by 32 percent of households. Additionally, 24 percent resorted to borrowing money to manage financial distress, while 17 percent reported collaborating with neighbors and relatives to minimize losses—reflecting a culture of community cooperation. Some households also sold livestock to generate emergency funds or moved temporarily to flood shelters or relatives' homes to ensure safety.

Discussions with community members revealed that many households viewed lending money as a last resort, often leading to long-term debt burdens that are difficult to overcome. Shifting belongings was described as a challenging and stressful process, particularly for female-headed households or those with elderly and disabled family members. Focus group participants emphasized the importance of informal networks such as neighbors, kin, and religious leaders who provided critical assistance in evacuations, sharing of food, and temporary shelter arrangements. However, several respondents expressed concern about the lack of formal institutional support such as relief items from the government.

4.13.4 Type of actions taken by Households after Floods

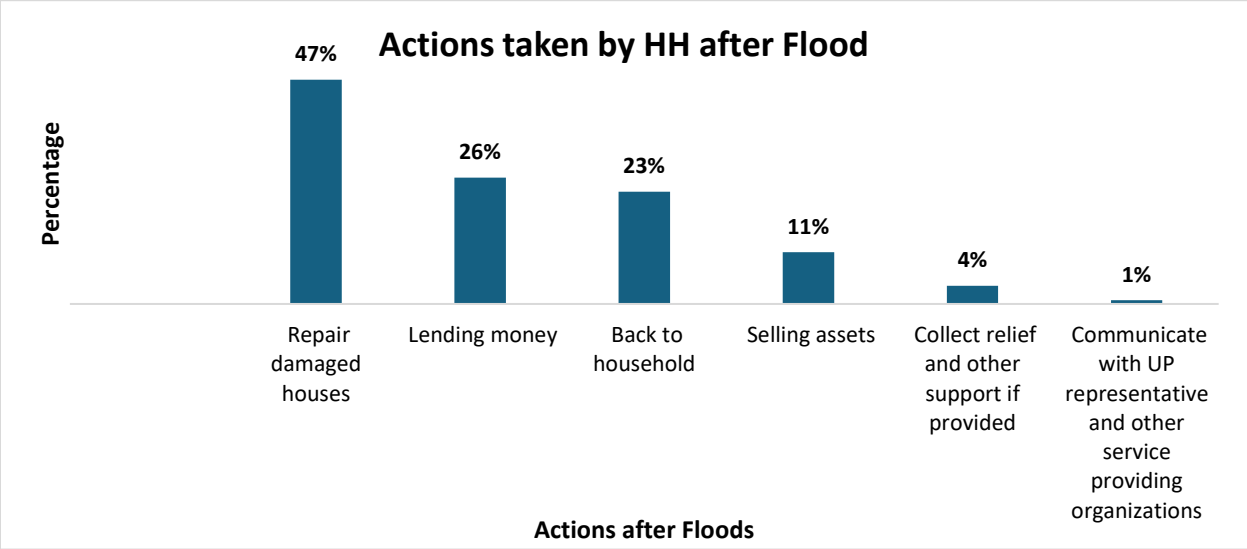


Figure 26 Percentage of Actions taken by HH after Floods

After floods, 1,946 households undertook various recovery actions to restore their lives and livelihoods. The most common response was repairing damaged houses, with 47 percent engaged in reconstruction efforts often using salvaged materials and community labor. Additionally, 26 percent resorted to borrowing money to manage post-flood financial strain, while 23 percent focused on returning to their homes as soon as floodwaters receded. Some households (11 percent) were forced to sell assets, such as livestock or land, to fund essential repairs and recovery. Only a minimal number (1 percent) sought assistance from Union Parishad representatives or other service providers, highlighting limited formal support and reliance on informal networks.

Focus Group Discussions revealed that many households experienced immense stress in securing funds for reconstruction, often falling into cycles of debt with high-interest informal loans. The participants described the emotional toll of returning to damaged homes, with women and older adults particularly overwhelmed by the scale of recovery tasks. Some families reported that assistance from local leaders was either delayed or insufficient, forcing them to prioritize immediate repairs over longer-term recovery planning. Moreover, while community solidarity was mentioned such as sharing tools and labor, many respondents noted that post-flood support systems were fragmented, leaving the most vulnerable, including female-headed households and persons with disabilities, struggling to rebuild.

4.14 Households have a contingency plan and CIC to tackle disasters

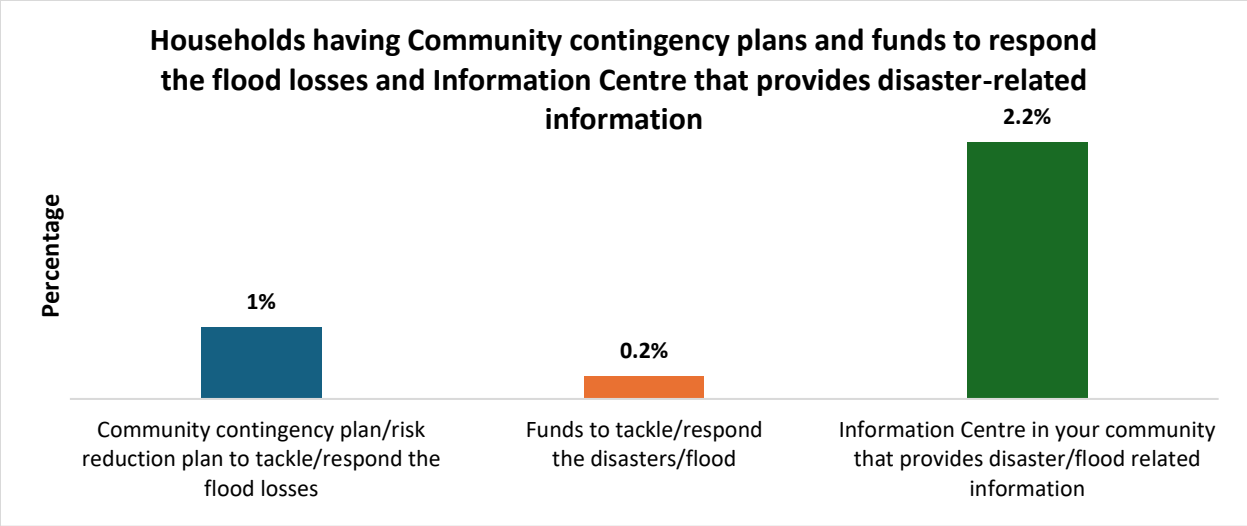


Figure 27 Percentage of Households having community contingency plan to respond to the flood losses and Information Centre in the community

In the Durgapur and Dainya Union, the community contingency plans and funds to respond to flood losses are very Low. In Durgapur, Ward-7 and Ward-8 have 0 percent of a risk reduction plan and funds, with only 1 percent of an information center available. In Dainya union, Ward-7 has a small percentage (1 percent) for both the risk reduction plan and funds, while Ward-9 also has 0 percent for the plan and funds, with just 1 percent of an information center. Overall, the availability of disaster plans, funding, and information centers is minimal, showing that these communities are not well-prepared for floods.

4.15 Livelihood hampered during last flood, type of losses, and coping strategies

4.15.1 Household's Livelihood hampered during last flood

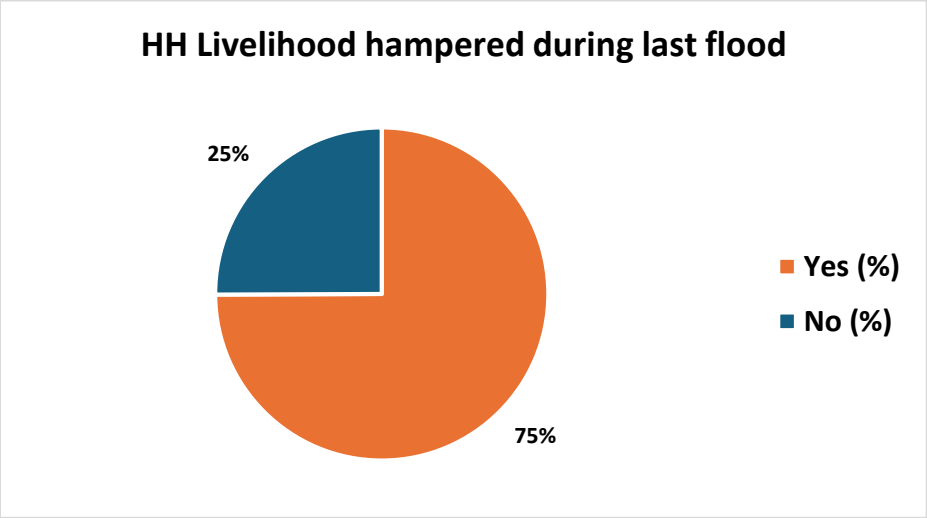


Figure 28 Percentage of Household's livelihood hampered during last flood

Out of 2,554 households surveyed across all wards, 1,914 households (75 percent) reported that their livelihoods were impacted during the last flood, while 25 percent indicated no disruption. This underscores the widespread economic vulnerability faced by the majority of households, who struggled to maintain their livelihoods amidst the flood. The impacts ranged from loss of daily income, restricted mobility, and crop damage to disruptions in livestock rearing and small-scale trading.

Qualitative feedback from focus group discussions revealed that many community members, especially day laborers and smallholder farmers, experienced acute stress due to the sudden loss of income and food insecurity. Women-headed households and families reliant on seasonal agricultural work were particularly affected, often forced to sell productive assets or reduce meal consumption to cope. Some respondents expressed frustration over the lack of external support during the critical recovery period, citing delays or gaps in aid distribution.

4.15.2 Type of Livelihood Losses during the last flood

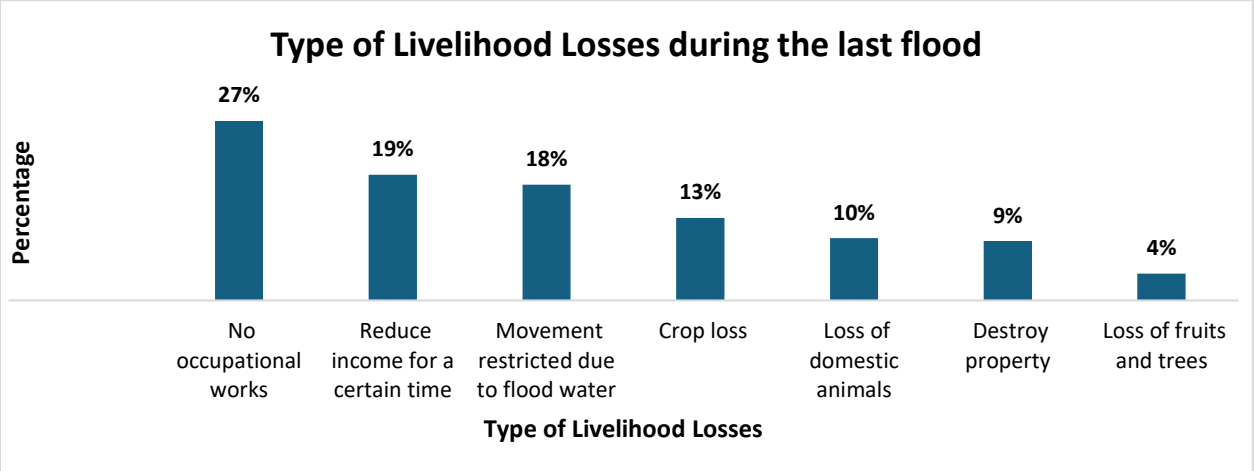


Figure 29 Percentage of Types of livelihood losses by Households during last flood

During the last flood, a total of 4,573 households across Tangail Sadar and Kalihati Upazilas experienced significant livelihood losses. The most common impact was the loss of occupational work, reported by 27 percent of households, while 19 percent faced reduced income for a certain period. Movement restrictions due to flooding affected 18 percent of households, and 13 percent reported crop losses. Other notable impacts included the loss of domestic animals, destruction of property, damage to business materials, and loss of fruit trees – further compounding the economic strain on affected families.

Qualitative findings revealed that day laborers and small-scale traders were particularly vulnerable to income loss, often facing prolonged periods without work or clients. Women participants shared stories of how movement restrictions not only curtailed income-generating activities but also limited their access to essential services, including healthcare and markets. Crop losses were described as devastating for families reliant on subsistence agriculture, with some reporting the complete loss of seasonal yields. Many households also struggled with the emotional toll of losing long-nurtured livestock or fruit trees, which held both economic and sentimental value. Despite these challenges, community members described acts of solidarity, such as sharing food and temporary shelter, though such support was often insufficient to fully mitigate the impacts.

4.15.3 Actions taken by Households for coping with the situation and losses during the last flood

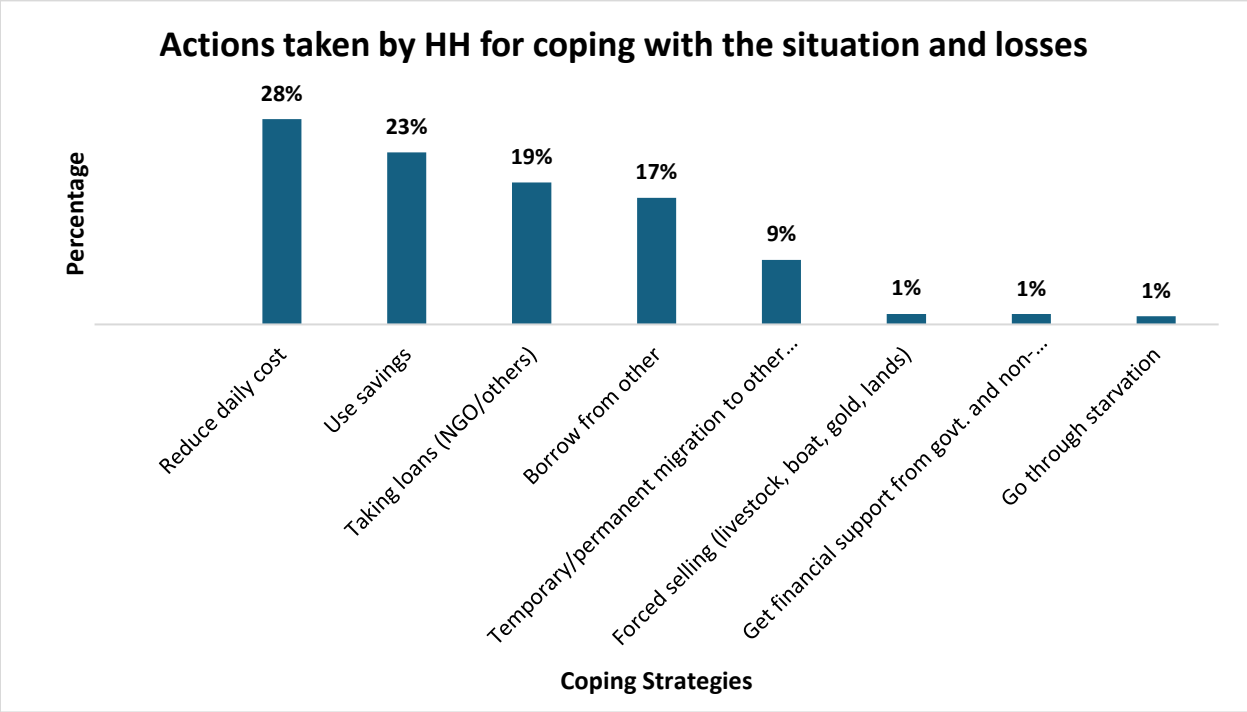


Figure 30 Percentage of Types of livelihood losses by Households during last flood

During the last flood, households in Durgapur and Dainya Unions employed a range of coping strategies to manage financial stress. The most common strategies included reducing daily costs (28 percent), using savings (23 percent), and borrowing from NGOs or others (19 percent). Additionally, 17 percent borrowed informally from friends or relatives, and 9 percent migrated temporarily or permanently for work. A small number of households resorted to selling assets such as livestock, boats, gold, or land, and sought financial support from government or non-government agencies. Alarmingly, 1 percent of households experienced starvation as well.

Focus group discussions revealed that for many families, reducing daily expenses meant cutting back on essential items such as food and healthcare. Women described the emotional burden of prioritizing meals for children while skipping their own. Borrowing from informal sources often came with high-interest rates, adding to long-term debt. The selling of assets, though a survival tactic, was described as deeply distressing, with families parting with long-held resources that symbolized security and stability.

4.16 Skill development training to improve livelihood/income-generating option

4.16.1 Household members received any skill development training to improve livelihood/income-generating options in the last 03years

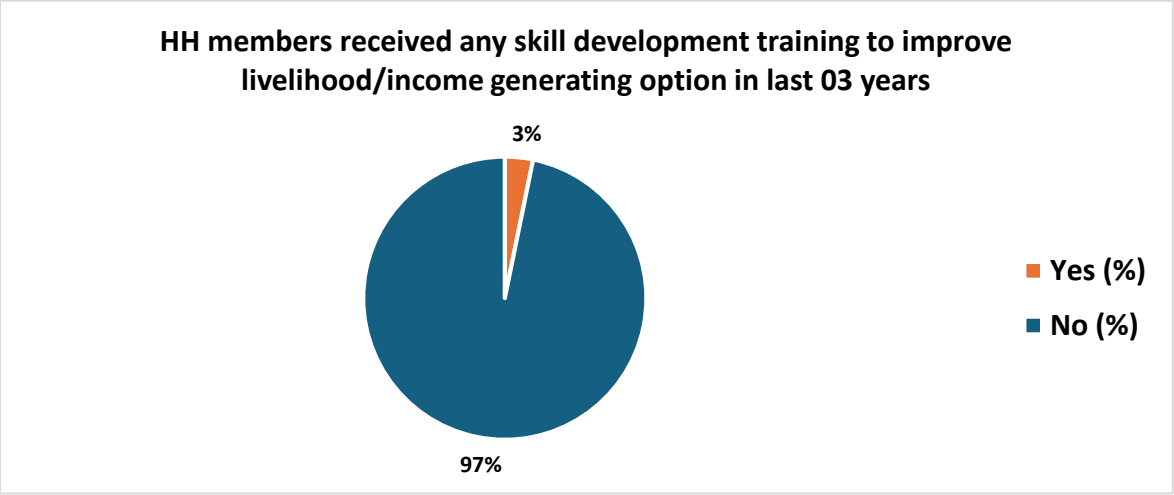


Figure 31 Percentage of HH members received any skill development training to improve livelihood/income-generating options in the last 03 years

The pie chart illustrates that only a small proportion (3 percent, or 82 individuals) of surveyed community members have received any form of training related to livelihood or income-generating activities over the past three years. This finding highlights a significant gap in access to skills development and capacity-building opportunities, which are critical for enhancing community resilience and reducing vulnerability to flood-related impacts.

4.16.2 Types of Skill Development Training Received

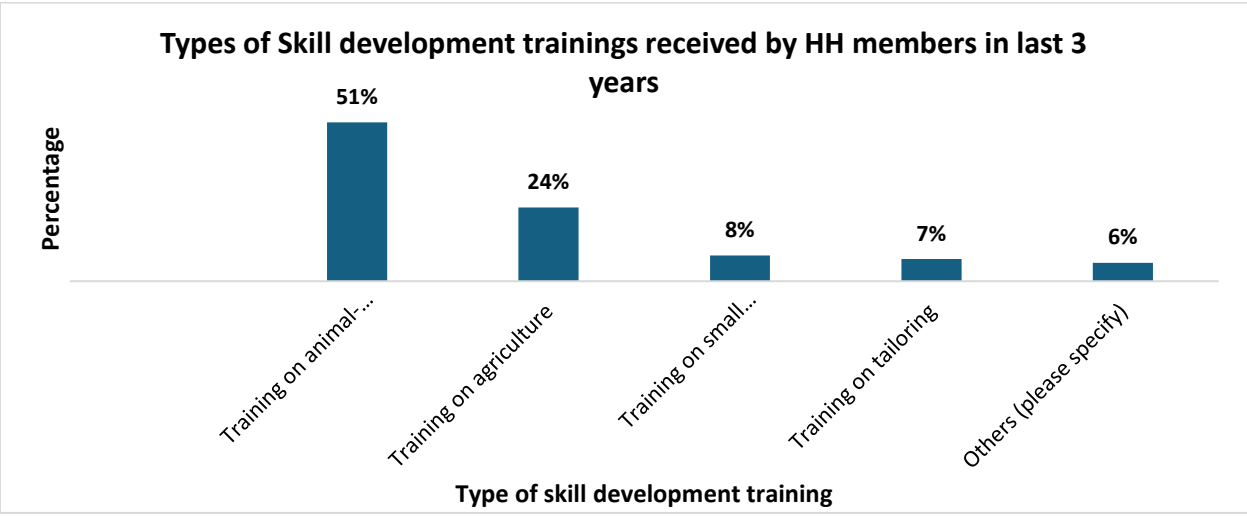


Figure 32 Percentage of types of Skill development training in the last 03 years

Figure 32 shows skill development trainings received by the communities on various areas. A significant 51 percent of the respondents participated in training related to animal husbandry and poultry rearing, indicating a strong interest in livestock-based livelihoods. Additionally, 24 percent received training in agriculture, suggesting an emphasis on improving farming practices. Around 8 percent of individuals attended training sessions on small business or retailing, while 7 percent received training in tailoring, reflecting a diversity of skills aimed at enhancing economic opportunities. Lastly, 6 percent received other types of training, though these were unspecified. This distribution shows a clear focus on agricultural and livestock-related skills in the community.

