# END-LINE EVALUATION REPORT

# INTEGRATED FLOOD RESILIENCE PROGRAMME PHASE 2

2023

# ENDLINE EVALUATION OF INTEGRATED FLOOD RESILIENCE PROGRAMME: PHASE 2

## Endline Evaluation Report

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# CONTENTS

ACKNOWLEDGEMENT 8
ACRONYMS 9
GLOSSARY 11
EXECUTIVE SUMMARY 14
INTRODUCTION 16
RATIONALE AND OBJECTIVES 17
Programme Background 17
Specific Objectives 18
LITERATURE REVIEW 19
STUDY AREA 22
SCOPE OF THE ENDLINE EVALUATION 23
EVALUATION METHODOLOGY 25
Evaluation Framework 25
Methods 25
Data Collection Team 26
Sampling Strategy 26
Quantitative data Collection Sample: 26
Qualitative data Collection Sample: 27
Quantitative Data Collection and Household Survey 28
Qualitative Data Collection 28
Ensuring Data Quality 28
Data Processing, Analysis and Report Preparation 29
Ethical Issues 29
Limitations of the Survey 29
FINDINGS AND DISCUSSION 31
Demographic Information 31
Household Members 32
Persons with Disabilities 33
Occupation of HouseHold Head 35
Monthly Income & Expenditure 37
Types of Assets 39
Land Ownership 40

Knowledge on Climate Change 42
Household Preparedness 47
Flood Early Warning 51
Training on DRR, COVID-19, etc. 53
Contribution to DREF 55
Livelihood Impact & Support 56
Savings Location 59
Cash for Cattle & Resilient Stove 60
PASSA Programme and Shelter Repair 61
Water Supply Sources 64
Latrine and Sanitation 67
Handwashing Practices 71
Proper Handwashing 72
Handwashing Times 74
Food/Drink Coverage 74
Menstrual Hygiene 75
Health Care 76
Nutritious Foods for Pregnant Women 79
COVID-19 Knowledge 80
Gender-Based Violence 82
Feedback and Complaints Response Mechanism FCRM 84
Programme Impact and Sustainability 85
EVALUATION CRITERIA BASED FINDINGS 87
Relevance and Appropriateness 87
Efficiency 87
Effectiveness 88
Coverage 88
Impact 89
Coherence 90
Sustainability and Connectedness 90
Timeliness: 91
RECOMMENDATIONS 92
CONCLUSION AND LESSONS LEARNED 95
REFERENCES 96

ANNEXURE 98
a) Comparison of Baseline versus Endline 98
Evolving Gender Dynamics 98
Demographic Changes: Baseline vs. Endline 98
Educational Attainment 98
Household head's main occupation 98
Household head's secondary occupation 99
Average monthly income of the households (BDT) 99
Average monthly expenditure of the households (BDT) 99
Household's fixed asset 99
Types of fixed asset of the households 99
Own land of the households 100
Respondent's ideas about climate change, DRR, and flood resilience 100
Sources of receiving idea about climate change, DRR, and flood resilience 100
Disasters affecting the community people 100
Major sources of drinking water and household's own and improved tube-wells 102
Household's latrines and its types 102
Latrine conditions 102
Household's improved and flood protected latrines 102
Idea about improved and hygienic latrine 102
Idea about proper hand washing technique 103
Respondent's and their household member's practices of washing hands with soaps 103
Place of taking treatment and medicine by the community people 103
Suffering from diseases during last flood 103
Nutritious foods taken by the pregnant women 104
Respondent's knowledge about COVID-19 104
Sources of having idea about COVID-19 104
Community people's practices to protect form COVID-19 104
Vaccination status of the respondents 104
Vaccination status 105

# List of Tables

Table 1: Quantitative Sample Distribution 26
Table 2: Qualitative Sample Distribution 27
Table 3: Basic demographic information of the households 31

Table 4: Involvement in Climate-Resilience Activities after Training among Surveyed Individuals [*multiple responses] ..... 47
Table 5: Preventive type of actions Taken by Households Before Floods in the Surveyed Area [*multiple responses] ..... 48
Table 6: Type of Actions Taken by Households During Floods in the Surveyed Area [*multiple responses] ..... 50
Table 7: Type of Actions Taken by Households After Floods in the Surveyed Area [*multiple responses] ..... 51
Table 8: Sources of Flood Early Warning Messages Received by Surveyed Households [*multiple responses] ..... 52
Table 9: Topics of Training or Awareness Sessions Attended by Surveyed Households [*multiple responses] ..... 54
Table 10: Coping Mechanisms Employed by Households During Flood-Related Losses [*multiple responses] ..... 57
Table 11: Types of Support Received from Income Generation Programme [*multiple responses] ..... 58
Table 12: Impact of Support on Livelihood and Income [*multiple responses] ..... 59
Table 13: Saving Practices from Income-generating Activities (IGA) [*multiple responses] ..... 60
Table 14: Specific Actions or Improvements Made to Shelter [*multiple responses] ..... 62
Table 15: Major Source of Drinking Water for Household Members [*multiple responses] 64
Table 16: Alternative Water Sources for Households without Improved Tube Wells [*multiple responses] ..... 66
Table 17: Sources of Drinking Water for Households During Flood [*multiple responses] .. 66
Table 18: Water Collection During Flood by Household Members [*multiple responses] ... 67
Table 19: Frequency of Daily Water Collection During Flood [*multiple responses] ..... 67
Table 20: Sources of Water for Domestic Purposes During Floods [*multiple responses] . 67
Table 21: Defecation Practices During Flood [*multiple responses] ..... 72
Table 22: Hand-Washing Practices at Different Times [*multiple responses] ..... 74
Table 23: Healthcare Seeking Behavior and Treatment Sources [*multiple responses] ..... 76
Table 24: Types of Diseases Among Household Members During the Last Flood [*multiple responses] ..... 77
Table 25: Health Measures Taken During and After Disaster/Flood Period [*multiple responses] ..... 78
Table 26: Services Utilized for Pregnant Care [*multiple responses] ..... 79
Table 27: Types of Nutritious Foods Consumed by Pregnant Women [*multiple responses] ..... 79
Table 28: Sources of Awareness about Coronavirus/COVID-19 [*multiple responses] ..... 80
Table 29: Practices for COVID-19 Safety [*multiple responses] ..... 81
Table 30 : Perpetrators of Gender-Based Violence [*multiple responses] ..... 82
Table 31: Channels of Red Crescent's Complaint Response Mechanism (FCRM) [*multiple responses] ..... 85
Table 32: Evaluation of Red Crescent's Complaint Response Mechanism (FCRM) ..... 85

# List of Figures

Figure 1: Total male household members ..... 32
Figure 2: Total female household member ..... 33
Figure 3: Distribution of Persons with Disabilities in Surveyed Households ..... 34
Figure 4: Gender Distribution of Persons with Disabilities ..... 34
Figure 5: Disability types (*multiple responses) ..... 35
Figure 6: Main Occupation (Main Income Source) of Household Heads in the Surveyed Population ..... 36
Figure 7: Secondary Occupation (Second Income Source) of Household Heads in the Surveyed Population ..... 37
Figure 8: Average monthly income ..... 38
Figure 9: Average monthly expenditure ..... 38
Figure 10: Distribution of Fixed Assets in Households ..... 39
Figure 11: Asset Ownership Distribution in the Households (*multiple responses) ..... 40
Figure 12: Land Ownership Status in the Surveyed Households ..... 40
Figure 13: Extent of Agricultural Land Ownership in Households with Land ..... 41
Figure 14: Extent of Homestead Land Ownership in Households with Land ..... 42
Figure 15: Knowledge of Climate Information among Surveyed Individuals and Households ..... 43
Figure 16: Knowledge of Early Warning Systems among Surveyed Individuals and Households ..... 44
Figure 17: Sources of Knowledge about Early Warning Systems among Surveyed Individuals and Households (* multiple responses) ..... 45
Figure 18: Disasters Affecting Households in the Past Years in the Surveyed Area (*multiple responses) ..... 46
Figure 19: Years of Disaster Impact on Households in the Surveyed Area ..... 46
Figure 20: Training on Climate Resilience and Early Warning Systems among Surveyed Individuals ..... 47
Figure 21: Actions Taken by Households Before Floods in the Surveyed Area ..... 48
Figure 22: Actions Taken by Households During Floods in the Surveyed Area ..... 49
Figure 23: Actions Taken by Households After Floods in the Surveyed Area ..... 50
Figure 24: Understanding of Flood Early Warning Messages Among Surveyed Households ..... 51
Figure 25: Receipt of Flood Early Warning Messages Among Surveyed Households ..... 52
Figure 26: Participation in Training or Awareness Sessions Related to Disaster Among Surveyed Households ..... 53
Figure 27: Frequency of Participation and Topics Covered in Disaster Risk Reduction Training Among Surveyed Households ..... 54
Figure 28: Perceived Impact of Training Sessions on Knowledge and Awareness Among Surveyed Households ..... 55
Figure 29: Household Contribution to Community Disaster Emergency Response ..... 55

Figure 30: Frequency of Household Contributions to the Community Disaster Emergency Response Fund (DREF) ..... 56
Figure 31: Impact of Last Flood on Household Livelihood ..... 57
Figure 32: Participation in Income Generation Support Programme ..... 58
Figure 33: Success in Initiating/Enhancing Income Generating Activities (IGA) ..... 59
Figure 34: Cash for Cattle Purchases from the Project ..... 60
Figure 35: Flood-Resilient Cement Stove Distribution ..... 61
Figure 36: Awareness of Participatory Approach for Safe Shelter Awareness (PASSA) ..... 61
Figure 37: Participation in Red Crescent Model House (PASSA) Training or Activities ..... 62
Figure 38: Impact of Participatory Approach for Safe Shelter Awareness (PASSA) on Shelter Resilience ..... 63
Figure 39: Receipt of Cash Grant Support for Shelter Repair ..... 63
Figure 40: Utilization of Cash Grant for Shelter Repair ..... 64
Figure 41: Availability of Tube Wells in Household ..... 65
Figure 42: Condition of Tube Wells in Households ..... 65
Figure 43: Latrine Availability in Households ..... 68
Figure 44: Types of Latrines in Households ..... 69
Figure 45: Distance of Household Latrine from Living Room ..... 69
Figure 46: Distance of Household Latrine from Drinking Water Source ..... 70
Figure 47: Improvement Status of Household Latrine ..... 70
Figure 48: Flood Protection Status of Household Latrine ..... 71
Figure 49: Utilization of Sandals During Defecation ..... 71
Figure 50: Handwashing Practices After Defecation ..... 72
Figure 51: Knowledge of Proper Hand-Washing Technique ..... 73
Figure 52: Duration for Proper Handwashing ..... 74
Figure 53: Covering of Food and Drinking Water in the Household ..... 75
Figure 54: Knowledge of Hygiene Management during Menstrual Period ..... **Error! Bookmark not defined.**
Figure 55: Incidence of Diseases Among Household Members During the Last Flood ..... 77
Figure 56: Number of Household Members Affected by Diseases During Last Flood ..... 78
Figure 57: Awareness of Coronavirus/COVID-19 ..... 80
Figure 58: COVID-19 Vaccine Doses Received ..... 81
Figure 59: Experience of Violence, Including Verbal, Physical, or Sexual ..... 82
Figure 60: Designated Safe Spaces for Women and Girls ..... 83
Figure 61: Seeking Help After Gender-Based Violence ..... 83
Figure 62: Received Help After Gender-Based Violence ..... 84
Figure 63: Awareness of Red Crescent's Complaint Response Mechanism ..... 84
Figure 64: Projection of Sustained Participation in Red Crescent IFRP Activities ..... 86

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**Maksud Hasan**
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Mirpur, Dhaka 1216

# ACRONYMS

| | |
|---|---|
| BDRCS | Bangladesh Red Crescent Society |
| CBDRR | Community Based Disaster Risk Reduction |
| CDMC | Community Disaster Management Committee |
| CDRT | Community Disaster Response Team |
| DCRM | Disaster and Climate Risk Management |
| DPHE | Department of Public Health and Engineering |
| DREF | Disaster Response Emergency Fund |
| DRR | Disaster Risk Reduction |
| FCRM | Feedback, Complaints and Response Mechanism |
| FGD | Focus Group Discussion |
| GBV | Gender Based Violence |
| GoB | Government of Bangladesh |
| HSC | Higher Secondary School Certificate |
| IFRC | International Federation of Red Cross and Red Crescent Societies |
| IFRP | Integrated Flood Response Programme |
| IGA | Income Generating Activity |
| JSC | Junior School Certificate |
| KII | Key Informant Interview |
| KOICA | Korea International Cooperation Agency |
| LDC | Least Developed Country |
| M&E | Monitoring and Evaluation |
| MIS | Management Information System |
| MoFA | Ministry of Foreign Affairs |
| NGO | Non-Governmental Organization |
| NHQ | National Head Quarters |
| ODK | Open Data Kit |
| OECD | Organisation for Economic Co-operation and Development |

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| PASSA | Participatory Approach for Safe Shelter Awareness |
| PGI | Protection, Gender, and Inclusion |
| PIC | Project Implementation Committee |
| PMER | Planning Monitoring Evaluation & Reporting |
| PSC | Primary School Certificate |
| PWD | Persons with Disabilities |
| RCRC | Red Cross and Red Crescent |
| RCY | Red Crescent Youth |
| RoK | Republic of Korea |
| SDGs | Sustainable Development Goals |
| SPSS | Statistical Package for the Social Sciences |
| SSC | Secondary School Certificate |
| ToR | Terms of Reference |
| TV | Television |
| UNDP | United Nations Development Programme |
| UNDRR | United Nations Office for Disaster Risk Reduction |
| UP | Union Parishad |
| USAID | United States Agency for International Development |
| VCA | Vulnerability and Capacity Assessment |
| WASH | Water Sanitation, and Hygiene |

# GLOSSARY

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| **Adaptation** | The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In natural systems, human intervention may facilitate adjustment to expected climate and its effects. |
| **Char** | A temporary island or sandbar that forms in the rivers of Bangladesh. Chars are typically low-lying and often flood-prone. Char dwellers are a marginalized group who are often subject to poverty, food insecurity, and social exclusion. |
| **COVID-19** | Coronavirus disease 2019, an infectious disease caused by the SARS-CoV-2 virus. |
| **Dhaleshwari River** | The Dhaleshwari River is a distributary, 160 kilometres of the Jamuna River in central Bangladesh. It starts off the Jamuna near the north-western tip of 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. |
| **Disaster management** | The process of planning, organizing, and implementing measures to mitigate the effects of disasters. |
| **Disaster response** | Disaster response in Bangladesh refers to the organized and immediate actions undertaken by governmental, non-governmental, and community-based entities following a calamitous event. This response involves collaboration among various stakeholders, prioritizing swift and effective interventions to mitigate the impact of the disaster and aid affected communities in their recovery and rehabilitation processes. |
| **Disaster resilience** | The ability of a system, community, or society to anticipate, resist, absorb, adapt, and recover from the effects of a hazard. |
| **Disaster risk reduction** | Strategies and practices aimed at minimizing vulnerabilities and disaster impacts through preventive measures, preparedness, and resilience-building activities. |
| **Early warning system** | A system that provides timely and accurate information about an impending disaster, allowing people to take protective action. |
| **Effectiveness** | The extent to which an intervention actually achieves its intended objectives and produces the desired results. It measures the success of the program in achieving its specific goals. |
| **Efficiency** | The ability to achieve desired outcomes with minimal resources and waste. It considers the cost-effectiveness and resource utilization of a program. |
| **Flood** | In Bangladesh, floods refer to the inundation of land due to an overflow of water, primarily caused by heavy rainfall, river overflow, or cyclonic surges. These floods are a recurring natural hazard in the country, affecting vast areas and communities during the monsoon season. Bangladesh's low-lying topography and the presence of major rivers make it susceptible to annual floods, impacting agriculture, infrastructure, livelihoods, and public health. |
| **Gender-based violence (GBV)** | GBV is an umbrella term for any harmful act that is perpetrated against a person's will and that is based on socially ascribed (gender) differences between females and males. The nature and extent of specific types of GBV vary across cultures, countries and regions. |