4.16.3 Training Institutes/Organizations of receiving Skill development trainings

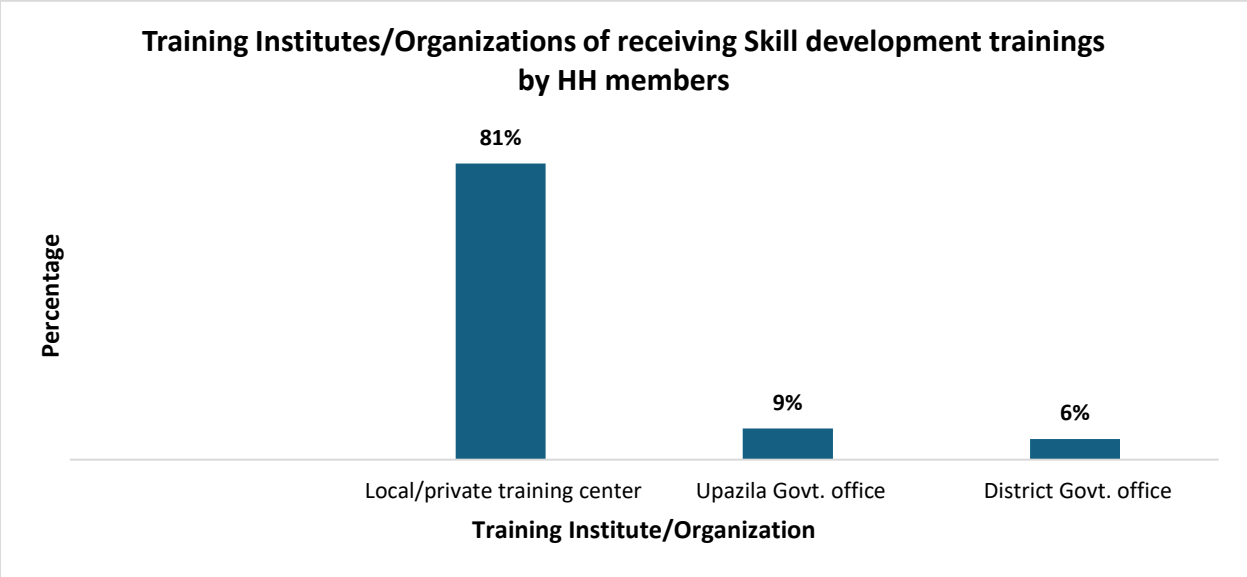


Figure 33 Percentage of Training Institutes/Organizations of receiving Skill development training by the HH members

From the above chart, we see most of the training was provided by local or private training centers, accounting for 81 percent of the responses. A smaller percentage of individuals received training from the Upazila government office (9 percent) and the District government office (6 percent). This indicates that local and private institutions played a dominant role in providing skill development opportunities to the community and a shortage of Government training.

4.16.4 Types of training helpful for the members to improve livelihoods/enhance income

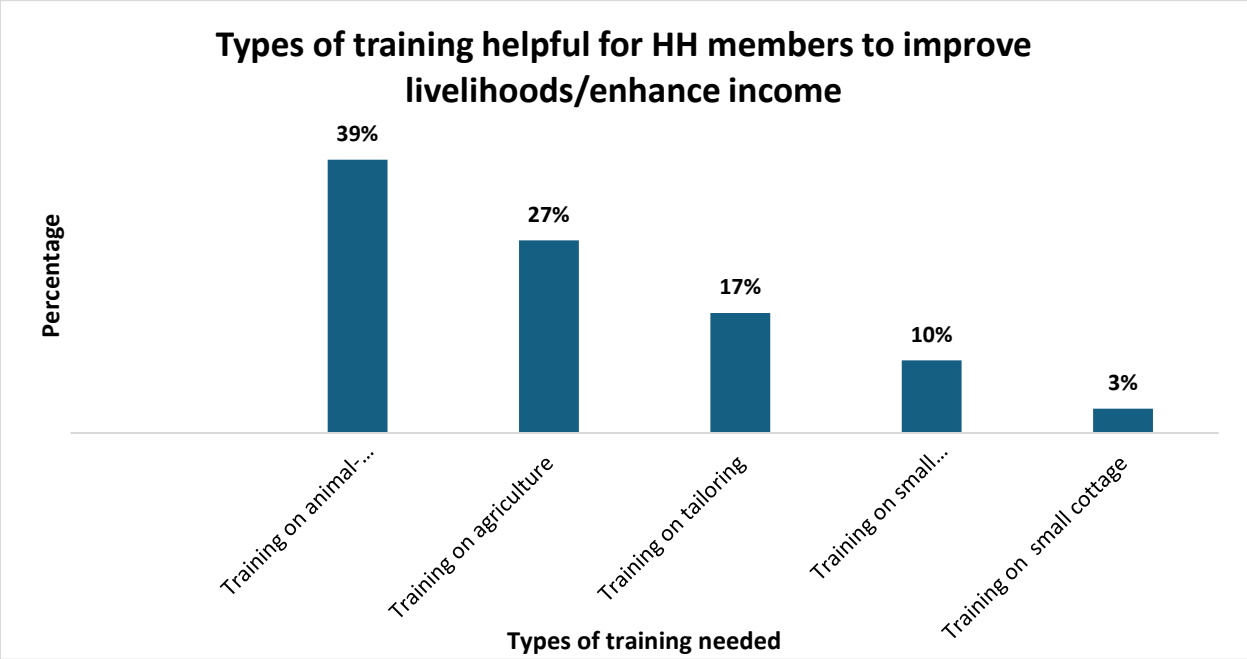


Figure 34 Percentage of Types of training helpful for the members to improve livelihoods/enhance income

The chart reflects the types of skill development training desired by household members. The most significant portion (39 percent) indicated interest in animal husbandry and poultry rearing, followed by training in agriculture (27 percent) and tailoring (17 percent). Additionally, 10 percent expressed a need for training in small businesses or retailing, and 3 percent sought skills in small cottage industries. These figures highlight a strong inclination toward agricultural and livestock-based skills, complemented by a growing demand for tailoring and entrepreneurial training.

Qualitative data revealed that many respondents, particularly young people and women, viewed animal husbandry and tailoring as viable and accessible income-generating activities that align with the demand within the community. Participants also expressed frustration over the lack of affordable, locally available training opportunities in these fields. In interviews, community members shared stories of informal skill-sharing within families and neighbors but emphasized that formal training with practical demonstrations and market linkages would significantly enhance their earning potential. Additionally, youth participants voiced a desire for modern vocational training, including mobile servicing and computer literacy, reflecting an aspiration to diversify income sources beyond traditional sectors.

4.17 House structure information, Inundation, and plinth raising

4.17.1 Type of House Structure

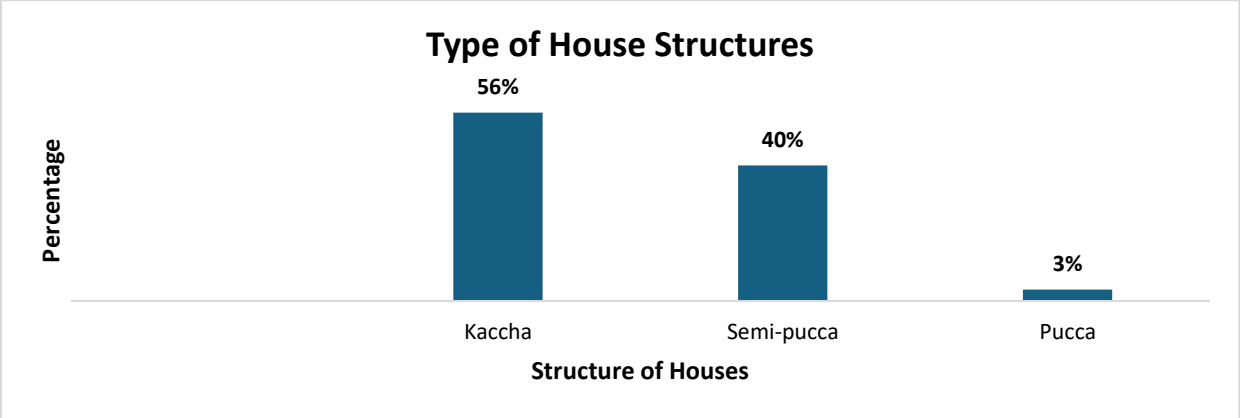


Figure 35 Percentage of Types of House Structures

The chart indicates that the majority of houses are kaccha (temporary or traditional), with 56 percent of households living in such structures. Around 40 percent of households reside in semi-pucca houses, which are partially constructed with more durable materials. Only 3 percent of households live in pucca houses, which are fully made of strong materials. This indicates that most households in these areas are in need of improved housing conditions, with a significant portion still living in kaccha or semi-pacca houses.

4.17.2 Houses inundated during the last flood

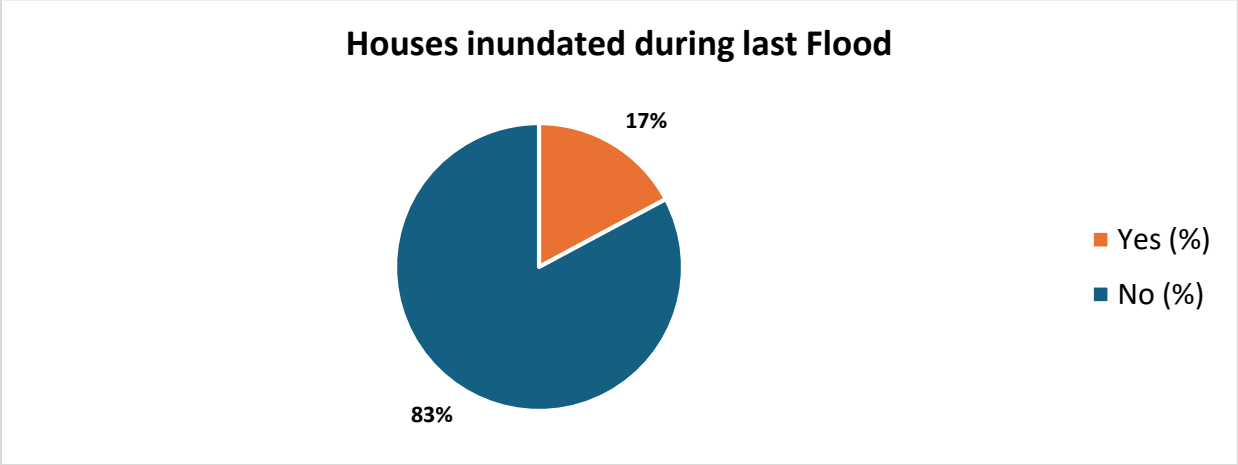


Figure 36 Percentage of Houses inundated during the last flood

The data shows that 17 percent (438 Houses) of houses across the wards in Kalihati and Tangail Sadar were inundated by the last flood, which reflects a significant level of vulnerability within these communities. In Kalihati, Ward-8 experienced the highest percentage of inundated houses at

24 percent, while Tangail Sadar's Ward-7 saw 18 percent of houses flooded. These floods disrupted the lives of many families, with their homes, possessions, and livelihoods impacted by water damage.

The high percentage of homes that were not flooded (83 percent) might suggest that some areas were spared, but the 17 percent of inundated households still represents a significant number of families facing immediate challenges. The vulnerability of these communities is clear, especially in areas like Ward-8 of Kalihati and Ward-7 of Tangail Sadar, where the flooding was more widespread. These households may require urgent support in terms of rebuilding homes, providing emergency shelter, and offering financial assistance to recover from the damages caused by the flood.

4.17.3 House plinth raised enough to protect it from the flood

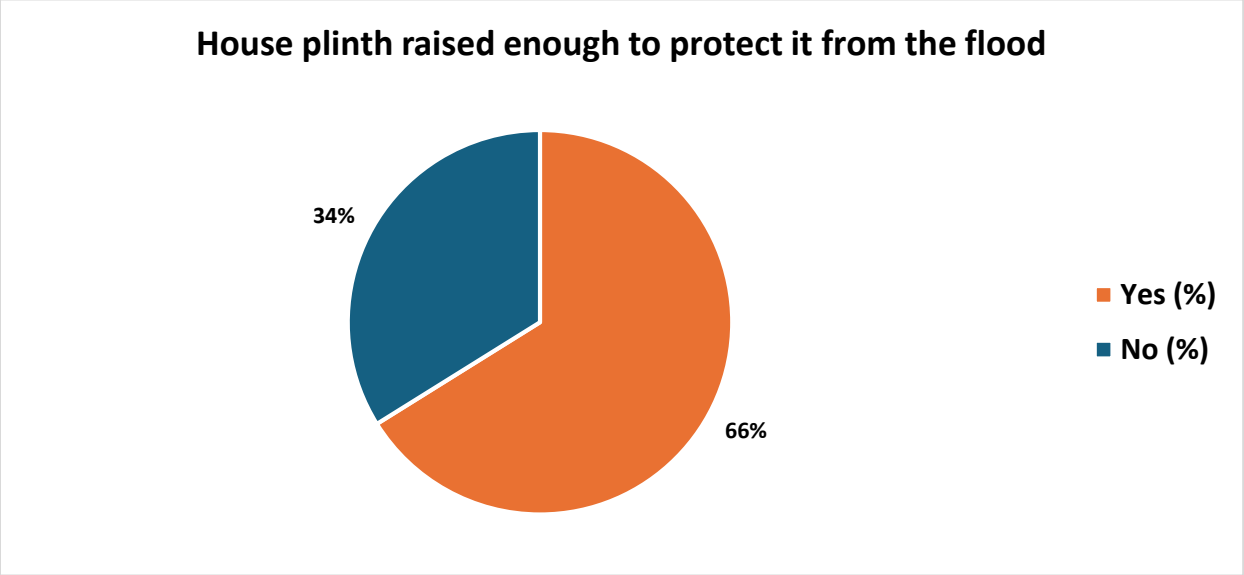


Figure 37 Percentage of House plinth raised enough to protect it from the floods

The chart shows the percentage of Houses have raised plinth. In total, 66 percent of households across the wards of Kalihati and Tangail Sadar have raised their plinths enough to protect their homes from floods, while 34 percent (865 Houses) have not. This 34 percent remain vulnerable to flood damage due to insufficient elevation. This indicates a need for further support, including awareness campaigns on flood resilience and assistance in raising plinths for households at risk, especially in areas where the percentage of raised plinths is lower. Ensuring more households have flood protection measures in place would help reduce the overall vulnerability to future flooding.

4.18 Community practice to prepare houses considering flood risks

1.18.1 Community practice to prepare or renovate houses considering flood risks through community consultation

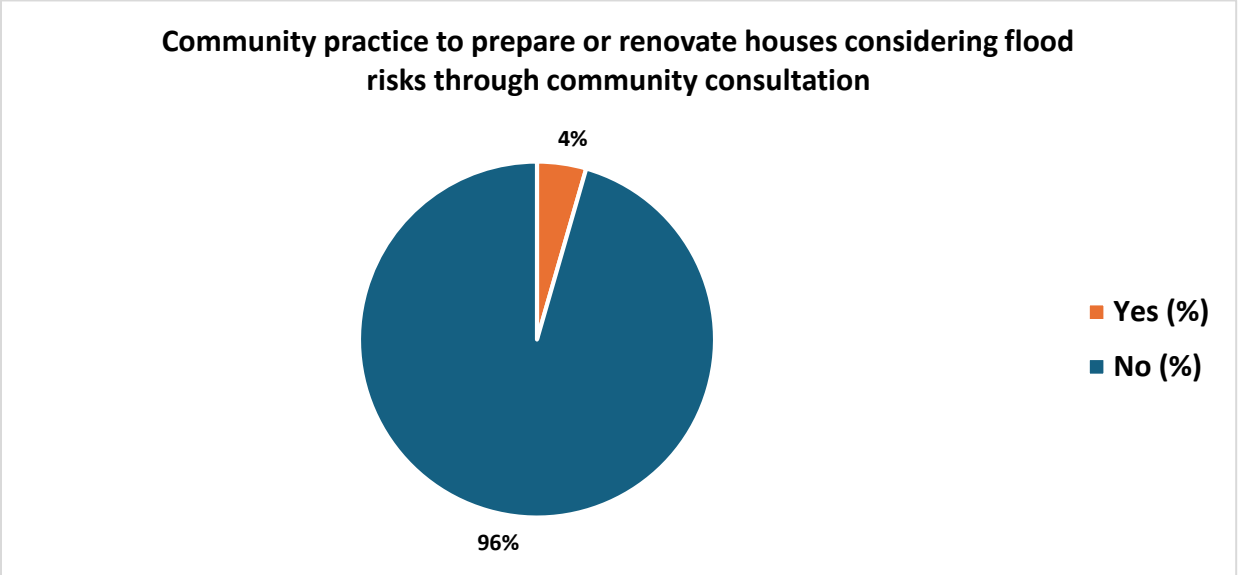


Figure 38 Percentage of Community practice to prepare or renovate houses considering flood risks through community consultation

The chart represents the percentage of community practice to prepare or renovate houses considering flood risks through community consultation. In total, only 4 percent of households across Kalihati and Tangail Sadar engage in community practices to prepare or renovate houses based on flood risks through community consultation, while 96 percent do not. These figures indicate that community-driven efforts to prepare for floods are very limited, with the vast majority of households not participating in such activities. This lack of engagement highlights a need for increased awareness and support to encourage community-based flood resilience measures. Programs focused on community consultation and collaborative planning could help improve preparedness and reduce vulnerability in the face of future floods.

4.18.2 Types of measures the community people take while preparing or renovating the houses

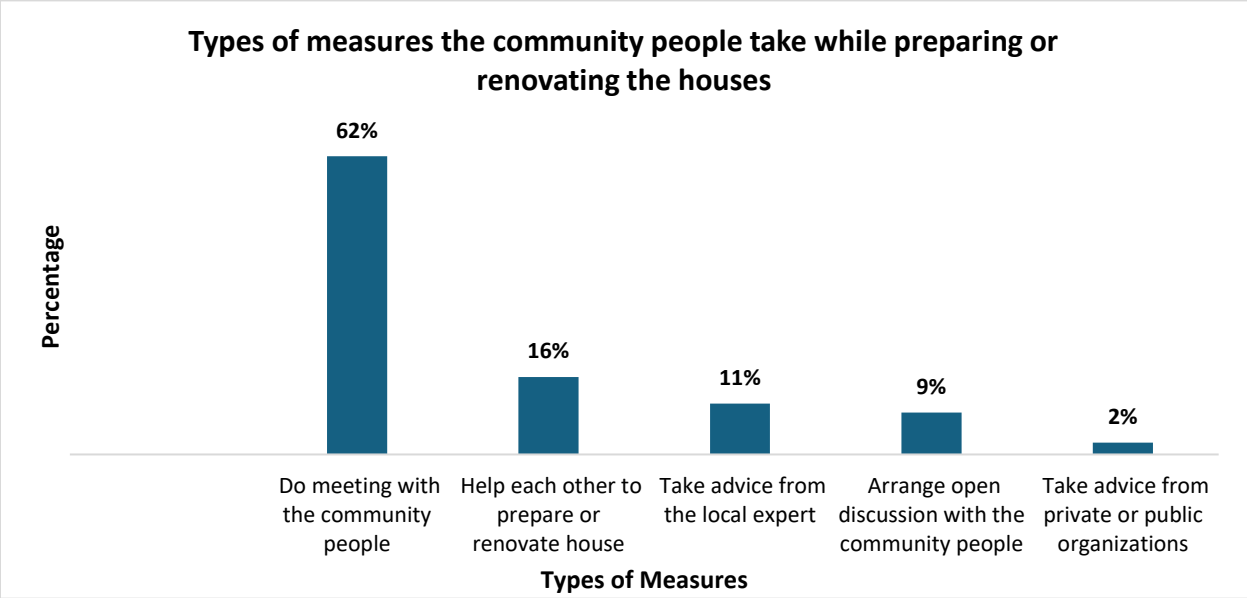


Figure 39 Percentage of types of measures the community people take while preparing or renovating the houses

The chart displays the percentage of types of measures the community people take while preparing or renovating the houses. In the Households of Tangail Sadar and Kalihati, the primary measure taken by people to prepare or renovate houses includes holding meetings with community members, which accounts for 62 percent of the responses. Additionally, 16 percent of individuals reported helping each other with house preparation or renovation, while 11 percent took advice from local experts. A smaller percentage (9 percent) arranged open discussions within the community, and 2 percent took advice from private or public organizations. These efforts reflect a community-based approach to preparing for floods, although the involvement of external experts and organizations remains limited.