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| **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. |
| **Impact** | The broader, long-term, and positive consequences of an intervention beyond its immediate objectives. It assesses the lasting and wider effect of the program on communities or individuals. |
| **Jamuna river** | The Jamuna River is one of the major rivers in Bangladesh. Originating from the Himalayas, it flows through India and enters Bangladesh, merging with the Ganges and forming the Padma River. The Jamuna holds significant importance for Bangladesh's agriculture, livelihoods, and transportation, serving as a crucial water resource. |
| **KoBo ToolBox** | A free and open-source toolkit for data collection and management. KoBo Toolbox is widely used over the world for a variety of purposes, including monitoring and evaluation, surveys, and data collection for humanitarian emergencies. |
| **Kaccha house** | A type of house in Bangladesh that is typically made with temporary materials, such as bamboo, straw, and mud. Kaccha houses are often built in rural areas and are less durable than pucca houses, which are made with more permanent materials, such as brick and concrete. |
| **Livelihood** | The means by which people earn a living in Bangladesh. Livelihoods encompass the activities, resources, and skills that people use to produce goods or services for their basic needs and well-being. |
| **Log frame** | Also known as Logical Frame work, it is a management and planning tool used in project or Programme design and evaluation. The Logical Framework Matrix presents a structured format to outline key project components, including objectives, activities, outputs, outcomes, indicators, and means of verification. It aids in conceptualizing, planning, implementing, and monitoring projects, offering a concise and logical representation of project goals, and assumptions to achieve desired results. |
| **Mitigation** | Actions taken to reduce the likelihood or impact of a disaster. |
| **Preparedness** | The actions taken to prepare for a disaster. |
| **PASSA** | Participatory Approach for Safe Shelter Awareness (PASSA) is a community-led approach to disaster risk reduction (DRR) that focuses on shelter safety. PASSA aims to strengthen local capacity to reduce shelter-related risks by raising awareness and developing skills in joint analysis, learning, and decision-making at the community level. |
| **Preparedness** | The actions taken to prepare for a disaster. In Bangladesh, preparedness includes developing and implementing disaster risk reduction plans, conducting disaster drills, and raising public awareness of disaster risks. |
| **Recovery** | The process of restoring normalcy and well-being following a disaster. In Bangladesh, recovery encompasses a wide range of activities, including emergency relief, early recovery, and long-term recovery. |
| **Relevance** | The degree to which an intervention addresses the actual needs and problems of the target population and contributes to achieving the program's overall goals. |
| **Resilience** | The ability to withstand, recover from, and adapt to challenges. |
| **Response** | The actions taken to respond to a disaster. |
| **SDGs** | A set of 17 global objectives established by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure prosperity for all. The goals cover various critical areas |

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| | including poverty alleviation, quality education, gender equality, clean water and sanitation, affordable and clean energy, sustainable cities and communities, climate action, and partnerships for the achievement of these aims by 2030. |
| **Sustainability** | The ability of a program's benefits and results to continue beyond the project's lifespan without further external support. It ensures the program's positive effects maintain and can be maintained long-term. |
| **Timeliness** | The importance of completing activities within the designated timeframe and providing information that is readily available when needed for decision-making. |
| **Union Parishad** | The lowest tier of local government in Bangladesh. Union Parishads are responsible for a variety of functions including provision of basic services, development planning, dispute resolution, and disaster preparedness. |
| **Upazila Parishad** | An Upazila Parishad, also known as an upazila council, is the second-lowest tier of local government in Bangladesh, functioning as a sub-unit of a district. Upazila Parishads are responsible for providing a range of services to citizens at the local level. |
| **Vulnerability** | The degree to which a system, community, or society is likely to be negatively affected by a disaster. |

# EXECUTIVE SUMMARY

*Introduction:* The Integrated Flood Resilience Programme Phase 2 represents an intensive effort to strengthen community resilience against the devastating impacts of flooding. This initiative, undertaken in a collaborative framework involving multiple stakeholders, sought to address the multifaceted challenges posed by flood disasters through comprehensive risk management strategies, community engagement, livelihood supports, and capacity building. The programme aimed to build on the foundational efforts of its predecessor, increasing its reach and enhancing the strength of its interventions.

*Purpose & Scope:* The primary objective of this evaluation is to precisely assess the relevance, efficiency, effectiveness, impact, and sustainability of the Integrated Flood Resilience Programme phase 2. This study aimed to measure the programme's success in mitigating flood risks, improving community preparedness and response, and strengthening sustainable practices that enhance resilience. The scope included a detailed examination of the programme's interventions across various domains, including risk assessment, emergency preparedness, community response mechanisms, livelihood improvement and recovery processes, with a particular focus on their long-term sustainability and impact on the target communities.

*Methodology:* The evaluation adopted a mixed-methods approach, leveraging both qualitative and quantitative method to ensure a holistic inside and analysis. These included surveys administered to a wide range of stakeholders, household survey using semi-structured questionnaire, Key Informant Interview (KII), Focus Group Discussions (FGD), Onside Visual Inspections (OVI), and field observations. The methodology was designed to capture a comprehensive picture of the programme impacts, outcomes, and outputs facilitating a robust evaluation. Data triangulation was employed to validate findings and enhance the credibility of the evaluation outcomes.

*Relevancy:* The Integrated Flood Resilience Programme (IFRP) in Katuli and Kakua, at Tangail Sadar, Tangail addresses critical needs by focusing on agriculture, livelihood diversification, and WASH practices. With 41.3% of households engaged in agriculture and a significant (92.8%) avail sanitation and 87.8% well functioned tubewell water access during flood, the program targets the community's core vulnerabilities to floods. The emphasis on climate resilience training, where 62.0% received training, underscores the program's alignment with local environmental challenges.

*Efficiency:* The program's approach to resource utilization is evidenced by the diverse income sources within communities and the strategic focus on scalable interventions like the PASSA-model homes than has proven as innovative. The engagement in raising latrines (23.0%) and improving tube-wells (17.5%) with a notable percentage of community participation in climate message dissemination (15.4%) reflects an efficient use of resources for maximum community impact.

*Effectiveness:* The project demonstrated to increase in land ownership from 42.0% to 48.0% and significant income rises (38.8% HH income 50001-1000 BDT) across regions, indicating enhanced economic stability. The growth in early warning system awareness to 69.8% and actions taken by 59.0% of households before floods showcase the program's success in enhancing preparedness. The reduction in the perceived impact of river erosion from 89.0% to 47.8% and the decline in COVID-19's perceived impact from 69.0% to 12.3% further attest to its effectiveness.

*Impact:* The program has made a tangible difference in the communities' economic conditions, WASH behaviors, and overall resilience. The average monthly income increased across the surveyed areas. The average monthly income in Katuli Union increased from 5445 BDT at baseline to 7753 BDT at endline. In Andhar Manik, income rose from 6538 BDT to 9520 BDT. Kauka Union, South Char Pouli experienced a modest increase from 7600 BDT to 8000 BDT, while in Goyla Hossain, income increased from 7723 BDT to 8813 BDT over the study period. Similarly, the sanitation infrastructure improved evidenced by the decrease in kaccha latrines from 61.0% to 47.2% and the increase in improved latrine types– highlights the program's positive impact. Furthermore, the active contribution of 67.8% of households in disaster emergency response indicates a substantial community empowerment and resilience enhancement.

*Sustainability:* The sustainability of the IFRP's is suggested by the community's belief (77.5%) in the continued benefits of disaster preparedness and resilience activities. The increase in preventive measures taken before flood (baseline 49% to endline 59%) by households and the improvement in latrine conditions from baseline 22% to endline 48.8% demonstrate a lasting change in community practices and infrastructure. However, ensuring long-term sustainability will require ongoing engagement, resource mobilization, and the integration of feedback mechanisms to adapt and respond to emerging needs and challenges.

*Recommendations:*

1. Expand successful interventions like shelter support and diversify livelihood programs based on beneficiary feedback.
2. Enhance menstrual hygiene and adolescent rights education to address health and empowerment.
3. Strengthen disaster management training through formal partnerships with institutions.
4. Integrate child marriage prevention and promote gender equality in project activities.
5. Secure funding for post-project sustainability through collaborations with local governments.
6. Prioritize employment programs for youth and women to adoptive economic empowerment.
7. Expand project reach to new communities based on vulnerability assessments.
8. Streamline staff recruitment with standardized procedures and technology solutions.
9. Enhance procurement efficiency by simplifying processes and leveraging digital platforms.
10. Ensure long-term sustainability with strategies focusing on community ownership and partnerships.

# INTRODUCTION

The Integrated Flood Resilience Programme: Phase 2, implemented by the Bangladesh Red Crescent Society (BDRCS) in collaboration with the International Federation of Red Cross and Red Crescent Societies (IFRC), was a comprehensive initiative aimed at enhancing community resilience in Tangail district, Bangladesh. Spanning from December 2021 to December 2023, the Programme addressed various facets of disaster risk reduction (DRR), climate change, water, sanitation, and hygiene (WASH), health, shelter, livelihoods, and capacity development. Commissioned by the IFRC Head of Country Delegation of Bangladesh, the recently concluded End Line Evaluation was crucial for assessing the Programme's continued relevance, efficiency, effectiveness, timeliness, impact, and sustainability. With monitoring support from the Korea International Cooperation Agency (KOICA) and funding from the Ministry of Foreign Affairs (MoFA), Republic of Korea (RoK), this evaluation sought to capture key lessons and recommendations. The study's significance lies in its potential to inform future climate change, DRR, and flood resilience initiatives not only for BDRCS and IFRC but also for the broader humanitarian community.

The study's geographical focus was Tangail, Bangladesh, where the Programme directly impacted 8,330 individuals in targeted communities and schools, with an additional 16,000 indirect beneficiaries. The diverse outcomes of the Programme ranged from building community capacity to respond to floods and pandemics like COVID-19 to improving livelihoods, shelter, and water, sanitation, and hygiene practices. In the context of this evaluation, it was essential to understand the broader context of the Programme, its objectives, and the expected outcomes. The purpose of this study was not only to assess the performance and impact of the Integrated Flood Resilience Programme: Phase 2, but also to extract valuable insights that could guide future community resilience and climate change initiatives. The study's comprehensive scope covered aspects such as Programme relevance, efficiency, effectiveness, timeliness, impact, sustainability, coordination, key lessons, challenges, and recommendations. Moreover, the evaluation aimed to capture the perspectives of beneficiaries, ensuring a holistic understanding of the Programme's impact on the community. This Introduction and Background section sets the stage for a rigorous evaluation process that contributed meaningfully to ongoing and future resilience Programmes, aligning with the principles of the Red Cross and Red Crescent Movement.

# RATIONALE AND OBJECTIVES

The Endline study for the Integrated Flood Resilience Programme: Phase 2 is undertaken with the overarching goal of comprehensively assessing Programme performance and impact. Focused on highlighting achievements, addressing challenges, and extracting lessons learned, the evaluation prioritizes an in-depth analysis of the overall quality of implementation. A decisive aspect involves incorporating feedback from beneficiaries, ensuring a nuanced understanding of the services received. The resultant findings and recommendations will inform critical management decisions for both the Bangladesh Red Crescent Society (BDRCS) and the International Federation of Red Cross and Red Crescent Societies (IFRC), guiding ongoing and future resilience initiatives. Additionally, the evaluation report is positioned as a key advocacy tool, emphasizing the importance of disaster risk reduction, climate change adaptation, and community resilience in policy development and strategic planning for BDRCS. Beyond internal considerations, the evaluation aims to contribute to the broader discourse on community resilience by identifying and sharing successful practices and learnings, thereby promoting the broader significance of such initiatives in mitigating the impact of environmental challenges and fostering sustainable development.

The primary objective of the end-line evaluation is to comprehensively assess the Integrated Flood Resilience Programme: Phase 2 across three key dimensions. Firstly, the study aims to evaluate the Programme's delivery of activities to targeted beneficiaries and community members, assessing efficiency, effectiveness, and timeliness in alignment with the Programme's logical framework. Secondly, it seeks to evaluate the strengthening of coordination and collaboration among the Bangladesh Red Crescent Society (BDRCS), local stakeholders, government agencies, non-governmental organizations, and other humanitarian groups involved in implementing community-based resilience interventions. Lastly, the study aims to identify and evaluate key lessons, challenges, best practices, and recommendations emerging from the Programme's implementation. These insights will be instrumental in shaping future community resilience Programmes not only for BDRCS and the International Federation of Red Cross and Red Crescent Societies (IFRC) but also for other organizations engaged in similar endeavors.

## PROGRAMME BACKGROUND

The Integrated Flood Resilience Programme: Phase 2 is a multifaceted initiative designed to bolster flood resilience, encompassing Disaster Risk Reduction, Climate Change, WASH (Water, Sanitation, and Hygiene), Health, Shelter, Livelihoods, and Capacity Development. Spearheaded by the Bangladesh Red Crescent Society (BDRCS), the Programme operates in four Tangail communities, aiming to enhance their resilience in the face of various challenges.

Financial support for this Programme is provided by the Ministry of Foreign Affairs, Republic of Korea, with technical assistance from the International Federation of Red Cross and Red Crescent Societies (IFRC). The Korea International Cooperation Agency (KOICA) oversees Programme monitoring. Commencing in December 2021, the Programme is

slated to conclude by December 2023, with a direct impact on 8,330 individuals and an indirect reach of over 16,000. The overarching goal of the Programme is to build the capacity of vulnerable community members, including women, children, the elderly, and individuals with disabilities, to effectively mitigate risks to their lives and livelihoods. Central to the Programme's approach is the active participation of stakeholders throughout the planning, implementation, and monitoring phases.

**Programme Goal:** Build community resilience to respond efficiently to floods, climate-related events, and health emergencies like COVID-19.

**Programme Objectives:**

Minimize loss of life and property, improve livelihoods, enhance community capacity, and reduce vulnerability to floods, COVID-19, and other disasters through a community-based approach.

**Programme Outcomes:**

**Outcome 1:** Communities can effectively respond to floods, COVID-19, and adapt to changing climate.

**Outcome 2:** Vulnerable households have better livelihoods and shelter to withstand small-scale floods.

**Outcome 3:** Community members have increased access to sustainable water, sanitation, and hygiene practices, focusing on COVID-19 hygiene promotion and handwashing.

**Outcome 4:** BDRCS enhances its capacity to coordinate and collaborate effectively with other Disaster Risk Reduction (DRR) actors for scaled-up DRR Programmes.

# SPECIFIC OBJECTIVES

The end-line evaluation is designed to achieve the following specific objectives:

1. Evaluate if the Programme delivered activities to the targeted beneficiaries and community members efficiently, effectively, and in a timely manner, aligning with the Programme's logical framework.
2. Assess the strengthening of coordination and collaboration among BDRCS, local stakeholders, government agencies, non-governmental organizations, and other humanitarian groups in implementing community-based resilience interventions.
3. Identify and evaluate key lessons, challenges, best practices, and recommendations to be used in future community resilience Programmes by BDRCS, IFRC, and other organizations.

# LITERATURE REVIEW

Bangladesh, with its geographical location and topographical features, is highly susceptible to natural disasters, particularly floods. The country has witnessed a long history of devastating floods, affecting communities, economies, and ecosystems. This literature review explores key themes related to flood resilience in Bangladesh, offering insights into the context within which the Integrated Flood Resilience Programme: Phase 2 operates.

Bangladesh's vulnerability to floods is exacerbated by climate change-induced factors. The rise in sea levels, increased rainfall variability, and changing weather patterns contribute to heightened flood risks. Notably, studies by (Haq, 2017) and (Rahman M. M., 2020) emphasize the urgent need for adaptive measures to address the evolving climate-induced challenges.

The Integrated Flood Resilience Programme aligns with the principles of Community-Based Disaster Risk Reduction (CBDRR). Research by (Mallick, 2013) underscores the effectiveness of community engagement in building resilience, emphasizing the importance of local knowledge and participation in disaster preparedness and response.

Floods significantly impact livelihoods in Bangladesh, affecting agriculture, infrastructure, and income sources. Studies by (Haq, 2017) highlight the economic consequences of floods, underscoring the importance of livelihood-focused interventions for sustainable resilience.