4.19 Drinking Water

4.19.1 Major sources of drinking water in Households

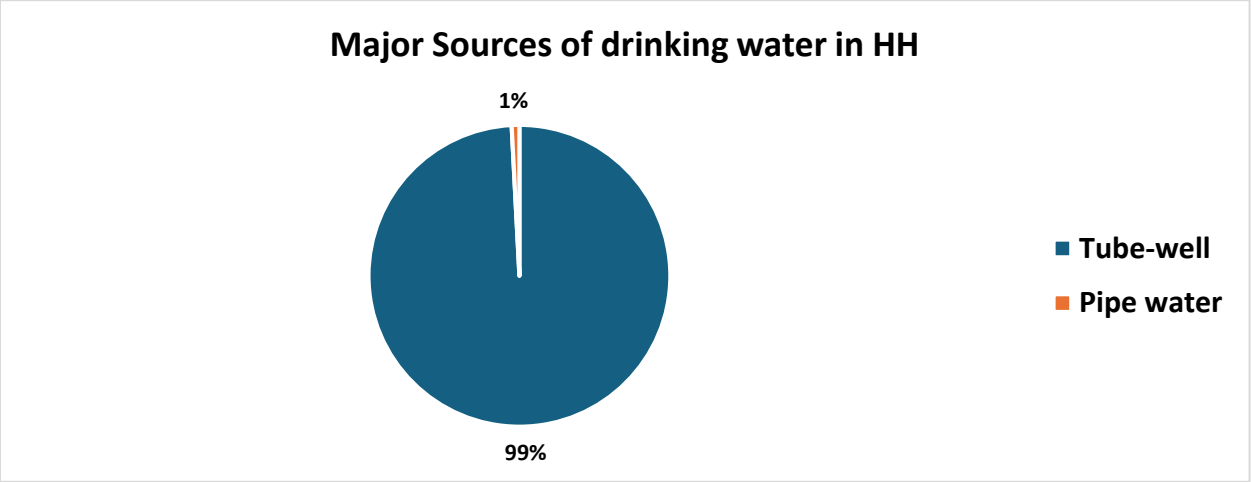


Figure 40 Percentage of Major sources of drinking water in Households

The above shows that the majority of the households use tube well as their sources of drinking water with a percentage of 99 percent and a negligible percentage of pipe water (1 percent).

4.19.2 Household's ownership of Tube-well

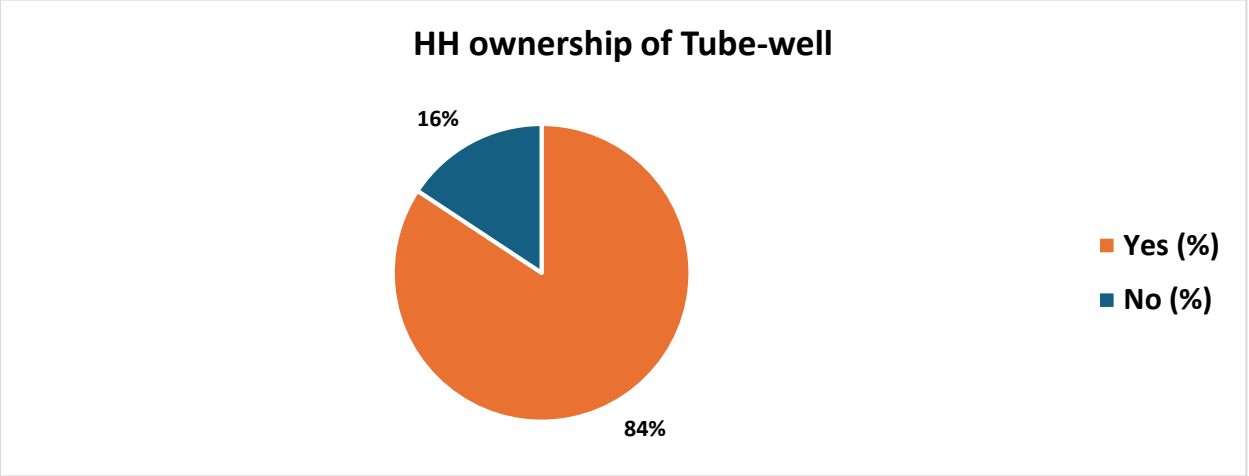


Figure 41 Percentage of tubewell ownership in Households

The chart shows the percentage of Tubewell ownership among the Households across wards in Kalihati and Tangail Sadar. In total, 84 percent of households have access to a tube-well, while 16 percent do not. This indicates that the majority of households in these areas have access to a reliable source of drinking water, but there is still a notable portion without access. Ensuring broader access to tube-wells would enhance community resilience, particularly in flood-prone areas where clean water access can become a challenge.

4.19.3 Households having improved tube-well (with a platform, useable during floods)

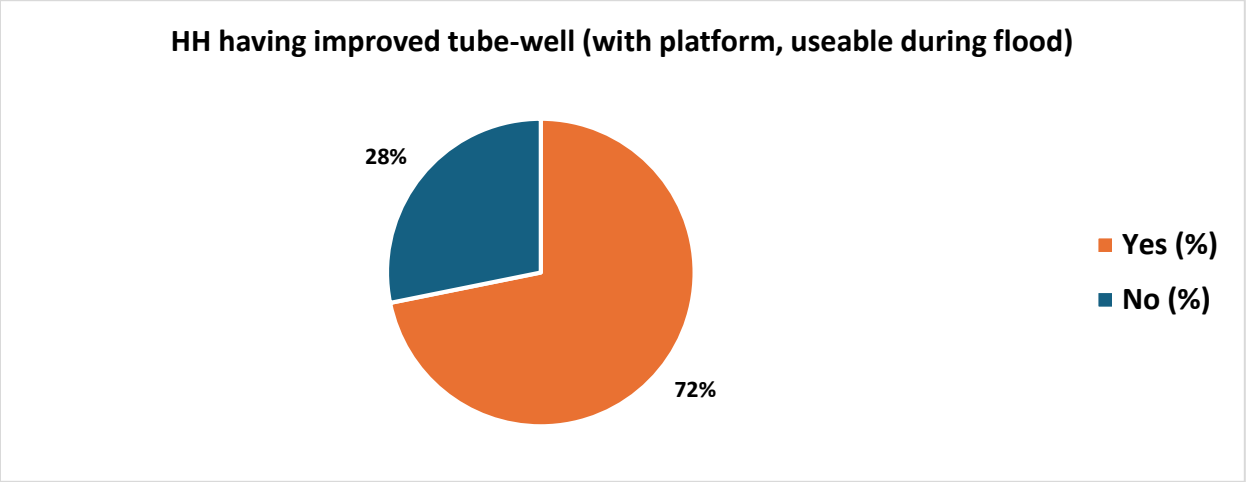


Figure 42 Percentage of Households having improved tube wells

The Chart displays the percentage of households in Kalihati and Tangail Sadar that have access to improved tube wells, which are equipped with platforms and are usable during floods. A total of 72 percent of households have access to these enhanced water sources, while 28 percent do not. The presence of improved tube-wells ensures that families can access clean and safe drinking water even during flood events, which is crucial for maintaining public health and preventing waterborne diseases. However, the 28 percent of households without these facilities remain vulnerable, particularly in areas prone to flooding, where access to safe water can be severely impacted. This highlights the need for further investment in water infrastructure to ensure resilience across all households in these regions.

4.19.4 Household's Access to Safe drinking Water during normal and flood time

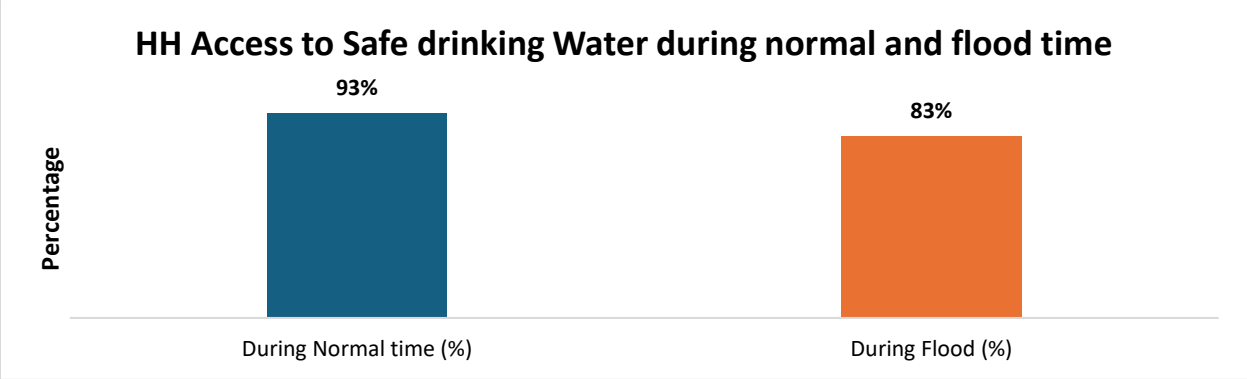


Figure 43 Percentage of Household's access to safe drinking water during normal & flood time

Figure 43 displays access to safe drinking water for households in Kalihati and Tangail Sadar, both during normal times and during floods. During normal times, 93 percent of households have access to safe drinking water, while this percentage drops to 83 percent during floods. The significant decrease during floods highlights the vulnerability of these communities when floodwaters compromise access to clean drinking water. This underlines the need for stronger flood resilience measures to ensure reliable access to safe water during emergencies.

4.19.5 Primary Water collector in Households

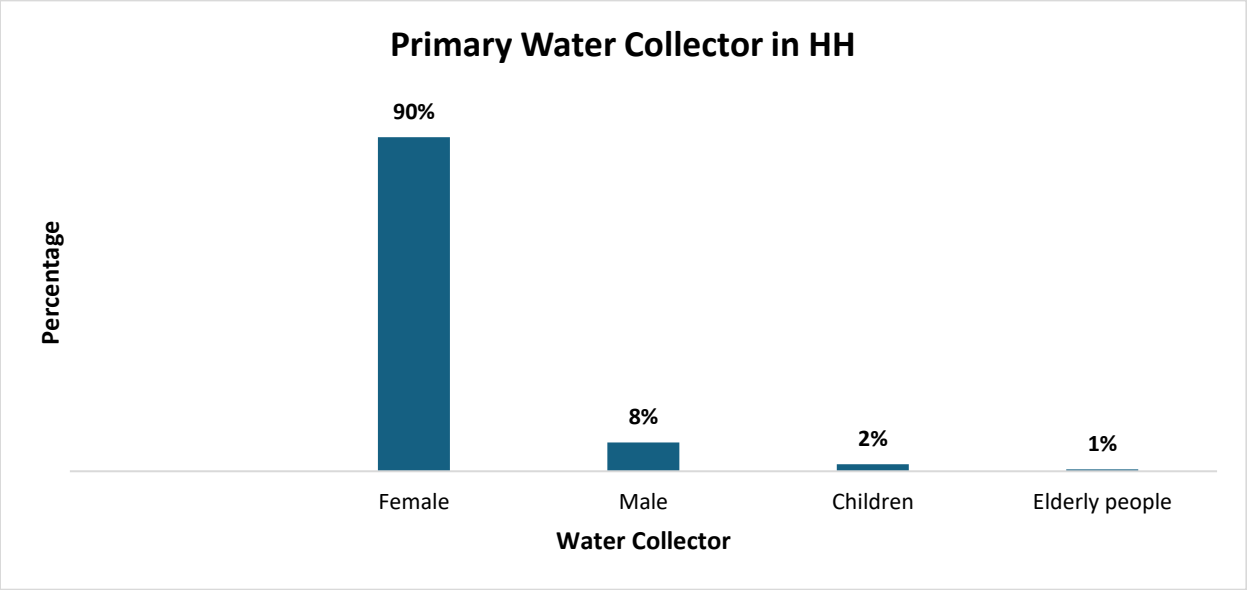


Figure 44 Percentage of primary water collectors in Households

The chart displays the primary water collectors in the households of Tangail Sadar and Kalihati. A total of 90 percent of water collection is done by females, 8 percent by males, 2 percent by children, and 1 percent by elderly people. This highlights the significant role of women in managing household water needs, which is crucial for maintaining daily routines, especially in areas where water collection is challenging due to distance or floods. The low involvement of children and elderly people in water collection reflects the primary responsibility of women, underscoring the need for supporting gender-sensitive approaches in water management.

4.19.6 Distance from the water collection point

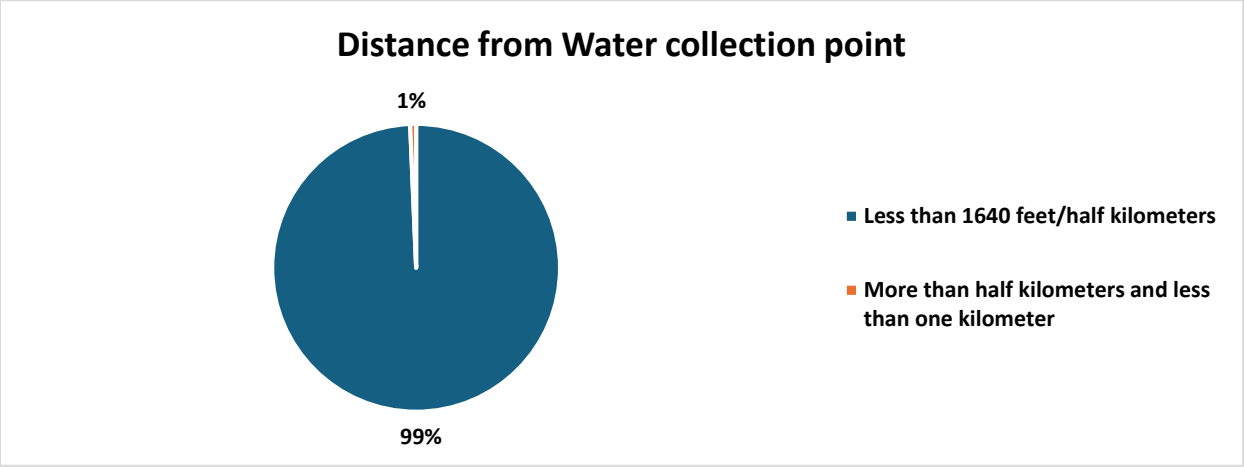


Figure 45 Percentage of distance from water collection point

The chart shows the distance from water collection points for households in Tangail Sadar and Kalihati. A total of 99 percent of households collect water from sources that are less than 1640 feet (half a kilometer) away, while only 1 percent of households have to travel more than half a kilometer but less than one kilometer. This indicates that the majority of households have relatively easy access to water collection points, which is beneficial for daily water needs. However, the 1 percent of households that travel longer distances may face more challenges, especially during adverse conditions like floods.

4.19.7 Sources of drinking water during floods

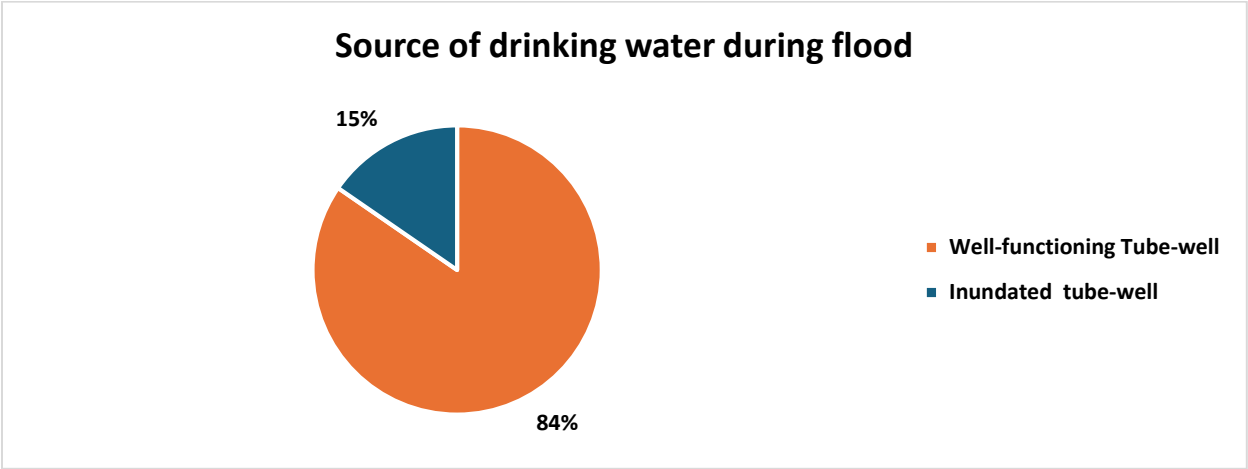


Figure 46 Percentage of Sources of drinking water during floods

The chart displays the sources of drinking water during floods for households in Tangail Sadar and Kalihati. A total of 84 percent of households rely on well-functioning tube-wells for drinking water

during floods, while 15 percent use inundated tube-wells. This indicates that while the majority of households have access to a reliable water source during floods, a significant portion still faces challenges with tube-wells that are flooded and potentially contaminated. This underscores the need for improved flood resilience and access to alternative clean water sources during emergencies.

4.20 Sanitation

4.20.1 Household's Latrine Status

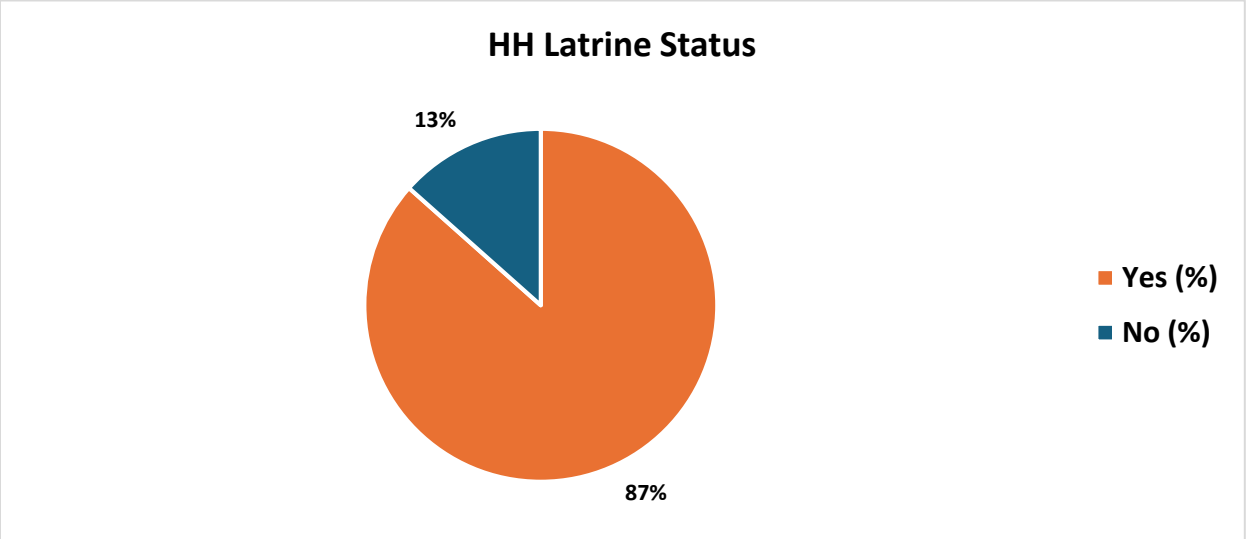


Figure 47 Percentage of Latrine status in Households

The chart displays the latrine status of households in Kalihati and Tangail Sadar. A total of 87 percent of households have latrines, while 13 percent do not. This indicates that the majority of households have access to sanitation facilities, but there is still a notable portion without latrines, highlighting the need for further improvements in sanitation infrastructure to promote better hygiene and public health.