Floods pose severe threats to public health, necessitating interventions in sanitation, hygiene, and healthcare. Research by (Hossain, 2016) emphasizes the importance of promoting health and hygiene practices in flood-prone areas to prevent waterborne diseases and mitigate health risks.

Effective disaster response mechanisms are crucial in minimizing the impact of floods. The role of organizations, such as the Red Crescent Society, in disaster response is well-documented (Societies), 2017). This literature review explores the landscape of disaster response mechanisms in Bangladesh and the contribution of the Red Crescent Society in disaster risk reduction.

Despite various initiatives, gaps and challenges persist in achieving comprehensive flood resilience. Issues such as gender-based vulnerabilities (Rahman, 2016) and the need for sustained community engagement (Paul, 2018) are critical considerations for Programme refinement.

Community resilience plays a pivotal role in empowering individuals to confront disasters and ensure the sustainability of livelihoods for the future. The escalating impacts of disasters, driven by climate change, natural occurrences, and human-made events, necessitate the initiation of resilience Programmes by development practitioners. These Programme serve as solutions to the threats faced by communities, disrupting their normal lives and jeopardizing their livelihood in the capital. Strengthening community

resilience emerges as a crucial remedy, enabling communities to swiftly return to their usual circumstances.

The concept of resilience has been underscored as highly significant in both the Sendai Framework for Disaster Risk Reduction (2015-2030)[1] and the Sustainable Development Goals (SDGs) for 2030[2]. The Sendai Framework's focus is on significantly reducing disaster damage to critical infrastructure, as well as disruptions to essential services like health and education facilities. The framework emphasizes the development of resilience by 2030, outlining key priorities such as investments in disaster risk reduction, both structurally and non-structurally. These measures are deemed essential for enhancing the economic, social, health, and cultural resilience of individuals, communities, countries, and their assets, while also safeguarding the environment.

The United Nations' SDGs place paramount importance on community resilience to address the impacts of climate change and disasters. The SDGs aim to achieve various goals related to infrastructure, food security, poverty reduction, improved WASH facilities, sustainable agriculture, fostering a peaceful society, reducing inequalities, promoting economic growth, enhancing partnerships, and utilizing sustainable resources. The Paris Agreement on Climate Change (2015)[3] similarly emphasizes community resilience to reduce vulnerability to climate change and enhance the adaptive capacity of communities.

Bangladesh stands out as one of the most susceptible nations to the impacts of climate change, projecting to be severely affected by an anticipated 2°Celsius increase in global temperatures in the coming decades (Change), 2014). The genesis of floods in Bangladesh is linked to precipitation in the entire GBM basin, with about 7 percent of it situated within the country. On an annual basis, approximately 25 percent of Bangladesh's areas face inundation, reaching over 60 percent during severe floods occurring every 4 to 5 years. These recurrent floods leave a trail of destruction, causing river-bank erosion, the loss of vast hectares of agricultural lands, and prolonged impacts on the affected population. The consequences of floods extend beyond immediate damage, affecting the country's physical and social infrastructure, transport networks, assets, crop production, and claiming lives. The repercussions also extend to the economy, damaging standing crops, livestock, poultry, houses, transportation and communication systems, educational and institutional buildings, and other social facilities. Floods disrupt the normal functions of life, impacting homesteads, agricultural land, daily activities, water supply, sanitation conditions, and the economic structure. The historical record reveals that significant floods in Bangladesh have consistently resulted in extensive damages to properties and substantial loss of life (Affairs, April 2018).

The country's vulnerability to flooding is attributed to its geographical location on the Ganges Delta, serving as the basin for multiple tributaries flowing into the Bay of Bengal. Between 1985 and 2009, floods accounted for 40 percent of the total natural disasters in Bangladesh, leading to widespread destruction in terms of economic losses and the number of affected individuals. Approximately one-third of the country's areas are

[1] *https://aidmi.org/sendai-framework-for-disaster-risk-reduction-2015-2030*

[2] *https://stories.undp.org/sdg-1-confidential*

[3] *https://unfccc.int/process-and-meetings/the-paris-agreement*

susceptible to flooding, with an annual inundation of around 20.5 percent of Bangladesh. The combination of geographical factors, including high rainfall, flat topography with very low elevation, and extreme climate variability, renders Bangladesh highly prone to floods (The Fletcher School, May 2016).

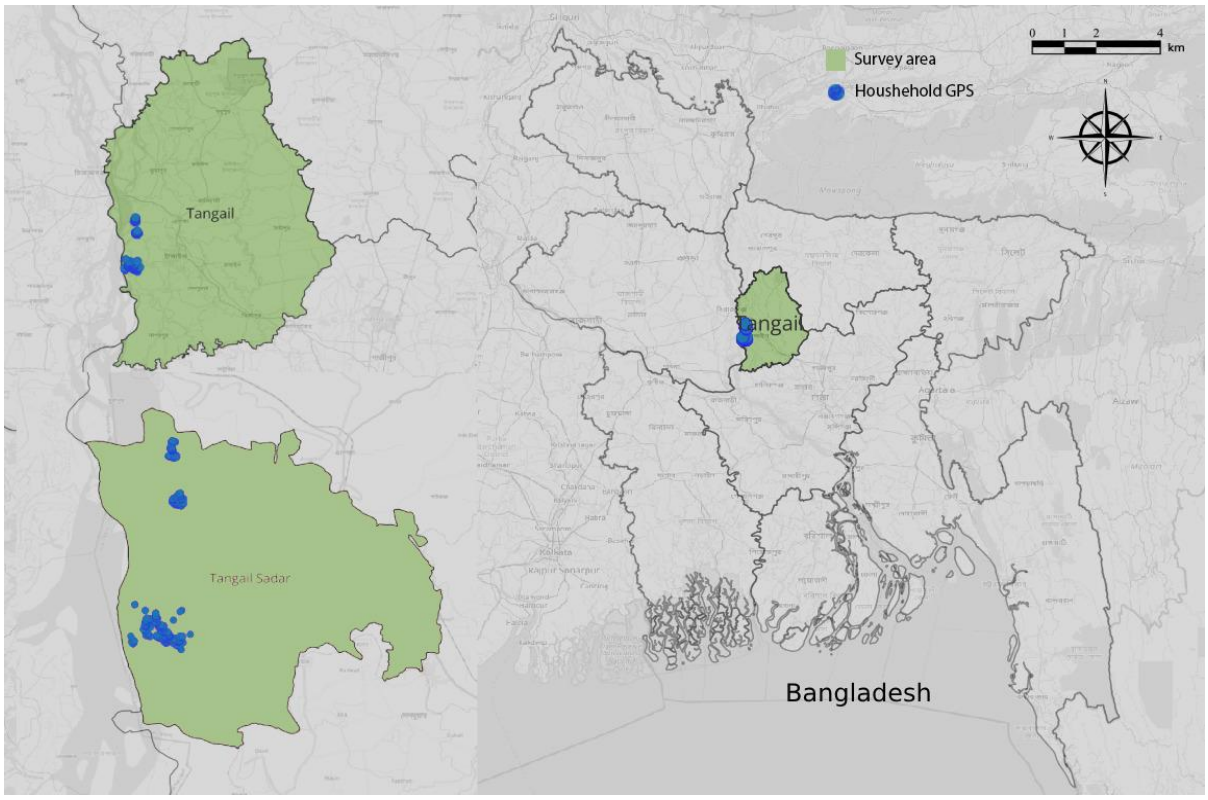
The frequency of global natural disasters has shown an upward trend in recent years, and this pattern is reflected in the increased occurrence of floods in Bangladesh. The country experiences intense and frequent floods, primarily due to its geographical location and economic conditions. Bangladesh bears the brunt of its geographical placement in the low-lying deltaic floodplain of the Ganges-Brahmaputra-Meghna (GBM) river basin, where approximately 80 percent of the land falls under the floodplain. As much as 34 percent of the country's land area remains submerged for about five to seven months every year. The prevalence of floods in Bangladesh is on the rise, and the situation is expected to exacerbate with the impacts of climate change (Change, 2014).

Before the onset of the COVID-19 pandemic, Bangladesh achieved significant success in reducing poverty over the past few decades, lowering the poverty incidence from 50.4 percent in 1990 to 20.5 percent in 2019. However, the combined effects of COVID-19 and stringent containment measures have posed severe challenges to the country's longstanding macro-economic stability, disrupting livelihoods and pushing the poverty rate to 40.9 percent in 2020. The pandemic has led to the emergence of around 20 million 'new poor,' potentially subjecting approximately 90 million people to severe poverty stress. The crisis has strained Bangladesh's fragile health system, education, human development, basic public service delivery, and social upliftment. If the pandemic crisis prolongs, it may evolve into an entrenched human crisis, derailing the country's development transformation, including progress toward Least Developed Country (LDC) graduation and Sustainable Development Goals (SDGs). Effectively addressing the pandemic in Bangladesh is challenging due to multiple vulnerability transmission channels. A forward-looking response to COVID-19 is deemed crucial for the country to recover swiftly from the economic shock and setback induced by the pandemic. Social protection measures, including cash transfers, universal health coverage, and access to other basic services, will play a central role in addressing pre-existing inequalities within Bangladeshi society (Programme), 2020)

# STUDY AREA

The Endline Study for the Integrated Flood Resilience Programme (Phase 2) focuses on specific areas within the Tangail district of Bangladesh. The selected study areas include two prominent unions: Katuli and Kakua, each comprising distinct communities that have been integral to the Programme's initiatives (Map 1).

**Map 1: Study area**




| District | Union | Name of the Community |
|---|---|---|
| Tangail | Katuli | Isapasha |
| | | Andhar Manik |
| | Kakua | South Char Pouli |
| | | Goyla Hossain |

# SCOPE OF THE ENDLINE EVALUATION

The End-Line Evaluation of the Integrated Flood Resilience Programme: Phase 2 is a comprehensive examination aimed at providing a thorough understanding of the Programme's performance, achievements, challenges, and lessons learned. This evaluation, conducted between September and November 2023, focused on the four communities in Tangail where the Programme was implemented, providing a snapshot of the impact in a contextually rich manner.

### Geographical and Temporal Focus:

The evaluation conducted at the project implementation area (2 Unions 4 Communities) in Tangail, Bangladesh, as the geographic epicenter of the Programme's interventions. The assessment took place during a critical phase when a significant percentage of the Programme funding had been utilized, and numerous activities had been implemented. By aligning with the IFRC's Framework for Community Resilience and Evaluation Guideline, the evaluation aimed to capture the evolving dynamics and tangible outcomes within this specific timeframe.

### Methodological Approach:

A multifaceted approach was employed, combining quantitative and qualitative research methods to triangulate findings. A desk review of Programme documents, including proposals, work plans, baseline study reports, and monitoring reports, served as the foundation. Field visits and observations were crucial components, allowing the evaluation team to witness Programme activities firsthand.

### Stakeholder Engagement:

The scope extended beyond beneficiary perspectives, encompassing key stakeholders at various levels. Interviews with BDRCS governance/management, Programme staff, KOICA officials, IFRC representatives, district-level authorities, and local community members provided a comprehensive view. Focus Group Discussions (FGDs) and interviews with disaster response teams, committees, and volunteers offered nuanced insights into the collaborative efforts at the community level.

### Comparative Analysis:

A comparative analysis between baseline and end-line data was conducted to gauge the Programme's impact over time. This approach enabled the identification of trends, shifts, and areas of notable progress or challenges. The assessment of Programme indicators and targets allowed for an in-depth exploration of whether objectives outlined in the logical framework were met effectively and efficiently.

### Strategic Insights:

The scope was not limited to retrospective analysis; rather, it delved into forward-looking aspects. Strategic insights were sought to inform future community resilience Programmes, both for Govt. respective departments, BDRCS, IFRC, and other

organizations engaged in similar initiatives. Recommendations arising from the evaluation were crafted to be specific, feasible, and instrumental in shaping the trajectory of subsequent Programmes.

In essence, the scope of this End-Line Evaluation encompassed a holistic examination of the Integrated Flood Resilience Programme: Phase 2, offering a nuanced understanding of its intricacies, impact, and potential pathways for future initiatives in the realm of disaster risk reduction, climate change, and community resilience.

# EVALUATION METHODOLOGY

## EVALUATION FRAMEWORK

The End-Line Evaluation adhered to the organization for Economic Cooperation and Development OECD Framework, employing a systematic and objective approach to assess the Integrated Flood Resilience Programme: Phase 2. The framework encompassed criteria such as relevance, efficiency, effectiveness, coverage, impact, coherence, and sustainability.

## METHODS

The end-line evaluation employed a mixed-methods approach, blending qualitative and quantitative research techniques to provide a comprehensive assessment of the programme's performance and impact. This methodological approach was crucial to achieving the evaluation's objectives. The key components of the study methodology were outlined below:

### Comparison with Baseline Data

The evaluation included a meticulous comparison between end-line findings and baseline data, utilizing precise indicators to assess changes, progress, and impact. This comparative approach enhanced the robustness of the analysis.

### Data Collection Methods

*Quantitative data collection* A structured questionnaire survey was conducted at the household/beneficiary level to collect numerical data, enabling statistical analysis and comparisons.

*Qualitative data collection:* Focus Group Discussions (FGDs), Key Informant Interviews (KIIs), and observations were employed to capture rich, context-specific information and perspectives.

*Secondary Sources:* Data was gathered from various documents, including project proposals, Result framework, baseline survey reports, progress reports, Management Information System (MIS) reports, monitoring reports, most significant change stories, and work plans.

### Mixed-Methods Approach Enhancement:

The assessment followed a mixed-methods approach, conducting quantitative and qualitative data collection and analysis in parallel. The results were compared and interpreted in combination, enriching the depth and quality of the evaluation.

### Participatory Methodology

The assessment adopted a participatory methodology, involving all stakeholders as respondents in the study. This inclusive approach ensured diverse perspectives were considered, contributing to a more holistic understanding.

# DATA COLLECTION TEAM

The End-line data collection team played a crucial role in guiding, training, and monitoring enumerators throughout the survey. They were responsible for overseeing the entire process of household survey and qualitative data collection. A team of 20 enumerators, including 13 males and 07 females from Tangail Red Crescent Unit were involved in collecting quantitative data at the household level. In addition, with these 2 research assistants were involved in qualitative data collection. A comprehensive one-day orientation session was conducted for the enumerators at the district level, covering the data collection procedure, a proper understanding of the questionnaire, and key Programmematic issues such as climate change adaptation, disaster risk reduction, and community resilience. The orientation aimed at ensuring a uniform understanding of the survey perspective among all enumerators. Training on rapport building and interview techniques with the community people, utilizing KoBo Toolbox, was also part of the orientation process. The enumerators easily grasped the data collection procedures and provided practical feedback after the orientation. They successfully completed the household data collection during the Mid-November 2023.

# SAMPLING STRATEGY

## Quantitative data Collection Sample:

For the quantitative aspect of data collection, the sample size was determined with a 5% margin of error, a 95% confidence level, and a 50% response rate among all project respondents. Using a standard sampling calculation method, the required sample size was calculated, resulting in 377. To bolster confidence in the findings, an additional 33 samples were added, bringing the total to 400 for the quantitative sample size. The end-line evaluation sample design will employ the "systematic random sampling" method to ensure a representative proportion of samples from the target households in the four communities in Tangail District. This probability sampling technique involves selecting elements from the target households by choosing a random starting point and then selecting sample members at fixed intervals. To create a sample that accurately represents the targeted households, a weighted value has been assigned to each community. The sampling interval is calculated based on the total number of participants, ensuring a proportional representation of each community. The final sample of 400 individuals will include approximately 49% females and 51% males, resulting in a balanced gender distribution in the study. The specific details of the sampling distribution have been designed as follows:

**Table 1: Quantitative Sample Distribution**

| Union | Community | Baseline Sample | Project Direct Participants | Weighted Value | Sample Size for the End-Line Evaluation | 50% Female | 50% Males |
|---|---|---|---|---|---|---|---|
| Katuli | Isapasha | 425 | 200 | 0.25 | 100 | 50 | 50 |
| | Andhar Manik | 410 | 300 | 0.38 | 150 | 75 | 75 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Kakua | Dakkhin Char Pouli | 393 | 150 | 0.19 | 75 | 37 | 38 |
| | Goyla Hosen | 397 | 150 | 0.19 | 75 | 37 | 38 |
| Total | | 1625 | 800 | 1 | 400 | 199 | 201 |

## Qualitative data Collection Sample:

In ensuring a comprehensive understanding of the project context and outcomes, a thoughtful and diverse approach was adopted for qualitative data collection. The scrutiny involved a meticulous examination of project objectives, geographical scope, target groups, respondents, and stakeholders. The qualitative data collection process encompassed 15 Key Informant Interviews (KIIs), 08 Focus Group Discussions (FGDs), and 04 site visits and observations. In addition to these direct interactions, a thorough review of project documents was conducted, including proposals, monitoring reports, annual progress reports, baseline survey reports, and Management Information System (MIS) reports, among others. This multifaceted approach, combining direct engagement and document reviews, ensures a comprehensive and nuanced analysis of the project's details and impact.