4.20.2 Type of latrines used by household members

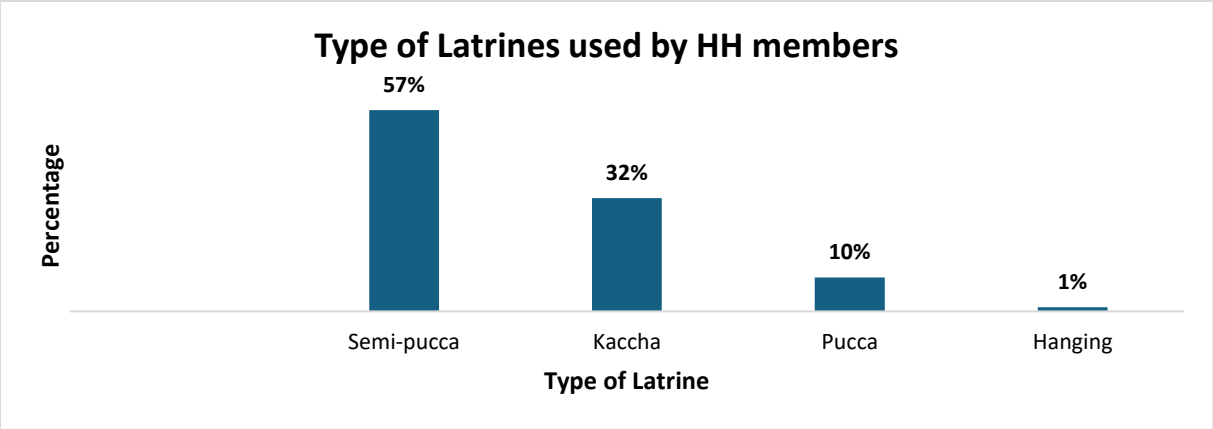


Figure 48 Percentage of types of Latrines used by Household members

The chart displays the types of latrines used by households in Tangail Sadar and Kalihati. A total of 57 percent of households use semi-pucca latrines, 32 percent use kaccha latrines, 10 percent use pucca latrines, and 1 percent use hanging latrines. Semi-pucca latrines are the most common, followed by kaccha latrines. This suggests that while many households have access to basic sanitation, a significant portion still relies on less durable and potentially unhygienic options like kaccha latrines. The low percentage of pucca latrines highlights areas where improvements are needed to ensure better sanitation and health outcomes for the community.

4.20.3 Distance of Latrine from Living Room (feet)

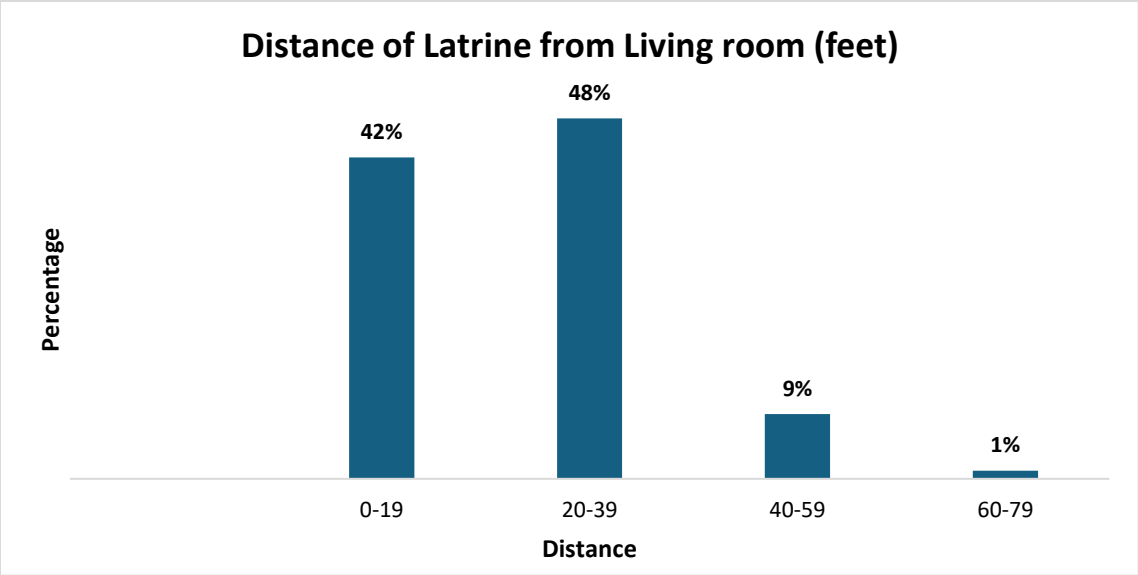


Figure 49 Percentage of distance of Latrines from Living room (feet)

Figure 49 displays the distance of latrines from the living room for households in Tangail Sadar and Kalihati. A total of 42 percent of households have latrines located between 0-19 feet from their living room, 48 percent have latrines between 20-39 feet away, 9 percent have latrines between 40-59 feet away, and 1 percent have latrines located 60-79 feet away. The majority of households have latrines situated relatively close to their living areas, which can be convenient but may also raise concerns regarding hygiene and privacy. The distance between latrines and living areas may impact sanitation practices, and improvements in latrine placement and design could enhance hygiene and overall community health.

4.20.4 Distance of Latrine from drinking water sources (feet)

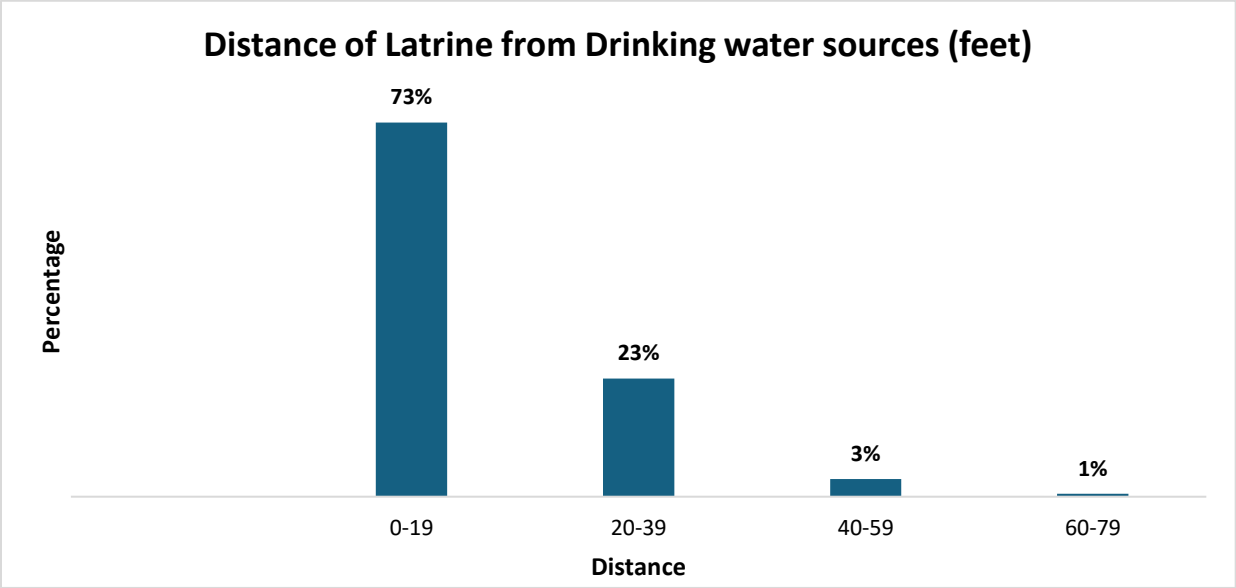


Figure 50 Percentage of distance of Latrines from drinking water sources (feet)

The Chart displays the distance of latrines from the living room for households in Tangail Sadar and Kalihati. A total of 73 percent of households have latrines located between 0-19 feet from their living room, 23 percent have latrines between 20-39 feet away, 3 percent have latrines between 40-59 feet away, and 1 percent have latrines located 60-79 feet away. The majority of households have latrines located very close to their living areas, indicating easy access.

4.20.5 Households having improved Latrine

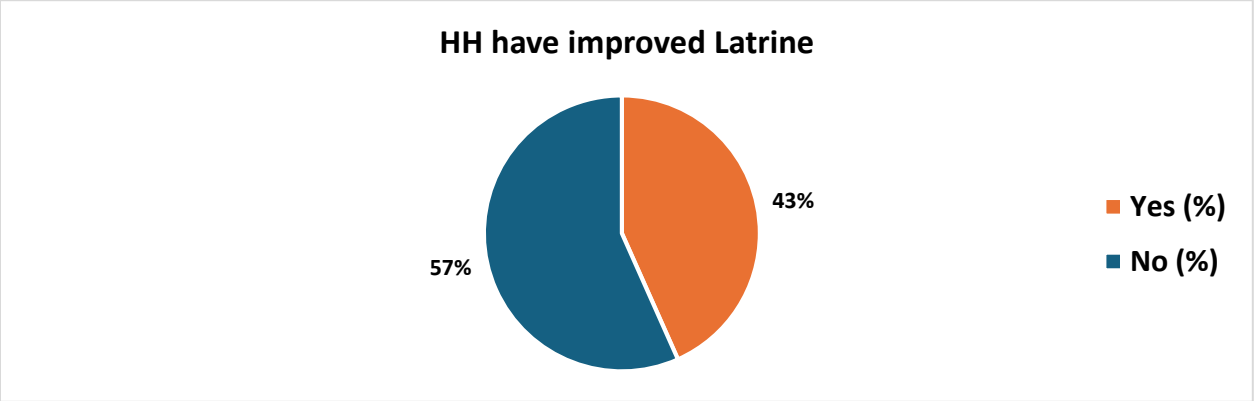


Figure 51 Percentage of Households having improved Latrines

The Chart displays the number of households with improved latrines in Kalihati and Tangail Sadar. In total, 43 percent of households have improved latrines, while 57 percent do not. This indicates that while some areas have made progress in improving sanitation, there is still a significant portion of households without access to improved latrines, highlighting the need for continued efforts in enhancing sanitation infrastructure across these communities.

4.20.6 Household Latrine accessible during Floods

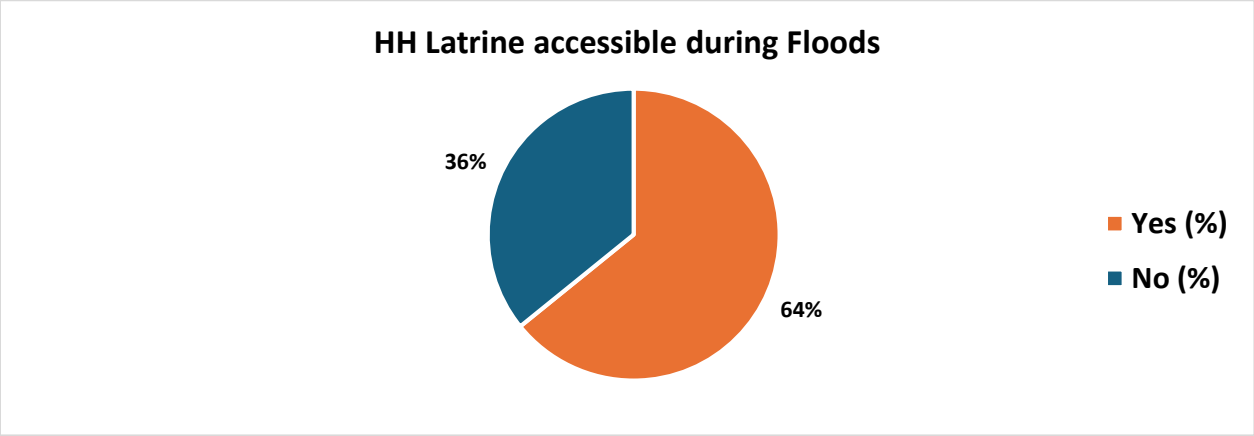


Figure 52 Percentage of Household Latrines accessible during Floods

The Chart shows the accessibility of latrines during floods for households in Kalihati and Tangail Sadar. In total, 64 percent of households have access to their latrines during floods, while 36 percent do not. This suggests that while a majority of households can still use their latrines during floods, there are significant challenges in some areas, and improvements in flood-resistant sanitation infrastructure are needed to ensure better access during such events.

4.20.7 Type of Alternative Latrines

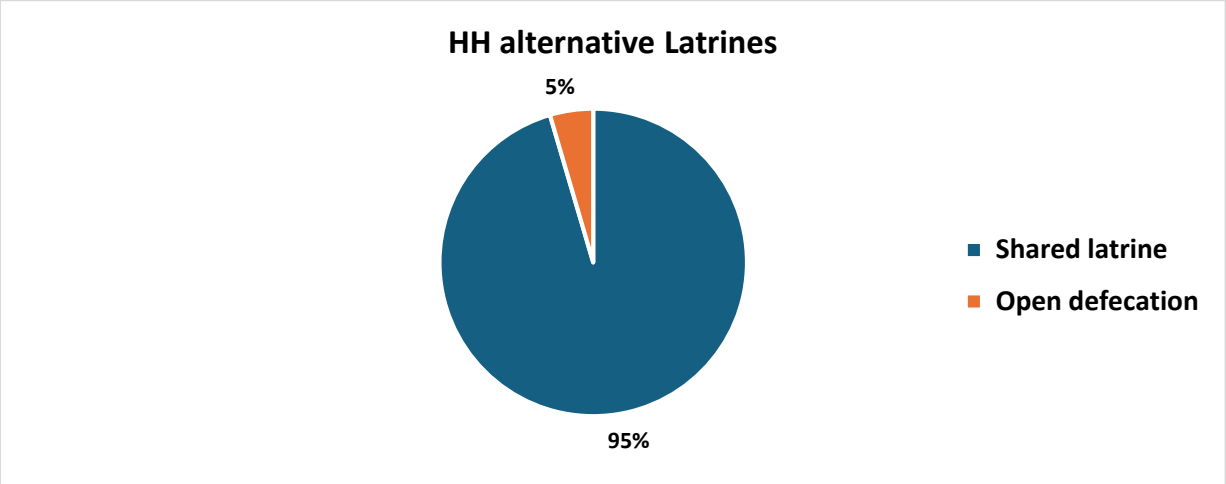


Figure 53 Percentage of types of alternative Latrines

The Chart displays the type of alternative latrines used by households in Tangail Sadar and Kalihati. A total of 95 percent of households use shared latrines, while 5 percent resort to open defecation. Shared latrines are the most common alternative, indicating that many households rely on community-wide sanitation facilities. The presence of open defecation, though low, highlights an ongoing challenge in sanitation access, and underscores the need for improved latrine infrastructure and hygiene practices to reduce health risks and ensure universal access to sanitation.

4.20.8 Use of sandals during defecation by Household members

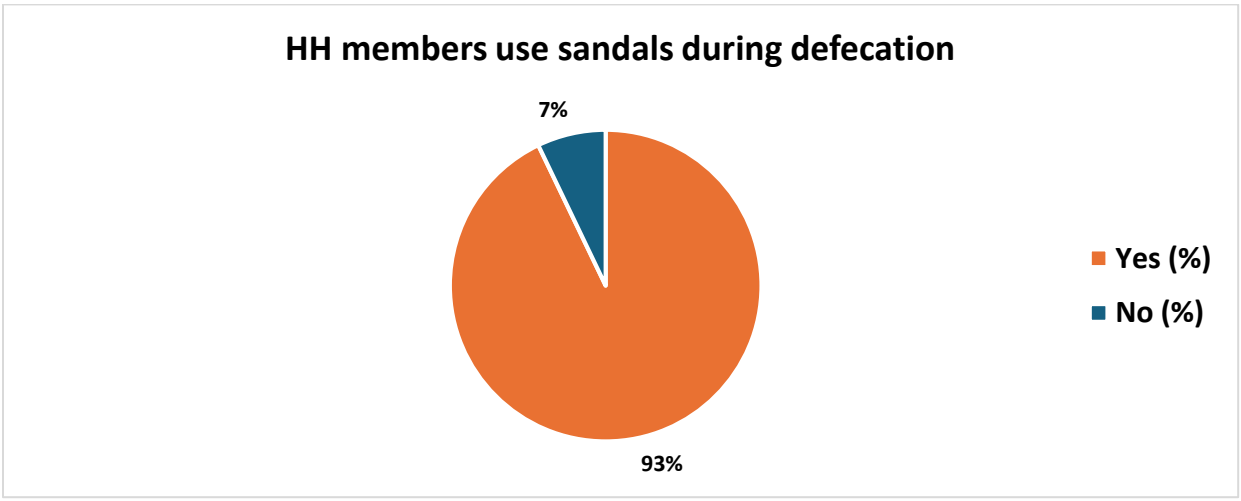


Figure 54 Percentage of use of sandals during defecation by HH members

Figure 54 shows that 93 percent of household members in Kalihati and Tangail Sadar use sandals during defecation, while 7 percent (or 182 households) do not. The 182 households not using

sandals are at a higher risk of exposure to contaminants and potential diseases, as going without proper footwear increases the chance of coming into contact with harmful pathogens in the environment. This highlights a significant health risk, emphasizing the need for greater awareness and support to encourage the use of sandals during defecation to improve hygiene practices and reduce health risks.

4.20.9 Type of latrines used by Household members during Floods

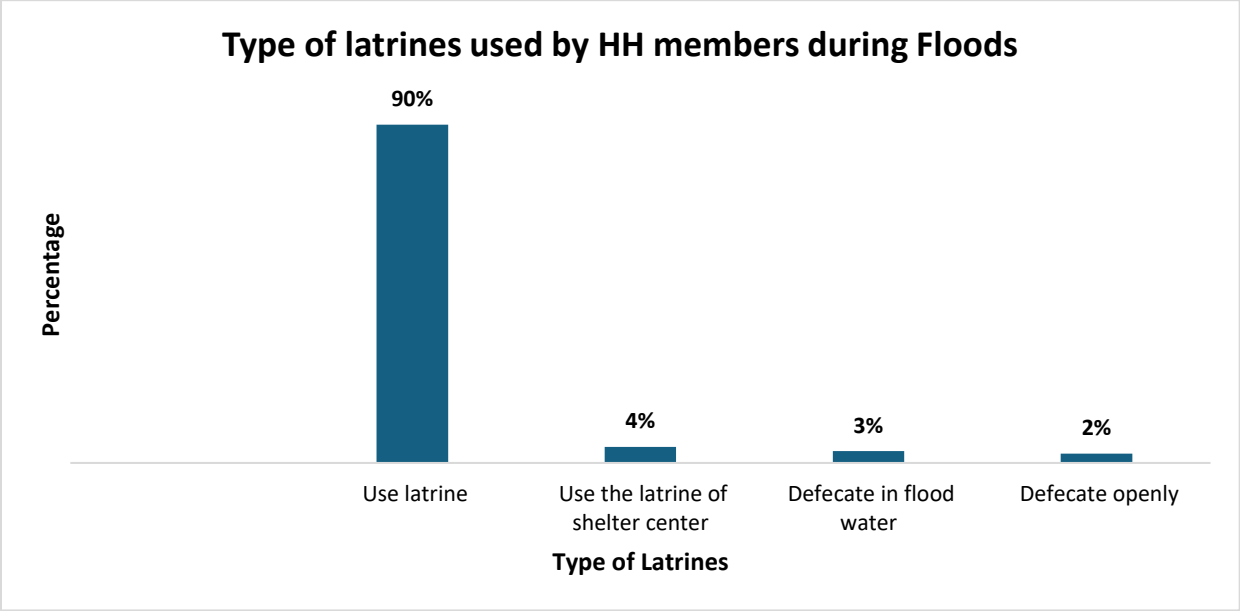


Figure 55 Percentage of types of latrines used by HH members during Floods

The Chart displays the defecation practices during floods in the communities of Tangail Sadar and Kalihati. A total of 90 percent of households use a latrine during floods, while 4 percent use latrines at shelter centers. However, 3 percent of households defecate in floodwater, and 2 percent practice open defecation. This highlights the importance of improving access to sanitation facilities during floods, as a small percentage of the population is exposed to health risks by defecating in unsafe areas like floodwater or open spaces. Enhancing flood-resistant latrines and ensuring their availability in shelters could help further reduce these risky behaviors.

4.21 Hygiene

4.21.1 Household members know proper handwashing techniques

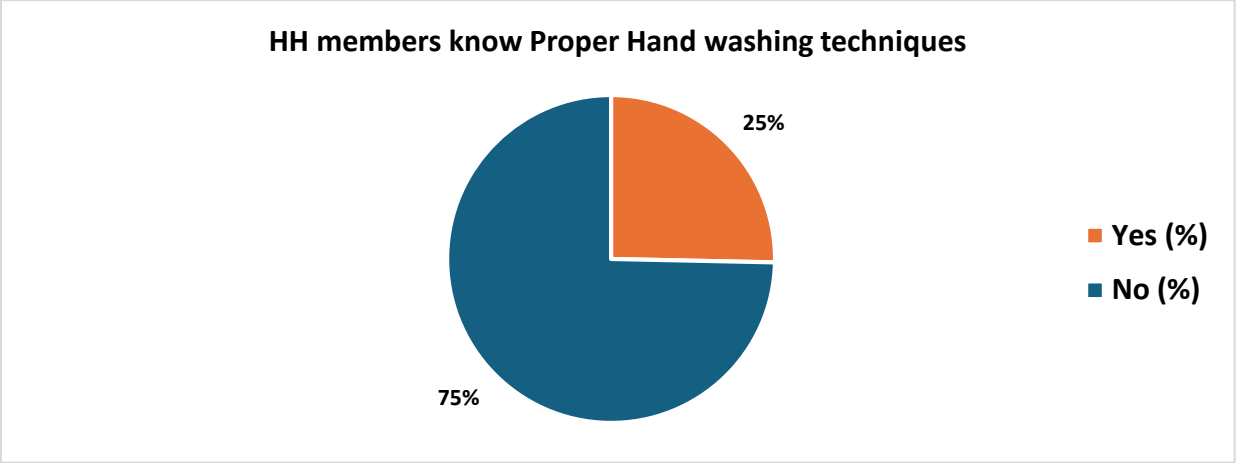


Figure 56 Percentage of HH members know proper handwashing techniques

The Chart reveals that only 25 percent of households in Kalihati and Tangail Sadar have members who are knowledgeable about proper handwashing techniques, while 75 percent lack this knowledge. This indicates a significant gap in hygiene education, which could contribute to the spread of waterborne diseases and other health risks. Strengthening awareness campaigns and training programs on proper handwashing techniques could help improve sanitation practices and reduce health risks in these communities.

4.21.2 Time for Handwashing (Seconds)

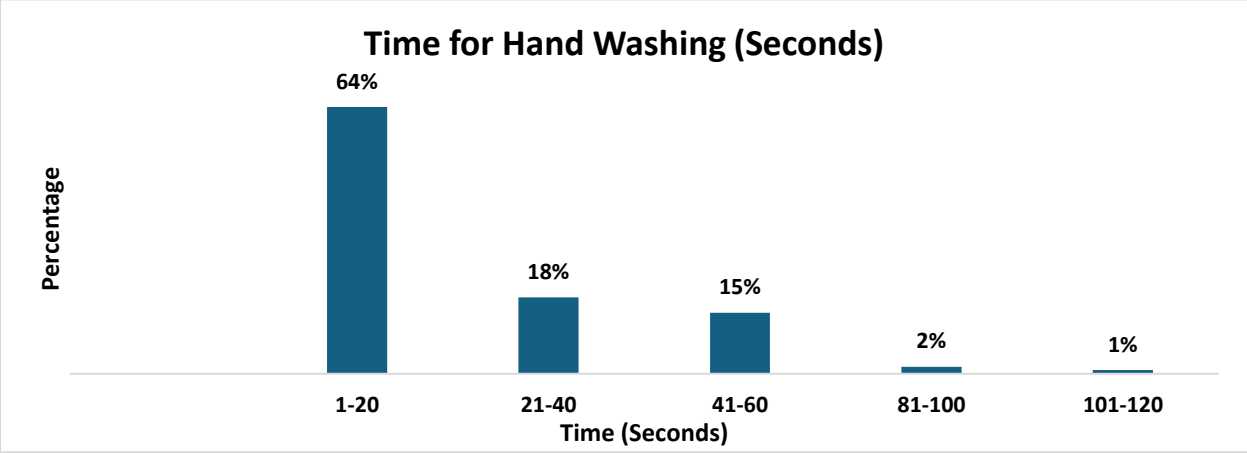


Figure 57 Percentage of time taken for handwashing by the HH members

The Chart shows the time spent by household members in Kalihati and Tangail Sadar on handwashing. Majority of households (64 percent) wash their hands for 1-20 seconds, while 18

percent spend 21-40 seconds. A smaller percentage (15 percent) spend 41-60 seconds, and only a few households (3 percent) wash their hands for longer durations, ranging from 81-120 seconds. This suggests that while many people are practicing handwashing, the duration may not be sufficient to properly eliminate germs, as the recommended time is typically 20 seconds or more. Efforts to educate and encourage longer handwashing times could improve hygiene practices and reduce the spread of diseases.

4.21.3 Time of Handwashing by the Household Members

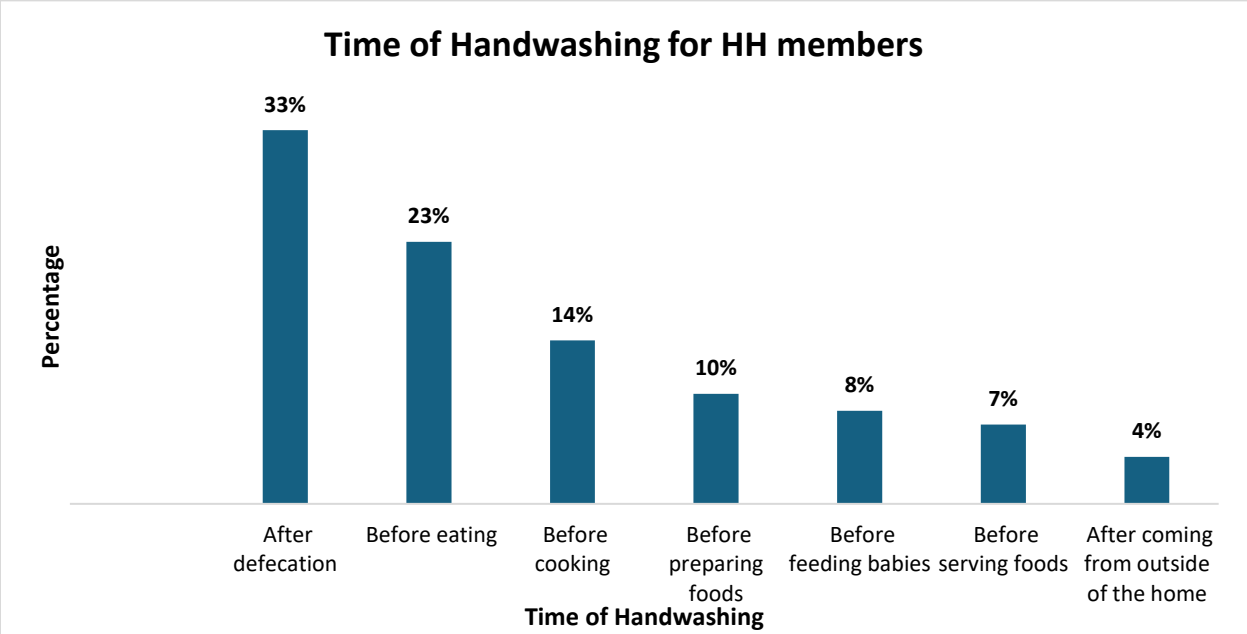


Figure 58 Percentage of time of handwashing by the HH members

The Chart highlights the different times when household members wash their hands in Tangail Sadar and Kalihati. The most common instance of handwashing is after defecation (33 percent), followed by before eating (23 percent) and before cooking (14 percent). Other significant times include before preparing food (10 percent), before feeding babies (8 percent), and before serving food (7 percent). However, only 4 percent of respondents wash their hands after coming from outside, which poses a hygiene risk as hands may carry contaminants from the environment. These findings indicate a need for increased awareness on the importance of handwashing at key moments to prevent the spread of diseases, especially regarding handwashing after coming from outside.

4.21.4 Household members cover Food/Drinking water properly

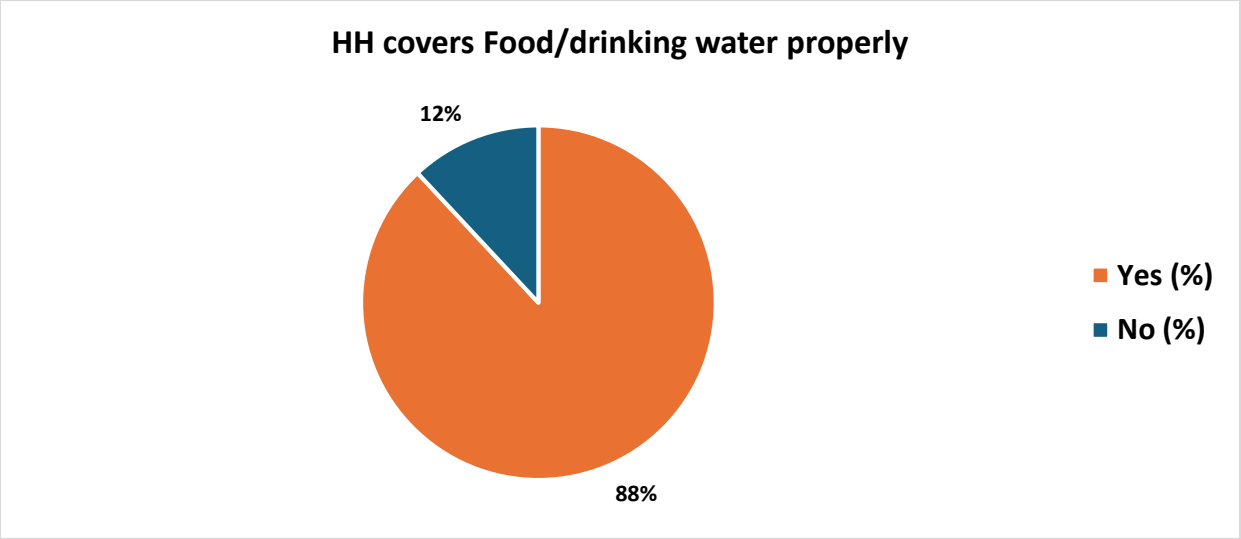


Figure 59 Percentage of covering Food/drinking water by HH members

The chart shows that 88 percent of households in Tangail Sadar and Kalihati properly cover their food and drinking water, ensuring better hygiene and reducing contamination risks. However, 12 percent of households do not practice proper covering, exposing their food and water to potential contaminants, including dust, insects, and bacteria. This lack of coverage can increase the risk of waterborne diseases and food contamination, particularly during floods or in unsanitary environments. Awareness campaigns and behavioral change initiatives could help improve food and water safety practices among these households.

4.22 Treatment, Diseases, and Care

4.22.1 Household Treatment Place

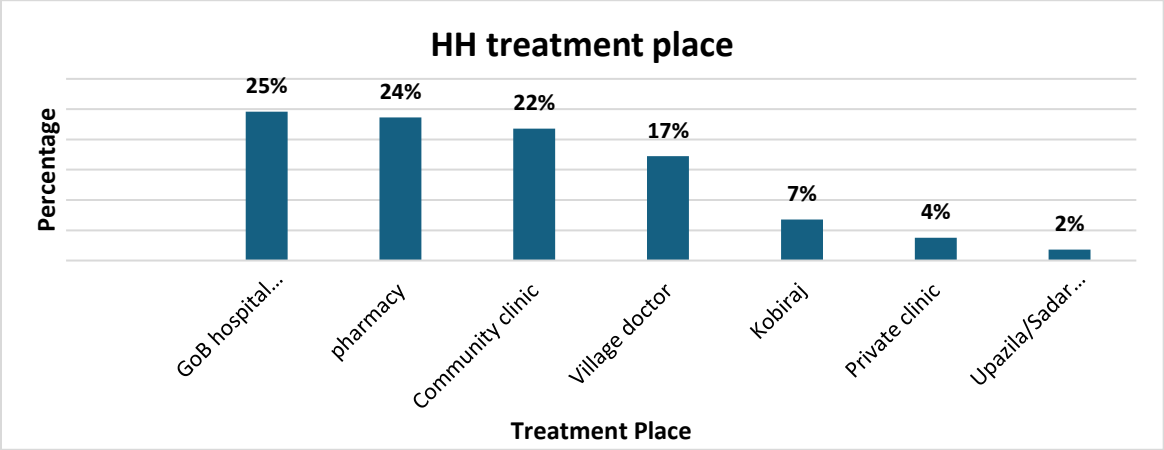


Figure 60 Percentage of treatment places visited by HH members

The chart presents the distribution of treatment-seeking behavior across four wards in Tangail Sadar and Kalihati upazilas. Government hospitals (Upazila/district level) were the most utilized healthcare facility, accounting for 25 percent of the total 6,171 responses, followed closely by pharmacies (24 percent) and community clinics (22 percent). Village doctors were also a significant source of treatment (17 percent), while traditional healers (Kobiraj) accounted for 7 percent, and private clinics represented the smallest proportion at 4 percent. The data reflects a strong reliance on public healthcare and informal providers, indicating mixed patterns of accessibility, affordability, and health-seeking preferences across the surveyed areas.

4.22.2 HH suffered from any diseases during the last floods

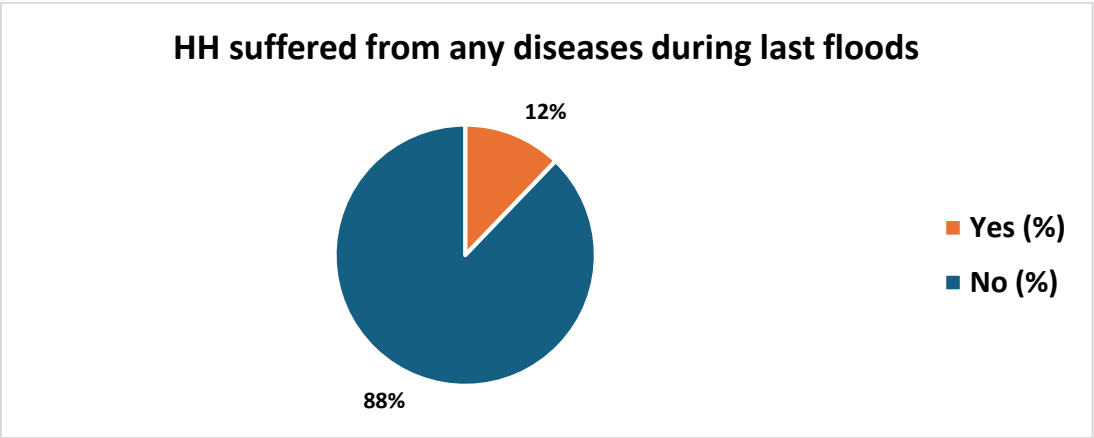


Figure 61 Percentage of HH suffered from any diseases during the last floods

The data indicates that during the last floods, only 12 percent of households reported experiencing any diseases, while the vast majority—88 percent—did not report any health issues. This suggests that although floods can increase the risk of waterborne and communicable diseases, most households either remained unaffected or were able to effectively prevent illness during that period.

4.22.3 Type of Diseases suffered by HH during the last flood

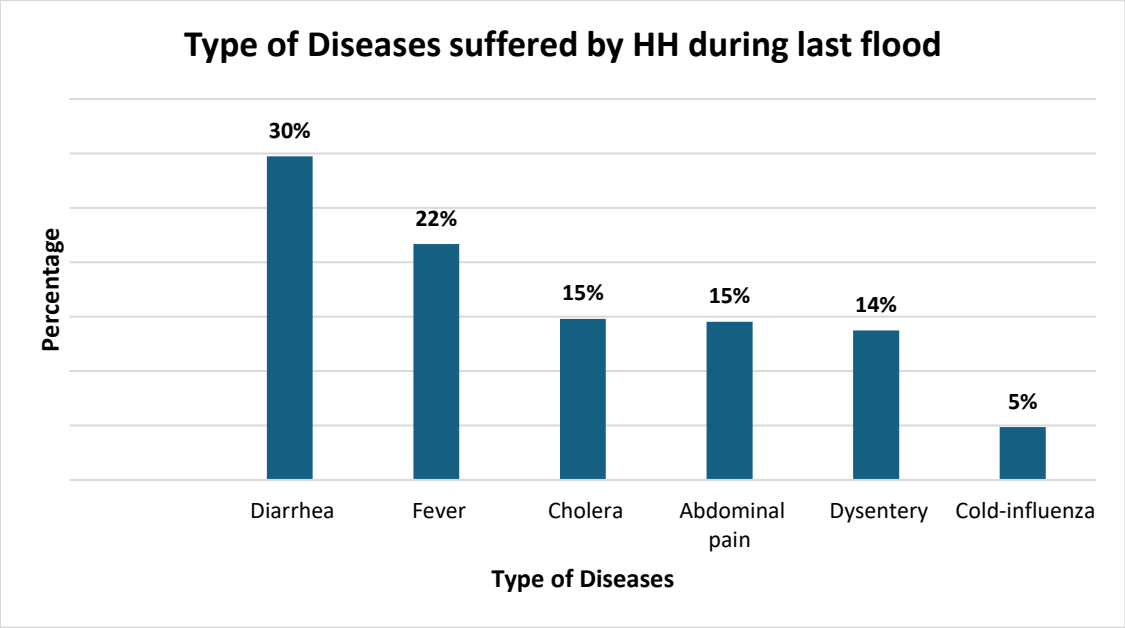


Figure 62 Percentage of type of Diseases suffered by HH during the last flood

The data shows the distribution of disease types reported by affected households during the last floods across selected wards in Tangail Sadar and Kalihati upazilas. Diarrhea was the most commonly reported illness, accounting for 30 percent of cases, followed by fever (22 percent), cholera (15 percent), abdominal pain (15 percent), and dysentery (14 percent). Cold and influenza were less frequently reported, comprising only 5 percent of cases. The prevalence of waterborne and gastrointestinal diseases highlights the significant health risks associated with flooding, especially in low-resource settings with limited access to clean water and sanitation.

4.22.4 HH members suffered from those diseases

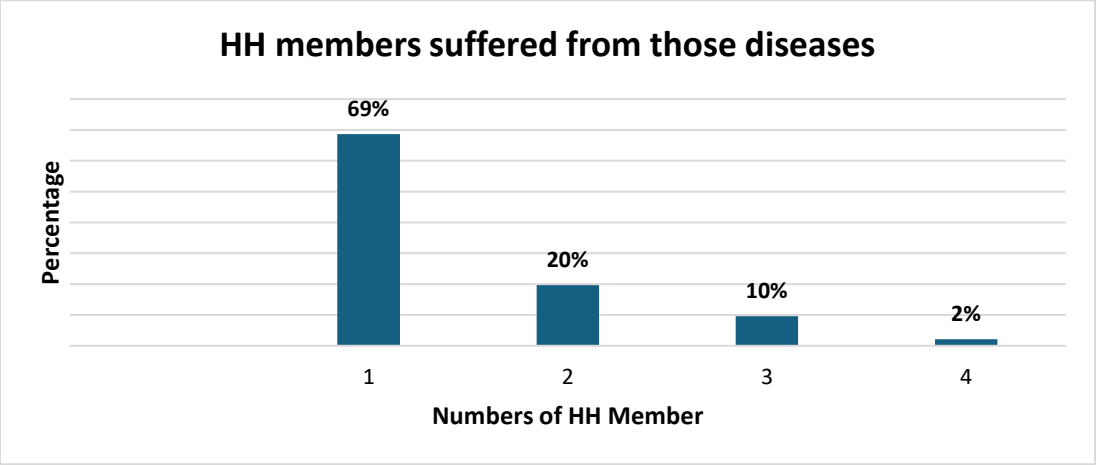


Figure 63 Percentage of Number of HH members suffered from those diseases

The data indicates that among households affected by disease during the last floods, the majority (69 percent) had only one member fall ill. Around 20 percent of households reported two members affected, while 10 percent had three members, and just 2 percent experienced illness among four members. This suggests that in most cases, disease impact was limited to individual household members rather than spreading widely within households, although a notable minority did face multiple infections, reflecting the potential for intra-household transmission in flood-affected areas.

4.22.5 HH Treatment Place for Pregnant Women

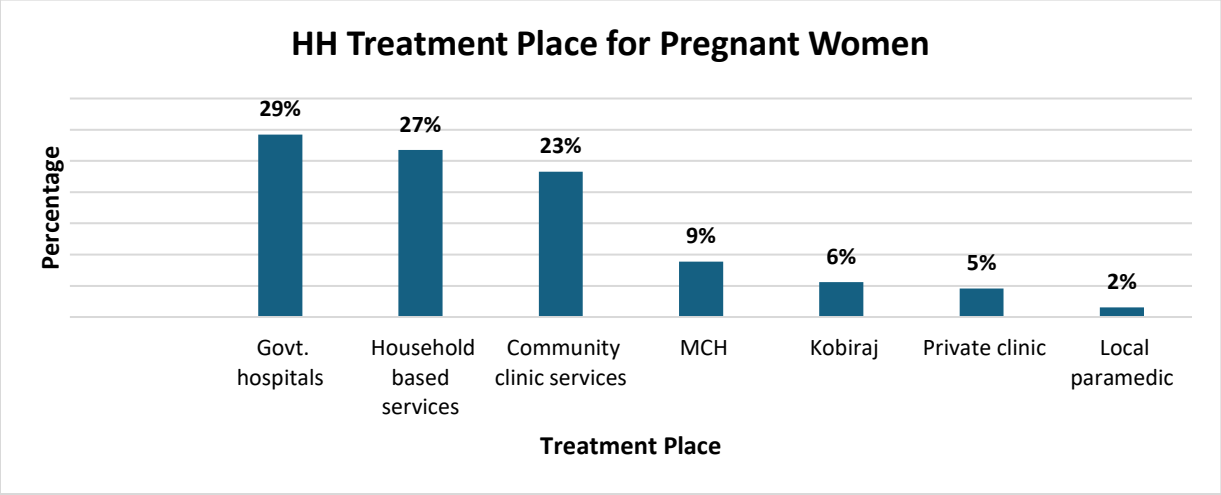


Figure 64 Percentage of Treatment Place for Pregnant Women

The data reveals that during the last floods, the majority of individuals sought treatment from government hospitals (29 percent) and household-based services (27 percent), indicating a strong

reliance on both formal public healthcare and in-home care. Community clinics were also a significant source of support, serving 23 percent of the cases. Maternity and Child Health (MCH) services accounted for 9 percent, while traditional healers (Kobiraj) and private clinics provided care for 6 percent and 5 percent respectively. Local paramedics were the least utilized, at just 2 percent. Overall, the data highlights a blended use of institutional, informal, and community-level healthcare responses during flood emergencies.