**Table 2: Qualitative Sample Distribution**

| Respondent Category | Tools | Nos | Area /notes |
|---|---|---|---|
| Project participants: Micro Group | FGD | 1 | Isapasha |
| Project participants: Livestock | | 1 | Andhar Manik |
| Project participants: Shelter | | 1 | South Char Pouli |
| Project participants: WASH | | 1 | Goyla Hossain |
| Project participants: CDMC | | 1 | Isapasha |
| Project participants: CDRT | | 1 | Andhar Manik |
| Project participants: Women Group | | 1 | South Char Pouli |
| Project participants: Mixed Group | | 1 | Goyla Hossain |
| • Persons with disabilities was included in each group | | | |
| **(A) FGD (Sub-Total)** | | **08** | |
| BDRCS Management and Programme staff<br>• Director, Disaster & Climate Risk Management (DCRM)<br>• Deputy Director, IFRP-2 | KII | 2 | |
| KOICA Officials<br>• Oversees Programme monitoring personnel | | 1 | |
| IFRC Bangladesh: Delegation, Programme Manager, and Concerned Staff<br>• Senior Manager, (Climate and Resilience portfolio), IFRC Bangladesh<br>• Programme Manager, IFRP-2 | | 2 | |
| BDRCS district unit/branch committees, Programme committees, community committees, volunteers<br>• Unit Secretary<br>• Unit-level Officer/ Project Officer<br>• Programme Implementation Committee member | | 3 | |
| UP Chairman/ Union Disaster Management Committee | | 2 | |
| Stakeholders:<br>• School Teacher | | 2 | |

| Respondent Category | Tools | Nos | Area /notes |
|---|---|---|---|
| • School Students | | | |
| Upazila Relief and Rehabilitation Officer | | 1 | |
| Upazila Agricultural/Livestock Officer<br>Upazilla DPHE Official | | 2 | |
| | | | |
| **(B) KII (Sub-Total)** | | **15** | |
| ▪ Observation | | 4 | |
| **(C) Observation (Sub-Total)** | | **4** | |
| **A+B+C=** | | **27** | |

# QUANTITATIVE DATA COLLECTION AND HOUSEHOLD SURVEY

The End-line survey involved a comprehensive household survey, where a meticulously designed set of structured questionnaires was employed to gather responses from households and women. The development of the household questionnaire was a collaborative effort among the survey team members, which included representatives from BDRCS, IFRC, and PMER. This process also entailed a thorough review of the logical framework and indicators outlined in the project proposal for IFRP: Phase 2. To ensure the effectiveness of the questionnaire, a field test was conducted under the supervision of an IFRC representative. Fourteen respondents from four communities were randomly selected for the field test, and respondents were briefed about the process before providing their responses. Following the test, identified gaps and needs in the questionnaire were addressed, incorporating valuable feedback. The final questionnaire was then prepared, and the household survey was executed using the KoBo Toolbox, employing a random sampling approach.

# QUALITATIVE DATA COLLECTION

In addition to the comprehensive household survey, significant qualitative data were systematically gathered from community members, other NGO like NGO Forum representative and various governmental and non-governmental stakeholders at the Upazila and District levels. This qualitative data played a crucial role in providing in-depth insights, facilitating discussions, and offering valuable recommendations for the End-line Study. The selection of participants for qualitative data collection was a meticulous process, involving consultation with the survey team and Unit. Stakeholders were purposefully chosen based on their active involvement in Programme implementation and their perceived relevance for future engagement in Programme interventions and activities. This qualitative approach enriched the overall findings, ensuring a holistic understanding of the community dynamics and stakeholder perspectives.

# ENSURING DATA QUALITY

A stringent data quality assurance process was implemented throughout the survey. Experienced field managers conducted daily reviews and checks on the collected data. Spot checks were systematically carried out during the survey period to assess the accuracy of data collection. Immediate feedback and guidance were provided to

enumerators as needed, reinforcing the importance of maintaining high data quality standards. To further validate the accuracy of the information gathered, households were randomly revisited during the survey period for cross-verification of data collected by enumerators. Additionally, high-frequency checks reports were generated, and necessary corrections were promptly communicated to the survey team, ensuring that any discrepancies were addressed in a timely manner. This rigorous quality control approach aimed to uphold the integrity and reliability of the data collected.

# DATA PROCESSING, ANALYSIS AND REPORT PREPARATION

The household data, gathered through KoBo Toolbox, underwent a meticulous processing and analysis phase using Stata 17.0, a statistical software. To ensure the data's quality, a rigorous quality check was conducted by a senior Data Management Specialist. Figures and tables were generated based on the specific requirements, scope, and appropriateness of the chapters and sections outlined in the end-line survey report. The collected data from the field were systematically compared with the survey objectives and interpreted descriptively. Both primary and secondary data were analyzed to generate insights and trends, shaping the report to be shared with stakeholders and management. Qualitative data underwent thematic analysis, employing a combination of manual and Excel-based methods. The draft report, structured in MS Word, was developed, and refined through collaboration with the IFRC and BDRCS teams, incorporating their valuable feedback. This comprehensive process ensured the production of a robust and insightful report that accurately reflects the findings of the end-line survey.

# ETHICAL ISSUES

Stringent ethical considerations were upheld throughout the fieldwork and the entire survey process. Transparency and communication were paramount as all targeted respondents, community members, and other stakeholders were thoroughly briefed on the objectives of IFRP: Phase 2, the purpose of the endline survey, and the activities conducted by BDRCS. The principles and values of the RCRC movement guided the research team in addressing the culture and sensitivities of the community members, respondents, and various governmental and non-governmental stakeholders.

Written consent, obtained through the appropriate format, was secured from respondents whose opinions and photos were utilized in the report, ensuring respect for their privacy and rights. It was clearly communicated to respondents and community members that the survey findings would be utilized by BDRCS and IFRC to implement interventions under IFRP: Phase 2 and work towards enhancing community resilience in the targeted Programme areas. This commitment to ethical conduct reflects the dedication to maintaining the highest standards in research and community engagement.

# LIMITATIONS OF THE SURVEY

Originally, the plan was to survey 400 households across the four communities based on the sample calculation process. However, during the survey work, it became evident that

a significant number of households had migrated from the study area. Moreover, due to the geographical nature of the char area, households were dispersed, posing logistical challenges in reaching each of them. Despite these challenges, the research team successfully completed the required sample from the four communities.

An additional challenge arose during the initiation of the end-line evaluation study. The period coincided with political unrest related to elections, leading to declarations of Hartal and Oborodh by opposing parties. This unrest had a direct impact on the field visits from the capital of Bangladesh. Furthermore, the tight timeline for data collection added to the complexity. Despite these limitations, the research team endeavored to provide a comprehensive end-line survey report.

# FINDINGS AND DISCUSSION

## DEMOGRAPHIC INFORMATION

The demographic profile of the surveyed population reveals a diverse representation across various categories. In terms of the union, a majority of respondents belong to Katuli (62.5%), with Kakua comprising the remaining 37.5%. Among the communities, Andhar Manik holds the highest percentage at 37.8%, followed by Isapasha (24.8%), Goyla Hossen (20.0%), and South Char Pouli (17.5%). The age distribution demonstrates a fairly even spread, with a substantial portion of respondents falling in the above 50 years old category (37.3%). In terms of gender, there is a nearly equal representation, with 51.0% male and 49.0% female respondents. Marital status predominantly reflects a married demographic (97.0%), while a small percentage prefers not to disclose (0.5%). Regarding educational qualifications, a significant portion of respondents (61.8%) have no formal education, while others vary across different levels. The average age of the respondents is 47.1 years, contributing to a comprehensive understanding of the surveyed population's demographic characteristics.