4.22.6 Nutritious Foods taken by Pregnant Women in HH

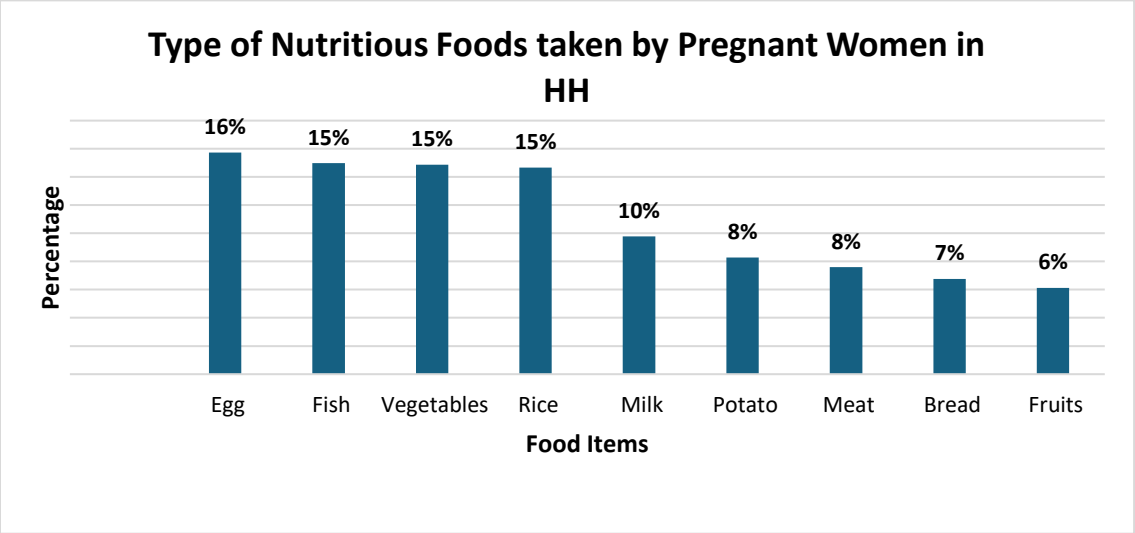


Figure 65 Percentage of type of Nutritious Foods taken by Pregnant Women in HH

The data presents the consumption or distribution of various food items across four wards in Tangail Sadar and Kalihati during the flood period. Eggs were the most accessed food item, making up 16 percent of the total, followed closely by fish (15 percent), vegetables (15 percent), and rice (15 percent), reflecting the importance of basic protein and staple foods. Milk (10 percent), potatoes (8 percent), and meat (8 percent) were moderately consumed, while bread (7 percent) and fruits (6 percent) were slightly less common. Honey was the least accessed item, comprising only 1 percent. This distribution highlights a reliance on affordable protein sources and staples, with relatively lower access to nutrient-rich items like fruits and honey during the flood crisis.

4.22.7 HH members ever participated in any health-related awareness session

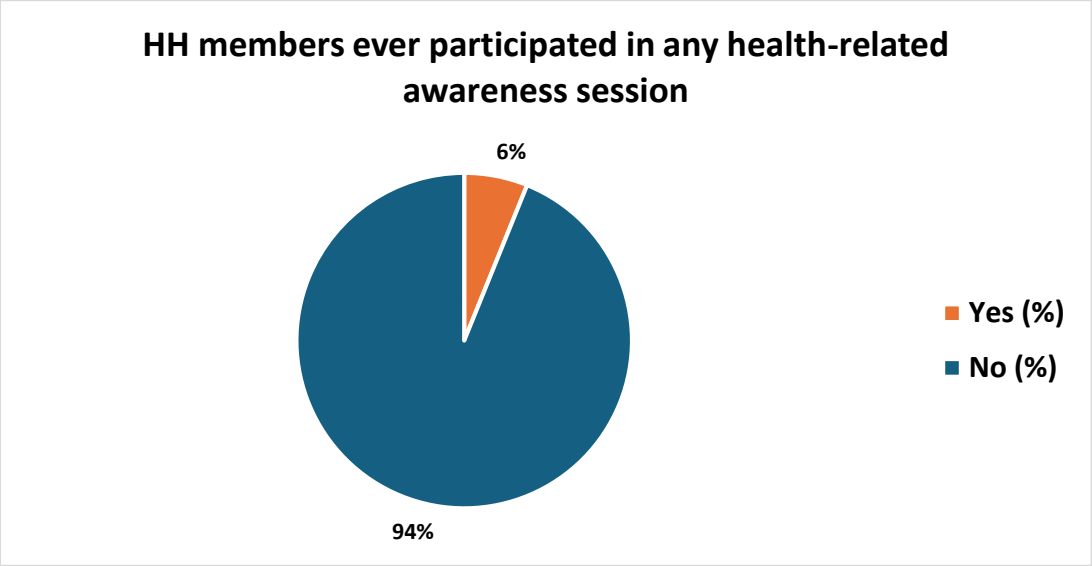


Figure 66 Percentage of HH members ever participated in health-related awareness sessions

The data shows that only 6 percent of household members had ever participated in any health-related awareness session, while a significant 94 percent had not. This indicates a major gap in community-level health education and outreach, suggesting limited access to or availability of awareness programs. Such a lack of exposure can hinder informed health-seeking behavior, especially during emergencies like floods, and underscores the need for more inclusive and widespread health education initiatives.

4.23 Safety and Security

4.23.1 Safety and Security of women and girls as a result of the disaster

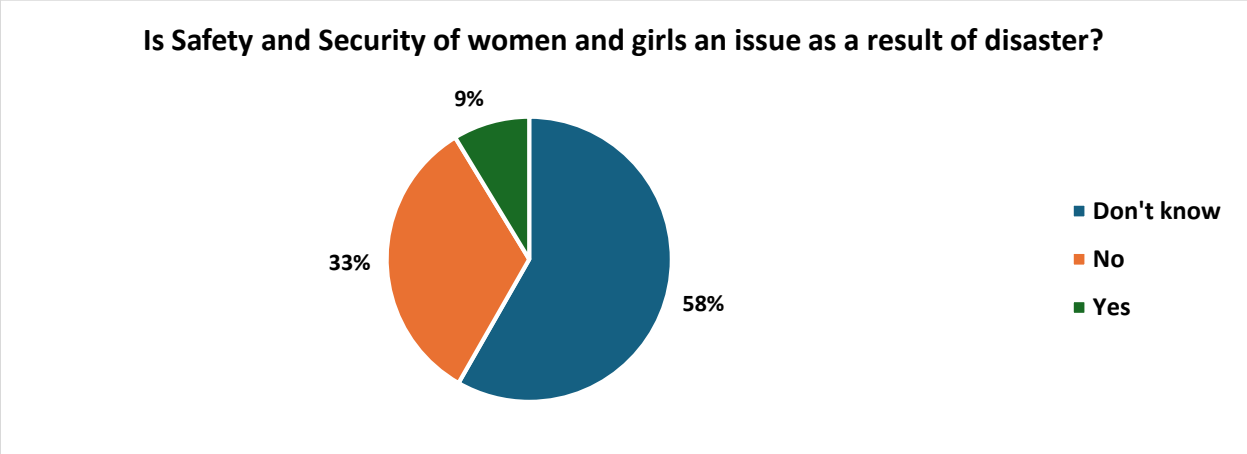


Figure 67 Percentage of safety and security issue of women and girls as a result of disasters

The data indicates that 9 percent of respondents acknowledged safety and security of women and girls as an issue resulting from the disaster, while 33 percent believed it was not a concern. A significant majority—58 percent—responded with "Don't know," suggesting widespread uncertainty or limited understanding of the longer-term gender-specific impacts of the disaster. This highlights a potential gap in awareness, reporting, and monitoring of post-disaster protection issues for women and girls, emphasizing the need for more inclusive and gender-responsive recovery interventions.

4.23.2 HH heard of children missing from the area since the disaster

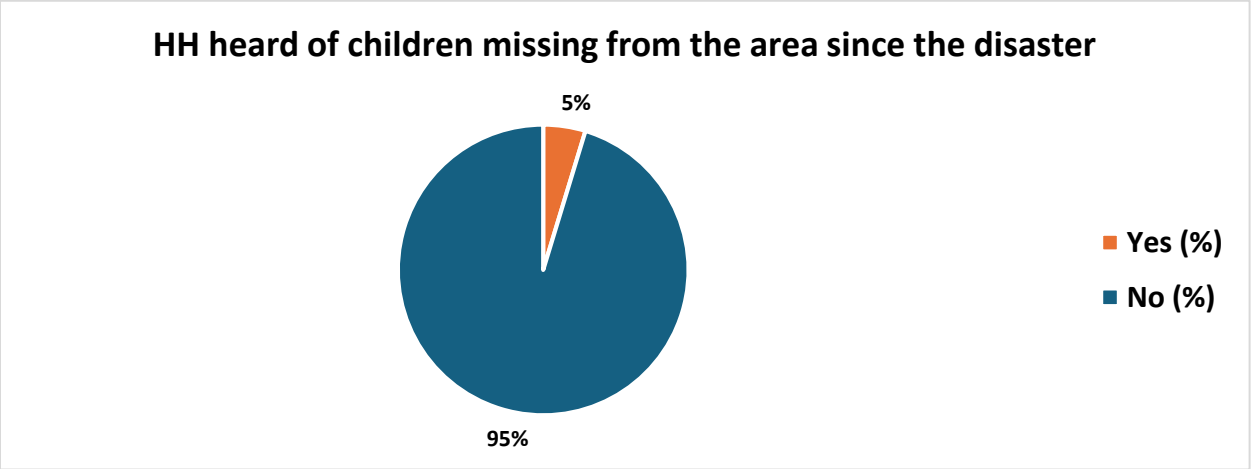


Figure 68 Percentage of HH heard of children missing from the area since the disaster

The data shows that only 5 percent of households reported hearing about children missing from the area since the disaster, while a large majority of 95 percent had not. This suggests that child disappearances were perceived as relatively rare or not widely reported in the aftermath, but even a small percentage highlights the importance of vigilant child protection measures during disaster recovery phases.

2.23.3 Children being sent away for any of the following reasons since the disaster

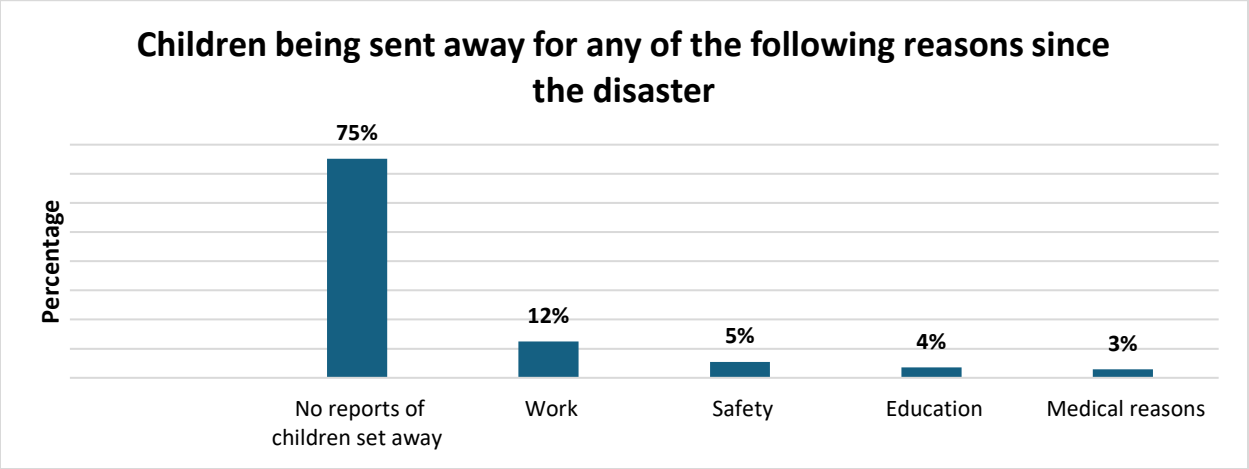


Figure 69 Percentage of reasons Children being sent away since the disaster

The data shows that since the disaster, the majority of households (75 percent) reported no instances of children being sent away. Among the reported cases, children were primarily sent away to work (12 percent), followed by safety concerns (5 percent), educational purposes (4 percent), and medical reasons (3 percent). This indicates that economic pressures and safety remain significant factors influencing the displacement of children after the disaster, underscoring the need for protective measures and support systems to prevent child labor and ensure their well-being.

4.23.4 Any increased violence towards women, men, girls/boys since the disaster

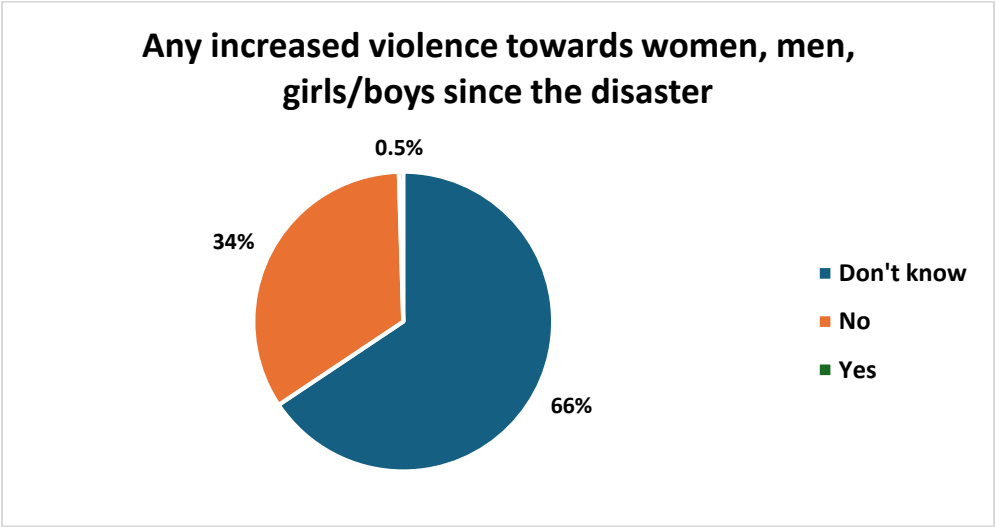


Figure 70 Percentage of increased violence towards women, men, girls/boys since the disaster

The data indicates that since the disaster, only a very small percentage (0.5 percent) of respondents reported an increase in violence towards women, men, girls, or boys. Meanwhile, 34 percent stated there was no increase, and a significant majority of 66 percent responded with "Don't know," reflecting a large level of uncertainty or lack of information about violence trends post-disaster. This suggests that either violence has not been widely observed or reported, or there may be gaps in awareness and reporting mechanisms, highlighting the need for improved monitoring and community engagement on protection issues.

4.23.5 Forms of violence and risks are women and children facing due to flood and other the disaster

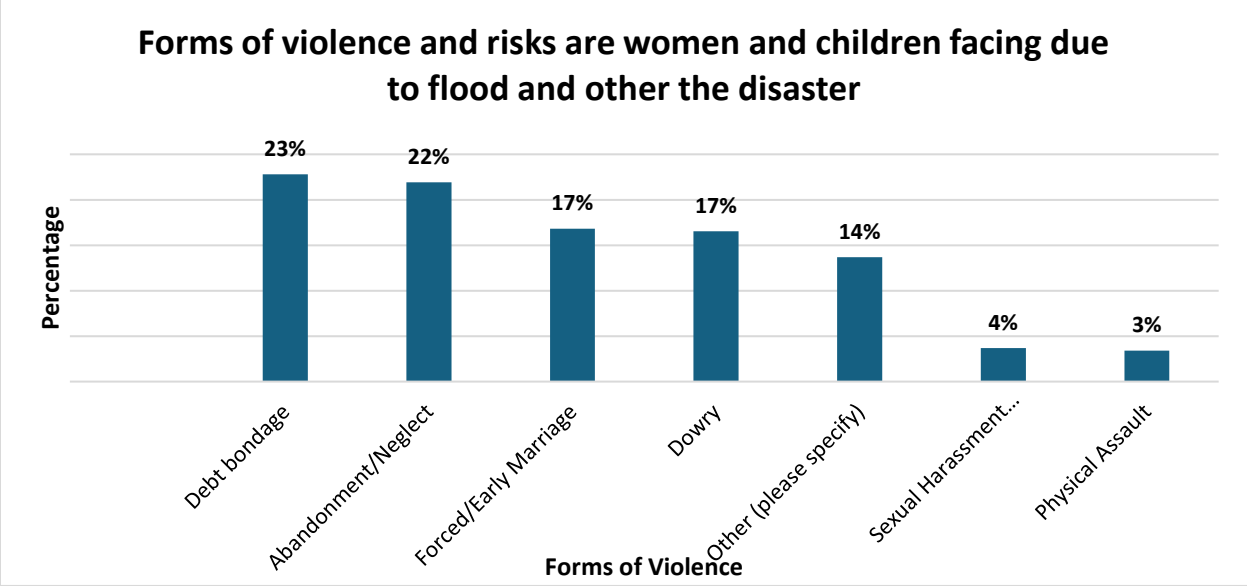


Figure 71 Percentage of Forms of violence and risks are women and children facing due to flood and other the disaster

The data highlights various forms of violence and risks faced by women and children due to floods and other disasters, primarily reported in Tangail Sadar. Debt bondage (23 percent) and abandonment or neglect (22 percent) are the most prevalent issues, followed by forced or early marriage (17 percent) and dowry-related problems (17 percent). Other unspecified risks account for 14 percent, while sexual harassment (non-physical) and physical assault are less frequently reported, at 4 percent and 3 percent respectively. These figures underscore the significant social vulnerabilities that disasters exacerbate, emphasizing the urgent need for targeted protection and support services to address economic exploitation, social neglect, and gender-based violence in affected communities.

4.23.6 Community actions to protect women and girls from violence since the disaster

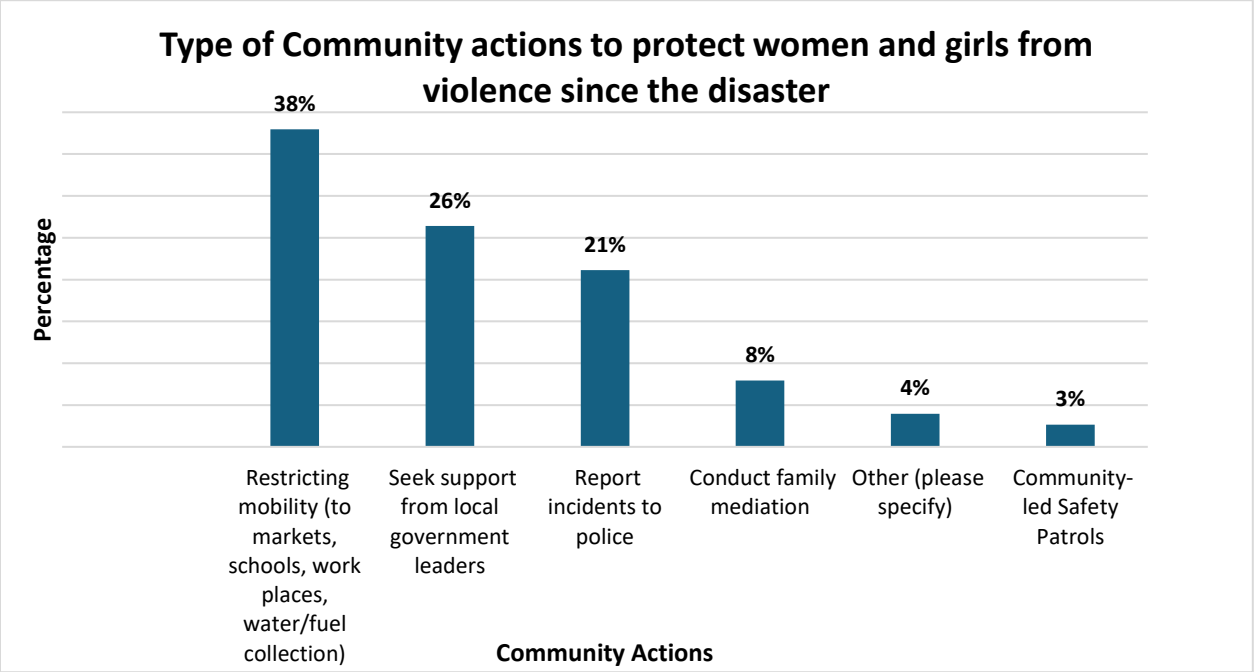


Figure 72 Percentage of Type of Community actions to protect women and girls from violence since the disaster

The data shows that since the disaster, communities in Tangail Sadar have taken various actions to protect women and girls from violence. The most common measure, reported by 38 percent, has been restricting women's and girls' mobility to places like markets, schools, workplaces, and water or fuel collection points. Seeking support from local government leaders was noted by 26 percent, while 21 percent reported incidents to the police. Family mediation was conducted by 8 percent, with smaller percentages involved in other unspecified actions (4 percent) and community-led safety patrols (3 percent). These responses reflect a mix of protective strategies, though restricting mobility may also limit women's freedom and access to essential resources, highlighting the complexity of community protection efforts post-disaster.

4.24 Project and Activities Implementation

4.24.1 Type of communication media do you get/collect information about the types of activities that are implemented in the community

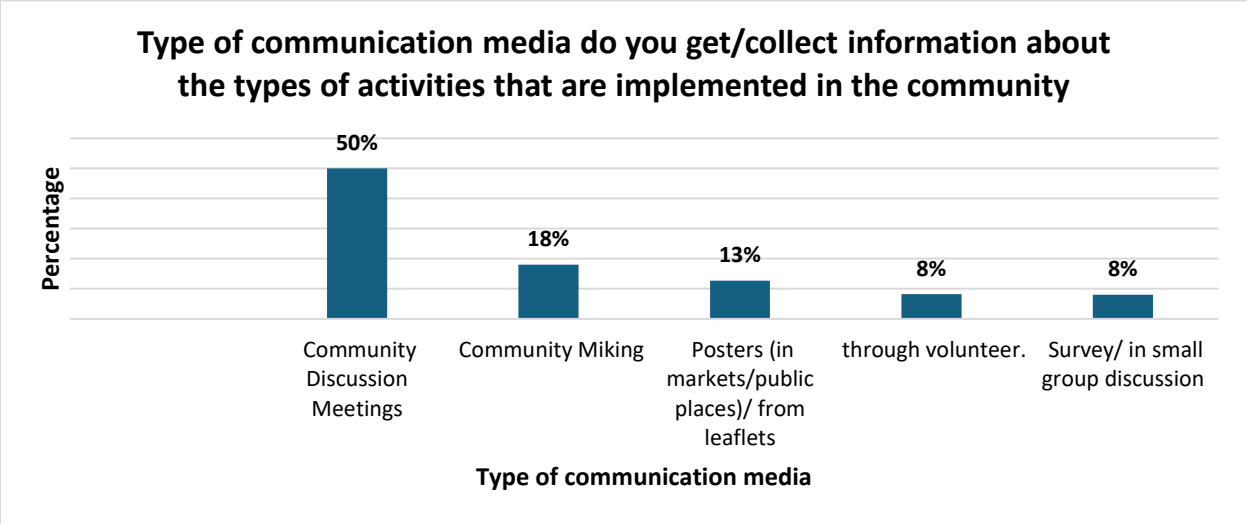


Figure 73 Percentage of Type of communication media do you get/collect information about the types of activities that are implemented in the community

The data shows that community members primarily receive information about local activities through community discussion meetings, which account for 50 percent of responses. Other notable communication channels include community miking (18 percent), posters or leaflets in public places (13 percent), volunteers (8 percent), and surveys or small group discussions (8 percent). This indicates that face-to-face and public announcement methods remain the most effective ways to disseminate information in these areas, while printed materials and volunteer outreach also play important supporting roles in community engagement.

4.24.2 Participation of the community people and their decisions/opinions when a project activity is started in the community

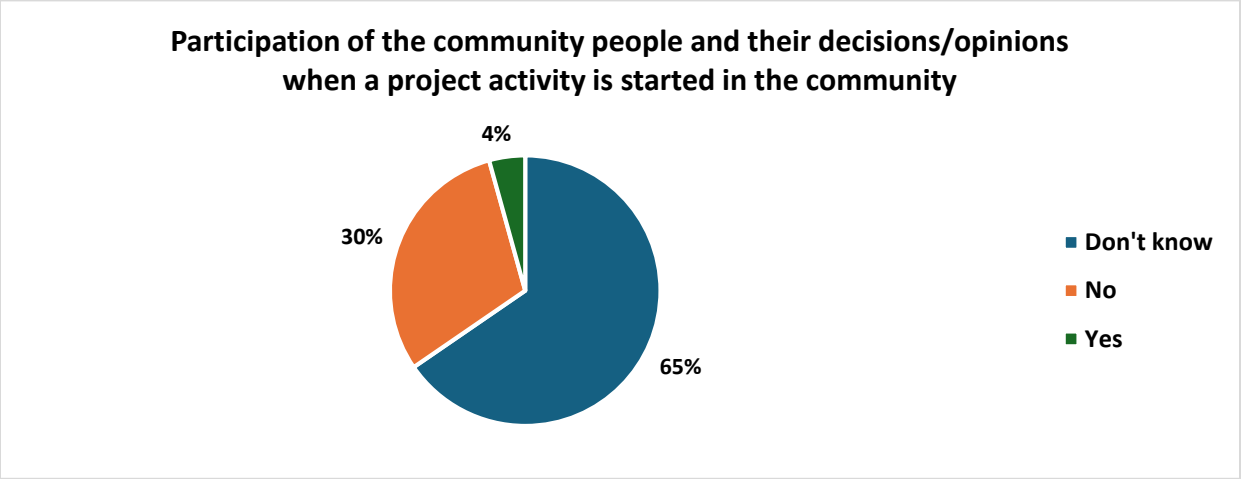


Figure 74 Percentage of Participation of the community people and their decisions/opinions when a project activity is started in the community

The data reveals that community participation and influence over decisions when a project activity starts is very limited. Only 4 percent of respondents reported that people's opinions or decisions are considered, while 30 percent said they are not involved at all. Notably, a large majority—65 percent, responded with "Don't know," indicating either a lack of awareness about participation opportunities or insufficient communication about community engagement processes. This highlights a significant gap in inclusive project planning and suggests the need for improved efforts to involve community members meaningfully from the outset.

4.24.3 Kind of activities implemented with community discussions/opinions

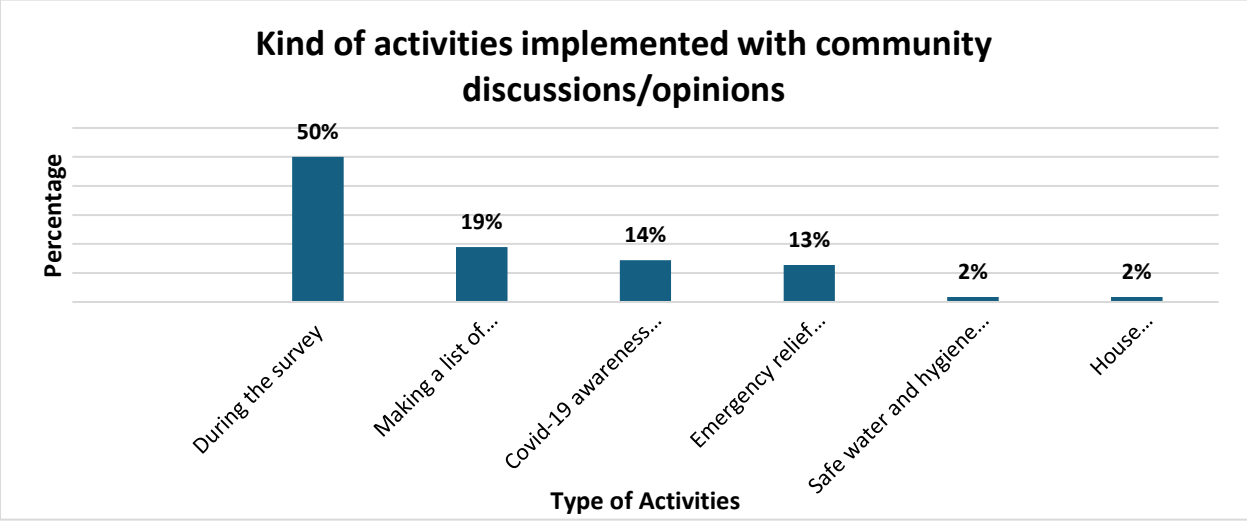


Figure 75 Percentage of Type of activities implemented with community discussions/opinions

The data shows that the most common activity implemented with community discussions and opinions is conducting surveys, accounting for 50 percent of the cases. Making lists of affected or endangered people follows at 19 percent, while COVID-19 awareness activities represent 14 percent. Emergency relief distribution accounts for 13 percent, whereas safe water and hygiene activities and house repair or construction activities are less common, each comprising 2 percent. This indicates that community engagement is primarily focused on information gathering and awareness efforts, with comparatively fewer participatory activities related to infrastructure or health interventions.

4.24.4 Responsible Persons for resolving any issues/opinions/complaints in the community

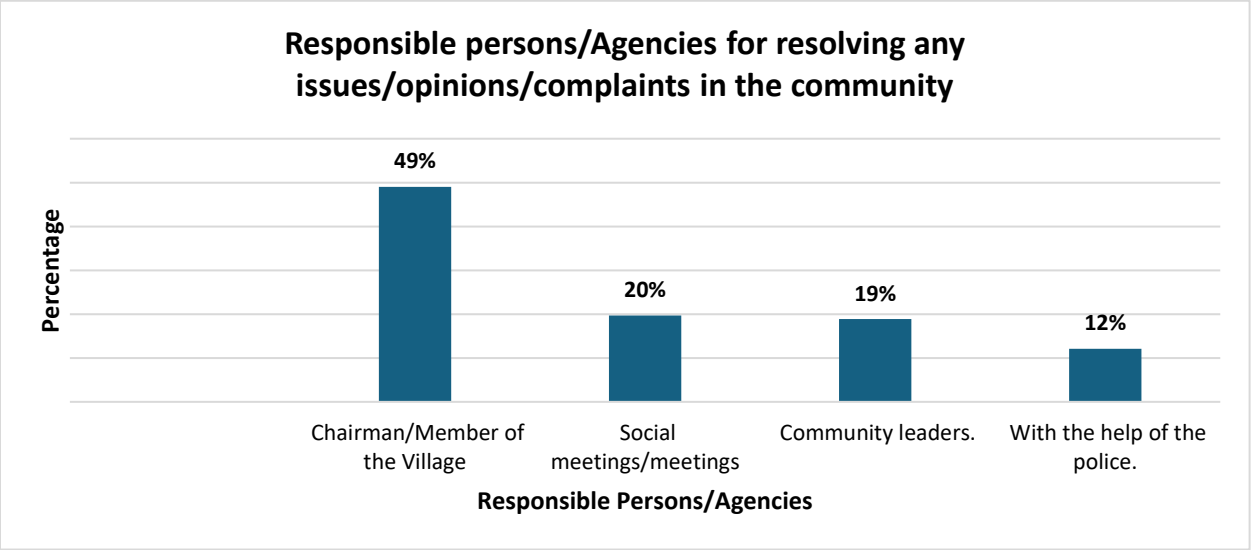


Figure 76 Percentage of different Responsible persons/Agencies for resolving any issues/opinions/complaints in the community

The data indicates that nearly half of the community members (49 percent) identify the Chairman or village members as the primary responsible persons for resolving issues, opinions, or complaints. Social meetings or gatherings account for 20 percent of dispute resolution, while community leaders are involved in 19 percent of cases. Police assistance is sought in 12 percent of situations. This suggests that local governance and social structures play a central role in community conflict resolution, with formal law enforcement playing a more limited but still important role.

The findings of the baseline survey present a detailed landscape of the socio-economic, environmental, and infrastructural conditions of the communities targeted under the IFRP: Phase-3. The data underscores critical vulnerabilities related to disaster preparedness, WASH, safe shelter, livelihood stability, and public health, while also highlighting community strengths such as strong social networks and willingness to engage in resilience-building initiatives. Gender disparities, limited access to early warning systems, and low levels of climate change awareness remain prominent challenges, particularly among women, youth, and persons with disabilities. These insights form the basis for designing targeted, inclusive, and context-specific interventions that will not only address the identified gaps but also empower communities to withstand and recover from future shocks more effectively.

Recommendations

Based on the comprehensive analysis of the baseline survey findings, a series of strategic and actionable recommendations have been formulated to address the critical gaps identified across key thematic areas, including disaster preparedness, WASH, health, livelihoods, and community resilience. These recommendations aim to guide the design and implementation of IFRP: Phase-3 interventions in a manner that is inclusive, evidence-based, and tailored to the unique needs and vulnerabilities of the target communities. By strengthening local capacities, promoting gender equity, enhancing flood-resilient infrastructures, and fostering multi-stakeholder coordination, the programme can ensure a more resilient, informed, and self-reliant community ready to face future shocks and climate-induced challenges. To address the gaps and enhance community resilience under IFRP: Phase-3, the following recommendations are proposed:

1. **Disaster Risk Reduction and Early Warning**
    - Expand community-based disaster preparedness (CBDP) activities, including regular mock drills, training on early warning and early action, and household-level preparedness planning.
    - Strengthen community contingency plans and ensure their dissemination among all households, with a focus on accessibility and inclusivity.
    - Improve early warning communication mechanisms, integrating mobile-based alerts, community volunteers, and traditional media for better reach and response.

2. **WASH and Shelter Resilience**
    - Upgrade WASH infrastructure with flood-resilient tube wells and latrines, especially in flood-prone areas.
    - Ensure accessibility of WASH and shelter facilities for persons with disabilities and the elderly.
    - Raise awareness on proper hygiene practices, including handwashing and safe defecation behaviors, through interactive campaigns and household-level sensitization.

3. **Livelihood and Skill Development**
    - Introduce vocational and skill development training for women, unemployed youth, and persons with disabilities in high-demand areas such as:

    - Tailoring and garment work
    - Animal husbandry and poultry rearing
    - Veterinary aide training (para-veterinary skills)
    - Computer and mobile phone servicing
    - Small business and entrepreneurship development
- Promote micro-financing opportunities and startup support for beneficiaries completing such training to ensure sustainable income generation.

4. Health and Nutrition

- Organize frequent mobile health camps, especially during the pre- and post-flood seasons, with a focus on:
    - Water-borne diseases (diarrhea, cholera, typhoid)
    - Skin infections
    - Maternal and child health
- Enhance access to reproductive and menstrual health services, particularly through Kishori Clubs and community clinics.

5. Community Engagement and Inclusion

- Activate and strengthen Upazila Disaster Management Committees (UzDMCs), Ward Disaster Management Committees, and Ward Disaster Response Team (WDRT) by ensuring the representation of women, youth, and persons with disabilities.
- Promote gender-sensitive approaches across all project components, ensuring the active participation and leadership of women and girls in planning and decision-making processes.
- Facilitate community consultations for house and infrastructure renovations based on flood risk assessments and localized knowledge.

6. Institutional Strengthening and Coordination

- Strengthen capacity-building for BDRCS volunteers, Community Organizers, and CBO members in inclusive DRR, early warning dissemination, and first responder roles.
- Enhance coordination with Union Parishads, UDMCs, and local NGOs for joint planning and resource mobilization.

- Leverage existing social safety net programs and connect project beneficiaries with government welfare schemes for added protection and support.

Collectively, these recommendations offer a roadmap for building stronger, more resilient communities through inclusive planning, targeted capacity-building, and locally appropriate interventions. Emphasis on proactive risk reduction, gender-responsive strategies, and sustainable livelihoods will be critical in transforming the current vulnerabilities into long-term resilience. As IFRP: Phase-3 moves into the implementation phase, the success of the programme will depend on the commitment of all stakeholders - government bodies, the Red Cross - Red Crescent Movement, community members, and development partners to act collaboratively, responsively, and with a shared vision of reducing disaster risks and enhancing the well-being of the most at-risk populations.

Conclusion

The baseline survey conducted under the Integrated Flood Resilience Programme (IFRP): Phase-3 has revealed a multifaceted snapshot of the vulnerabilities, capacities, and living conditions of households across Durgapur and Dainya Unions in Tangail District. The findings highlight a complex interplay of socio-economic challenges, environmental vulnerabilities, and limited access to critical services.

While the majority of respondents demonstrated strong awareness regarding COVID-19, their understanding of disaster risk reduction (DRR), climate change, and heatwave preparedness remains considerably low. Although flood early warning systems have reached a portion of the community, the translation of these warnings into proactive preparedness and response actions is still weak. A large share of the population lives in structurally vulnerable housing, with many households still lacking flood-resilient WASH facilities, income security, and access to basic health services during emergencies.

Significant gender disparities, particularly in leadership, information access, and water collection responsibilities, persist across the surveyed areas. Moreover, persons with disabilities, women, and unemployed youth remain underserved in terms of skills development, employment opportunities, and inclusive services.

In light of these findings, it is imperative that future interventions focus on both infrastructure and behavioral change strategies, ensuring that resilience-building is inclusive, localized, and sustainable.

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Annexes

Annex 01: Major findings of the baseline survey as per the indicators

Outcome	*Output*	*Indicators*	*Baseline Survey Findings (Number and percent)*
Outcome 01: Communities have increased capacities to effectively respond to floods, heatwaves, pandemic and adapting to the changing climatic condition.	Output 1.1: Disasters and climate change risks are identified and appropriate community-centered preparedness and response plan along with early warning systems is formulated at 4 communities	Indicator 1.1.1: Community vulnerability and capacity are identified, and community action plans are developed	0
		Indicator 1.1.2: Community-Based Flood Early Warning Systems (C-FEWS) are established in communities and are well-functioning	0
		Indicator 1.1.3: Contingency plans developed to facilitate disaster preparedness to respond to floods, heatwaves, and other climate-induced disasters.	0
		Indicator 1.1.4: Households contributed to Community-DREF	0
	Output 1.2: Community people have increased access to knowledge on DRR and COVID-19 disease protection and prevention	***Indicator 1.2.1: Awareness of community people and school students increased on DRR and CCA***	
		Indicator 1.2.1.1: Respondent's idea about DRR, climate change adaptation, and heatwave	20.5%
		Indicator 1.2.1.2: Awareness-raising sessions conducted on DRR, climate change adaptation, and health issues with community people and schools	0
		Indicator 1.2.1.3: DRR Days observed across communities	0
	Output 1.3: Disaster Management and volunteer groups are formed, trained and functional to mobilize in DRR, CCA, WASH,	***Indicator: 1.3.1: 08 no. of community disaster management & volunteer teams formed***	
		Indicator 1.3.1.1: Community Disaster Management Committee (CDMC) and Community Emergency Response Team (CDRT) formed and functioning	0
		Indicator 1.3.1.2: Community volunteers participated in the planning in the implementation of the programme.	0

	general and COVID-19 health services	Indicator 1.3.1.3: CDMC and CDRT members received training on FEWS, DRR, CCA, SA & SAR, NBS, epidemic and pandemic prevention, and community development.	0
Outcome 02: Most vulnerable households have improved livelihoods and shelter to withstand small-scale floods and other climate-induced disaster risk	Output 2.1: Community people have diversified & sustained livelihood options	***Indicator 2.1.2: Beneficiaries and community people received proper advice and guidance for livelihood and agriculture improvement***	
		Indicator 2.1.2.1: Community people received skill development training to improve livelihood options (including women & Persons with Disability-PWDs)	3%
		Indicator 2.1.2.2: People received cash support for livelihood improvement and diversification	0
	Output 2.2: Targeted beneficiaries have received cash assistance and skill development support to construct climate-smart and flood-resilient shelter	***Indicator 2.2.1: Community people received cash support and training to develop flood-resilient shelter***	
		Indicator 2.2.1.1: Community people received cash grant support for shelter repair and construction	0
		Indicator 2.2.1.2: Houses are resilient to disaster and flood risk	34%
		Indicator 2.2.1.3: Staff and volunteer received ToT on PASSA (participatory approach for safe shelter awareness) and developed technical design	0
Outcome 03: Community people have increased access to health and appropriate and sustainable water, sanitation, and hygiene practices focused on pandemics	Output 3.1: Targeted beneficiaries have access to safe water	***Indicator 3.1.1: of beneficiaries got access to safe drinking water and community people have increased knowledge on safe drinking water***	
		Indicator 3.1.1.1: Households have tube-wells	84%
		Indicator 3.1.1.2: Households have improved tube	28%
		Indicator 3.1.1.3: Households are getting safe drinking water during normal times	93%
		Indicator 3.1.1.4: Households are getting safe drinking water during flood times	83%
	Output 3.2: Communities and schools have improved sanitation facilities, and	***Indicator 3.2.1: Households with access to improved sanitation facilities***	
		Indicator 3.2.1.1: Households have own latrines	87%
		Indicator 3.2.1.2: Households have improved latrines	43%

and epidemics	practices improved hygiene behaviour that addressed COVID-19 health issues	Indicator 3.2.1.3: Households have flood protected latrines	64%
		Indicator 3.2.2: percent of beneficiaries are trained on hygiene behavior and practices	
		Indicator 3.2.2.1: Respondents and their household members use sandal during defecation	93%
		Indicator 3.2.2.2: Respondents have idea about proper hand washing technique	25%
		Indicator 3.2.2.3: Households cover food items properly and hygienic way	88%
	Output 3.3: Communities have received treatment, health advice and knowledge that ensure the inclusion of Novel Corona Virus Disease	***Indicator 3.3.1: Community people have improved access to health and awareness of pandemic and epidemic***	
		Indicator 3.3.1.1: Respondents knowledge about COVID-19	94%
		Indicator 3.3.1.2: Community people received health advice and medicines from health camps on general health, epidemics, and pandemics	0
		Indicator 3.3.1.3: Volunteers and community people trained on health, first aid, and other health hazards	0
		Indicator 3.3.1.4: Community people advised on nutrition, maternal and child health	0
		Indicator 3.3.1.5: Household members suffered from diseases during the last flood	19%
<u>Outcome 04:</u> BDRCS' capacity to effective coordination and collaboration with other relevant sectoral actors to deliver scaled-up climate smart DRR and resilience	Output 4.1: Staff & volunteer are trained and skilled in technical and management areas in Disaster Risk Reduction (DRR), community resilience, epidemic, and pandemic preparedness.	***Indicator 4.1.1: Staff and volunteers received training on CCA, DRM, community resilience, epidemic and pandemic preparedness, PFA, etc.***	
		Indicator 4.1.1.1: Staff, volunteers, and Unit Executive Committee (UEC) members received training on technical areas such as PGI, PHAST, and IEC materials.	0
		Indicator 4.1.1.2: FCRM at communities are established and functional	0
	Output 4.2: Coordination and collaboration	***Indicator 4.2.1: Collaboration meetings and joint programmes with LGIs***	

programmes is enhanced.	between BDRCS, Government, and humanitarian organizations has been established in implementing community based DRR, climate change nd resilience programmes	Indicator 4.2.1.1: Collaboration meetings with 10 targeted local government institutions (LGIs) and service providers	0
		Indicator 4.2.1.2: DRR events observed in collaboration with government and non-government organizations	0
	Output 4.3: Documented climate-smart DRR and resilience evidence and enhanced knowledge-based learning	***Indicator 4.3.1: Documented and shared climate-smart DRR and resilience evidence and enhanced knowledge-based learning***	
		Indicator 4.3.1.1: # of studies and evaluations are conducted and shared with beneficiaries and evaluations	0
		Indicator 4.3.1.2: # of IEC material developed, printed, and shared with community and volunteer	0
		Indicator 4.3.1.3: # of workshops organized to share lessons learned, best practices, and knowledge with relevant stakeholders	0

Note: *Some sub-indicators have been included as per the data collection from the Baseline Survey.*

Annex 02: Some Photos of the Baseline Survey

Training session for the RCYs on data collection techniques conducted by BDRCS and IFRC PMER Officials at the Tangail Red Crescent Unit (Photo: BDRCS)

Training session for the RCYs on data collection techniques conducted by BDRCS and IFRC PMER Officials at the Tangail Red Crescent Unit (Photo: BDRCS)

The Officials of BDRCS and IFRC coordinated the fieldwork of the Baseline Survey (Photo: BDRCS)

A field test was done to finalize the household survey questionnaire (Photo: BDRCS)

An RCY was collecting data from a female respondent (Photo Credit: BDRCS)

An RCY was collecting data from a male respondent (Photo Credit: BDRCS)

An RCY was collecting data from a male respondent (Photo Credit: BDRCS)

The Programme Officer of IFRP: Phase-3, Tangail Red Crescent conducted interviews to improve the Baseline Survey Questionnaire (Photo: IFRC)

FGD was conducted with the women group of ward no 9 of Dainya Union (Photo Credit: BDRCS)

FGD was conducted with the male working group of ward no 7 of Durgapur Union (Photo Credit: BDRCS)

FGD was conducted with the female student group of ward no 7 of Durgapur Union (Photo Credit: BDRCS)

FGD was conducted with the female working group of ward no 8 of Durgapur Union (Photo Credit: IFRC)

KII was conducted with school teachers (Photo: BDRCS)

Sub-Assistant Community Medical Officer provided information as a key informant (Photo Credit: BDRCS)

The Upazila Livestock Officer of Tangail Sadar Upazila provided information as a key informant (Photo Credit: IFRC)

Union Parishad Chairman of Dainya Union provided necessary information about his union and the two wards under IFRP: Phase-3 (Photo: BDRCS)

Annex 03: Household Survey Questionnaire

Integrated Flood Resilience Program Phase-3
through Community-based Disaster Risk Reduction

Questionnaire for Baseline Survey

Hello, my name is ----------. I am a volunteer of Bangladesh Red Crescent Society. We are conducting a survey on IFRP project at this ward/village under IFRP. Your household has been selected and we would like to ask some questions to know about the vulnerability and disaster situation of the community. Are you that person? If you agree and more than 18 years old, then I will spend approximately ----minutes to ask some questions. We will not disclose your name and share any of the information provided by you. For the program purpose and all the information will remain confidential. Your information will help us to understand about climate change, DRR, WASH, health, shelter and livelihood conditions of this community to implement IFRP. I will give the contact details of the survey coordinator if you have any queries about our program.

1. Can the survey be conducted?
   - Yes
   - No
2. Name of Interviewer? ----------
3. Name of Supervisor? ----------
4. Date of interview: ----------
5. Time of interview: ----------
6. Name of Union:
7. Ward No: _____
8. Village Name: _____

1. Background information

9. ID number of household? ----------(the ID no. to be placed from the household list)
10. Name of household head? ----------
11. Sex of household head? (observation)
    Choose one response:
    - Male
    - Female
    - Other Specify
12. Name of respondent? ----------
13. Age of respondent? ----------
14. Sex of respondent? (observation)
    Choose one response:
    - Male
    - Female
    - Other Specify

15. Religion of respondent?

Choose one response:

- Islam
- Hinduism
- Buddhism
- Christianity
- Others (please specify)

16. Educational qualification of respondent?

Choose one response:

- Primary/ PSC
- JSC
- S.S.C
- H.S.C
- Graduation
- Post-graduation
- Above post-graduation
- Have no formal education

17. No of family member

- Male _____
- Female _____

18. Mobile no. of the respondent or HH Head?

- Mobile no----------

- N/A

Age category and number of household members															
0-5			18-Jun			19-40			41-60			60+			
Male	Female	PWD	Male	Female	PWD	Male	Female	PWD	Male	Female	PWD	Male	Female	PWD	

19. What type of the disability of the member of your households and the number?

Choose one response:

- Autism
- Physical disability
- Mental disability
- Vision
- Speech disability
- Intellectual disability
- Hearing disability

- Hearing – vision
- Cerebral palsy
- Down Syndrome
- Multi disability

20. What is the main occupation (main income source) of your household head? / Choose one response:

- Agriculture
- Day laboring
- Business
- Govt. service
- Non-govt. service
- Rickshaw/van pulling
- Auto pulling
- Fishing
- Carpenter/Mason
- Handicraft
- Tailoring
- Teacher
- Others (specify)

21. What is the secondary occupation (second income source) of your household head? / Choose one response:

- Agriculture
- Day laboring
- Business
- Govt. service
- Non-govt. service
- Rickshaw/van pulling
- Auto pulling
- Fishing
- Carpenter/Mason
- Handicraft
- Tailoring
- Teacher
- Others (specify)

22. Average monthly income (in taka) of your family----------
23. Average monthly expenditure (in taka) of your family----------
24. Does your household have any fixed assets?
    Choose one response:

- Yes
- No

25. What types of fixed assets do you have? (estimated cost should be added here)
    Choose all that apply:
- Pond
- TV
- Radio
- Mobile
- Rickshaw
- Van
- Auto
- Shop
- Business capital
- Gold/ Silver
- Livestock (hen/duck/cow/goat/buffalo)
- Cash
- Land
- Others (please specify)

26. Does your household have any amount of land?
    Choose one response:
- Yes
- No

27. If yes, how much is the amount of agricultural land (decimal)? ----------

28. If yes, how much is the amount of homestead land (decimal)? ----------

2. Disaster Risk Reduction

29. Do you or your household members have any idea/understanding about climate change/DRR?
    Choose one response:
    - Yes
    - No
30. Have you or your household member know about COVID-19 protection and prevention?
    - Yes
    - No
31. Do you or your household members know heatwave protection strategies?
    - Yes
    - No
32. Do you or your household members have any idea/get information on flood early warning?
    Choose one response:
    - Yes
    - No

33. If yes, from where have you received the flood early warning information?
Choose all that apply:
- TV
- Radio
- Mobile
- Newspaper
- Meeting
- Training
- Mike
- Union Parishad
- Upazila/District Parishad
- Teachers
- NGOs
- Signboard/billboard
- Poster/leaflet
- Cultural program
- Neighbor
- Community volunteer
- Others (--------)

34. How does flood affect the life and livelihood of your community?
Choose all that apply:
- Destroy households and properties
- Inundate houses and, roads, marketplaces and other infrastructure
- Flood shelters
- Destroy crops and agricultural lands
- Spread diseases
- Make people shelterless
- Stop daily working opportunity
- Destroy tube well/water sources
- Inundate latrines
- Death of household members.
- Others

2.1 Household level preparedness

33 Does your household take any type of action before the flood?

Choose one response:
- Yes
- No

34. If yes, what types of actions does your household usually take before the flood?

Choose all that apply:

- Raise the household plinth
- Preserve food and fuel
- Save money
- Take information about the flood shelter.
- Raised the platform of tube-well and latrine
- Inform community people to be prepared for flood
- Prepare safe place for domestic animal.
- Others (specify)

36. What types of actions does your household usually take during the flood?

Choose all that apply:

- Shift properties and materials in safe places
- Take shelter on roads or shelter centers or neighbor or relative house or rooftop
- Advise others to shift and take safe shelter
- Work together to reduce the loss of flood
- Lending Money
- Selling livestock
- Boil water before drinking
- Collect relief if provided
- Others (please specify)

37. Does your household take any type of action after the flood?

Choose one response:

- Yes
- No

38. What types of actions does your household usually take after the flood?

Choose all that apply:

- Back to household
- Communicate with UP representative and other service providing organizations
- Collect relief and other support if provided
- Repair damaged houses
- Selling assets
- Lending money
- Others (please specify)

2.2 Community-level disaster preparedness

39. Does your community have any contingency plan/risk reduction plan to tackle/respond the flood losses?

Choose one response:
- Yes
- No
- Don't know

40. Does your community have any funds to tackle/respond the disasters/flood?

Choose one response:
- Yes
- No
- Don't know

41. Is there any Information Centre in your community that provides disaster/flood-related information?

Choose one response:
- Yes
- No
- Don't know

3. Livelihood

42. Was your livelihood hampered during the last flood?

Choose one response:
- Yes
- No

43. If yes, how did the flood hamper your livelihood during the last flood?

Choose all that apply:
- Destroy property
- Crop loss
- No occupational works
- Movement restricted due to flood water
- Reduce income for a certain time
- Loss of domestic animals
- Loss of fruits and trees
- Destruction of business materials
- Loss of fisheries
- Others (please specify)

44. How did you cope with the situation and loss?

Choose all that apply:

- Temporary/permanent migration to other places for working purpose
- Use savings
- Reduce daily cost
- Get financial support from govt. and non-govt. agencies
- Borrow from other
- Taking loans (NGO/others)
- Forced selling (livestock, boat, gold, lands)
- Send children for working to other places (cities/towns)
- Received gifts from in law's house
- Go through starvation
- Others (please specify)

45. Have you/your household members received any skill development training to improve livelihood/income-generating options in the last 03 years?

Choose one response:

- Yes
- No

46. If yes, what types of training you/your household members have received in the last 03 years?

Choose all that apply:

- Training on agriculture
- Training on animal-husbandry/poultry rearing
- Training on small business/retailing
- Training on tailoring
- Training on small cottage
- Training on fisheries
- IT training
- Technical and vocational training
- Training on masonry/carpentry
- Others (please specify)

47. From where have you/your household members received the training?

Choose all that apply:

- Local/private training center
- Upazila Govt. office
- District Govt. office
- Union Parishad
- From NGOs

- BDRCS
- Others (please specify)

48. What types of training would be helpful for you/your household members to improve your livelihoods/enhance income?

- Training on agriculture
- Training on animal-husbandry/poultry rearing
- Training on small business/retailing
- Training on tailoring
- Training on small cottage
- Training on fisheries
- IT training
- Mobile Servicing
- Technical and vocational training
- Training on masonry/carpentry
- Others (please specify)

4. Shelter

49. In which types of houses do you reside (observation)?

Choose one response:
- Pucca
- Semi-pucca
- Kaccha
- Others (please specify)

50. Was your house inundated during the last big flood?

- Yes
- No

51. Is the household plinth raised enough to protect it from the flood? (Observation)

Choose one response:
- Yes
- No

52. Is there any community practice to prepare or renovate houses in your area considering flood risks through community consultation?

Choose one response:
- Yes
- No

53. If yes, what types of strategies do the community people take while preparing or renovating the houses?

Choose all that apply:

- Do meeting with the community people
- Take advice from the local expert
- Help each other to prepare or renovate house
- Take advice from private or public organizations
- Arrange open discussion with the community people
- Others (please specify)

5. WASH

5.1 Water supply

54. What is the major source of drinking water that your household members are using?

Choose one response:

- Tube-well
- Pond
- River
- Canal
- Rainwater
- Pipe water
- Bottled water
- Supply water
- Others (please specify)

55. Does your household have any tube-well?

Choose one response:

- Yes
- No

56. If yes, is the tube-well improved (with platform, useable during flood)? (observation question)

Choose one response:

- Yes
- No

57. Do you get safe drinking water during normal time?

- Yes
- No

58. Do you get safe drinking water during the flood?

- Yes
- No

59. Who mainly usually collects water for drinking in your household?

Choose one response:

- Male
- Female
- Children
- Elderly people
- Others (please specify)

60. How far do you/your household members have to go to collect water?

- Less than 1640 feet/half kilometers
- More than half kilometers and less than one kilometer
- Above one kilometer

61. What is the source of drinking water of your household during flood?

Choose one response:

- Tube-well
- Contaminated tube-well
- Pond
- River
- Rain water
- Procured water
- Others (please specify)

5.2 Sanitation

62. Does your household have a latrine?

Choose one response:

- Yes
- No

63. If yes, what is the type of your latrine? (observation)

Choose one response:

- Pucca
- Semi-pucca
- Kaccha
- Hanging

64. How far your household latrine is located from your living room?

----------feet

65. How far your household latrine is located from your drinking water source?

    ----------feet

66. If yes, is the latrine improved? (have water sill, fences and roof) (observation)
    Choose one response:
    - Yes
    - No
67. Is your latrine plight raised enough to protect from the flood? (observation)
    Choose one response:
    - Yes
    - No
68. If your household does not have any latrine, where do you/household members defecate?
    Choose all that apply:
    - Open defecation
    - Shared latrine
    - Neighbor's latrine
    - Others (please specify)
69. Do you/your household members use sandals during defecation?
    Choose one response:
    - Yes
    - No
70. How do you/your household members defecate during the flood?
    Choose all that apply:
    - Use latrine
    - Defecate openly
    - Use the latrine of shelter center
    - Defecate in flood water
    - Others (please specify)

5.3 Hand washing practice and hygiene management

71. Do you know the proper hand-washing technique?
    Choose one response:
    - Yes
    - No
72. If yes, at least how long it should take for hand washing?
    - ----------seconds

73. When do you/household members wash hands with soap in the following times?
    Choose all that apply:
    - After defecation
    - Before eating
    - Before preparing and serving foods
    - Before feeding babies
    - After cleaning the babies' bottom

74. Is the food/drinking water properly covered in your household? (observation)
    Choose one response:
    - Yes
    - No

6. Health

75. Where do you/your household members mostly go for taking treatment?
    Choose one response:
    - Community clinic
    - pharmacy
    - Private clinic
    - Local paramedic
    - Village doctor
    - Upazila/Sadar private clinic
    - GoB hospital (Upazila/district)
    - Kobiraj
    - Tele-medicine/mobile
    - Don't take treatment/have no capability
76. Have any of your household members suffered from any diseases during the last flood?
    Choose one response:
    - Yes
    - No
77. If yes, from what types of diseases the household members suffer during last flood?
    Choose all that apply:
    - Cholera
    - Diarrhea
    - Dysentery
    - Hepatitis
    - Scabies
    - Cold-influenza
    - Fever
    - Abdominal pain
    - Urinary problem and itching

- Blood pressure
- Others (please specify)

78. How many of the household members have suffered from those diseases? ----------
    ----
79. Which services do you/your household members take for pregnant care?
    Multiple responses:
    - Household based services
    - Community clinic services
    - Local paramedic
    - Kobiraj Private clinic
    - MCH
    - Govt. hospitals
    - NGO sevcices
    - Others (please specify)
80. What types of nutritious foods usually are taken by the pregnant women of your households? Multiple responses
    - Egg
    - Fish
    - Meat
    - Milk
    - Fruits
    - Vegetables
    - Honey
    - Rice
    - Bread
    - Potato
    - Others (please specify)

81. Have you/your household members ever participated in any health-related awareness session?
    Choose one response:
    - Yes
    - No

Thanks for your patience.

Annex 04: Checklist of Focus Group Discussion (FGD)

Type of participants	
Name of the community	
Union	
Upazila	
District	
Date and time	
Place of FGD	

Outcome of IFRP: Phase-3	Questions
Outcome 1: Communities have increased capacities to effectively respond to floods, heatwaves, pandemic and adapting to the changing climatic condition.	• What are the main occupations of the people of your community? • What are the major natural resources of your community? • Did you observe any change in weather or climate in your community and surroundings in the last 15 to 30 years? If yes, what is your observation? • What are the impacts of floods and other disasters on the socio-economic condition in your community? • Do you have any idea about climate change and community resilience? • How do the community people manage the flood challenges and other disaster risks by their initiative? • Do you have any idea about "Community Based Flood Early Warning System"? If yes, how the flood early warning system can be established and how the system can help to reduce the flood loss at your community? • How heatwave affected your community? • What diseases are common in your community?
Outcome 2: Most vulnerable households have improved livelihood and shelter to withstand small scale floods and other climate-induced disasters.	• Which types of livelihoods are practiced by you/community people? • What are the impacts of floods on the livelihoods of the community people? • What types of actions are necessary for the development of livelihoods for your community people? • Do you think the houses are resilient to flood? If not, why? • How can the community people increase their knowledge and capacity to renovate houses considering the flood challenges?

Outcome 3: Community people have increased access to appropriate and sustainable water, sanitation and hygiene practices focused on pandemic and other epidemics.	• Do the community people have proper access to safe water and hygienic sanitation? • How does the flood impact on water and sanitation technologies/sources in your community? • What types of initiatives should be undertaken to overcome the WASH challenges of your community people? • Which hygiene practices are common in the community? • What is the health status of your community? • How do the community people take health facilities in your area during normal periods and flood times? • What should be done to improve the health facilities in your community?
Outcome 4: BDRCS' capacity to effective coordination and collaboration with other relevant sectoral actors to deliver scaled up climate smart DRR and resilience programmes is enhanced.	• How the activities of BDRCS/Integrated Flood Resilience Programme: three can be sustainable in future and contribute to the community people? • What types of specific training should be provided to the community people and community volunteers so that they can contribute to implementing BDRCS programme/IFRP: Phase III? • Have any organizations (govt. & non-govt.) undertaken any programme to increase the resilience capacities of the community people in your area? If yes, please describe. • Do you have any types of recommendations for increasing the community resilience and adaptation capacity to climate change of community people in your area?

List of Participants

Sl. no	Name of the participant	Age	Gender	Occupation	Contact no (mobile)	Signature
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Annex 05: Checklist of Key Informant Interview (KII)

Type of the informant	
Name of the informant	
Age	
Profession	
Name of the community	
Union	
Upazila	
District	Tangail
Contact no. (mobile)	
Time and date	
Place of KII	

- Please describe the changes in weather and climate that you have observed in your community/surroundings area in the last few years?
- How does floods and other disasters impacted your socio-economic life and livelihoods in recent years?
- What are the impacts of flood on shelter, infrastructure, livelihoods, WASH, and health in your community?
- Do the community people of this area have their own mechanism/system to face the impacts of flood and other disasters? If yes, please describe this. If not, please mention how these types of mechanisms/systems can be developed to reduce disaster and flood loss?
- What are the current barriers to cope with the flood challenges in your community? How can the barriers be removed to cope with the flood situation in your community?
- How the institutions like Union Parishad, schools, Govt. service providing organizations (Upazila and district), social networks and other organizations can contribute to reduce the flood impacts and other disasters?
- What special measures can be taken to reduce the vulnerability of women, children, and elderly people in your area?
- Have any types of resilience actions and adaptation programmes been undertaken by any organizations (govt. & non-govt.) to reduce the impacts of flooding in your community?
- Is the Union Disaster Management Committee (UDMC) functional in your UP? If yes, what types of actions do they take to reduce the impacts of floods and other disasters?
- Do you suggest some recommendations to overcome the flood challenges and achieve the resilience capacity of your community?
- What are your suggestions to make "the activities of BDRCS/Integrated Flood Resilience Programme: Two" sustainable and effective for the community people?

Note: After the completion of interview photo of the informant was taken following the Consent Form of BDRCS.