**Table 3: Basic demographic information of the households**

| Demographic profile | Frequency | Percentage |
|---|---|---|
| **Name of Union** | | |
| *Katuli* | 250 | 62.5% |
| *Kakua* | 150 | 37.5% |
| **Name of Community** | | |
| *Isapasha* | 99 | 24.8% |
| *Andhar Manik* | 151 | 37.8% |
| *Goyla Hossen* | 80 | 20.0% |
| *South Char Pouli* | 70 | 17.5% |
| **Respondent age** | | |
| *18 to 30 years old* | 46 | 11.5% |
| *31 to 40 years old* | 96 | 24.0% |
| *41 to 50 years old* | 109 | 27.3% |
| *Above 50 years old* | 149 | 37.3% |
| **Average Age of the respondent** | 47.1 | |
| **Sex** | | |
| *Female* | 196 | 49.0% |
| *Male* | 204 | 51.0% |
| **Marital status** | | |
| *Married* | 388 | 97.0% |
| *Unmarried* | 3 | 0.8% |
| *Separated* | 7 | 1.8% |
| *Don't like to disclose* | 2 | 0.5% |
| **Educational Qualification** | | |
| *Have no formal education* | 247 | 61.8% |
| *Primary/ PSC* | 91 | 22.8% |

| Demographic profile | Frequency | Percentage |
|---|---|---|
| *JSC* | 29 | 7.3% |
| *SSC* | 18 | 4.5% |
| *HSC* | 10 | 2.5% |
| *Graduation* | 1 | 0.3% |
| *Post-graduation* | 4 | 1.0% |
| Average household members | | |
| *Female* | 2.3 | |
| *Male* | 2.4 | |

# HOUSEHOLD MEMBERS

The data presents (Figure 1) the distribution of male and female household members within a surveyed population. For male members, the majority of households have 2 members (32.0%), followed by those with 3 members (27.0%) and 1 member (20.3%). The distribution gradually decreases with 4 members (10.8%), 5 members (4.3%), and fewer households with 6, or 7 members. The total number of male members across all households surveyed is 400.

On the other hand (Figure 2), female members exhibit a different pattern. The most common scenario is households with 2 members (33.8%), followed by those with 1 member (30.3%) and 3 members (23.3%). Similar to male members, the distribution decreases with 4 members (7.5%), 5 members (3.3%), and fewer households with 6, 7, or 8 members. The total number of female members across all households is also 400.

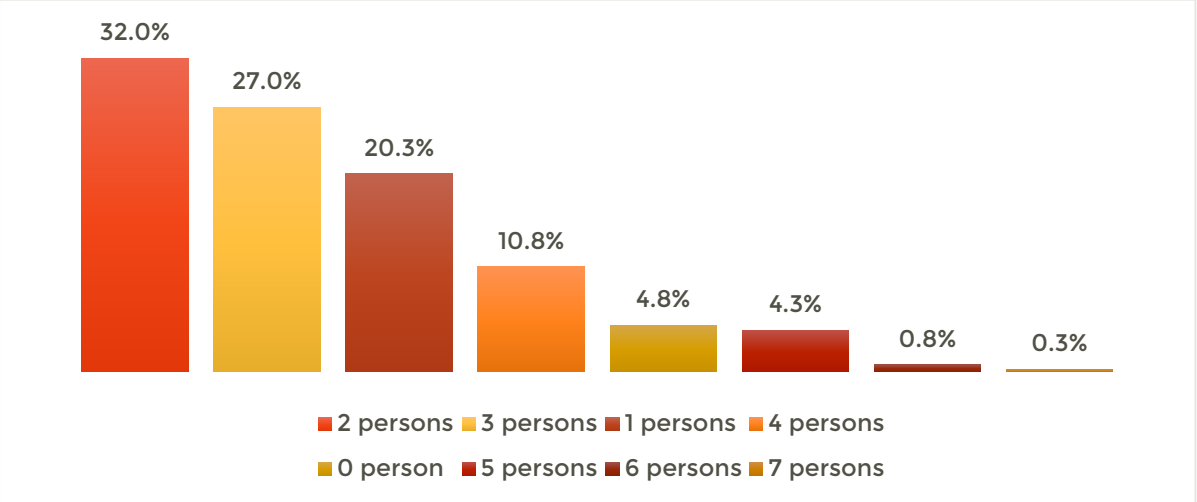



**Figure 1: Total male household members**

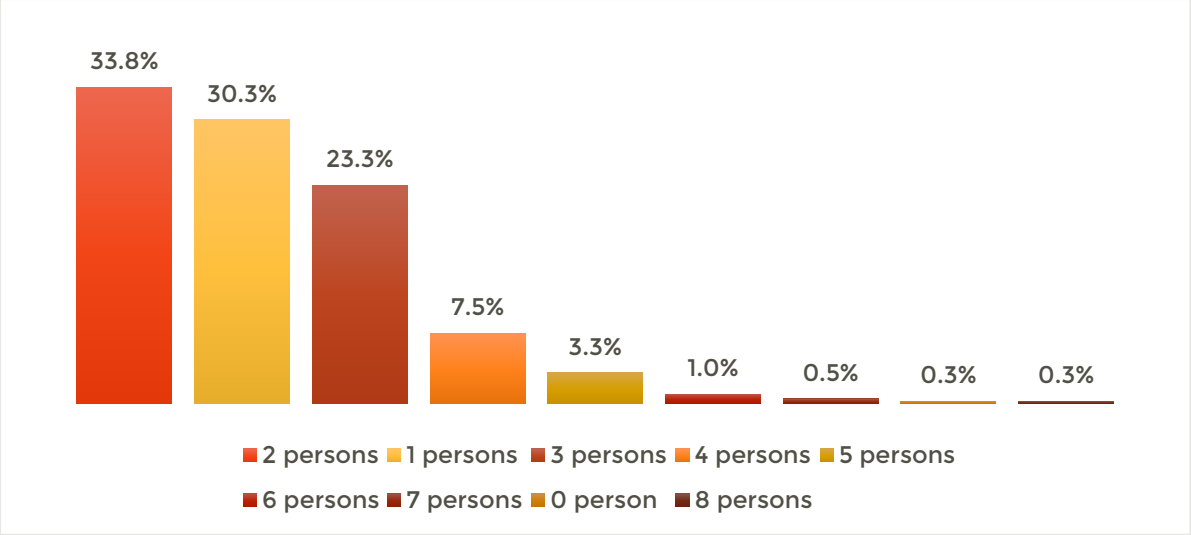



**Figure 2: Total female household member**

# PERSONS WITH DISABILITIES

The data (Figure 3) illustrates the distribution of persons with disabilities within surveyed households. The majority of households (92.0%) reported having no Persons with Disabilities. In contrast, 7.8% of households reported having one Persons with Disabilities, and only a minimal percentage (0.3%) reported having two Persons with Disabilities. This data provides an overview of the prevalence of disabilities within the surveyed households, with the majority indicating the absence of such conditions.

The data (Figure 4) indicates the gender distribution among individuals with disabilities within the surveyed population. Among the persons with disabilities, 40.6% are female, while a larger proportion, constituting 59.4%, are male. This information provides insights into the gender dynamics among Persons with Disabilities in the surveyed context, highlighting a relatively higher representation of males in this category.

The data (Figure 5) on the types of disabilities indicates that a majority of responses (56.4%) correspond to physical disabilities, making it the most frequently reported disability type. Visual impairments were found in 15.4% of the total responses, followed by hearing disabilities at 10.3%, and intellectual disabilities at 18.0%. In terms of the percentage of responses, physical disabilities take precedence, constituting a significant portion of the reported response (68.8%). The distribution underscores the prevalence of different types of disabilities within the surveyed population, with a substantial focus on physical impairments

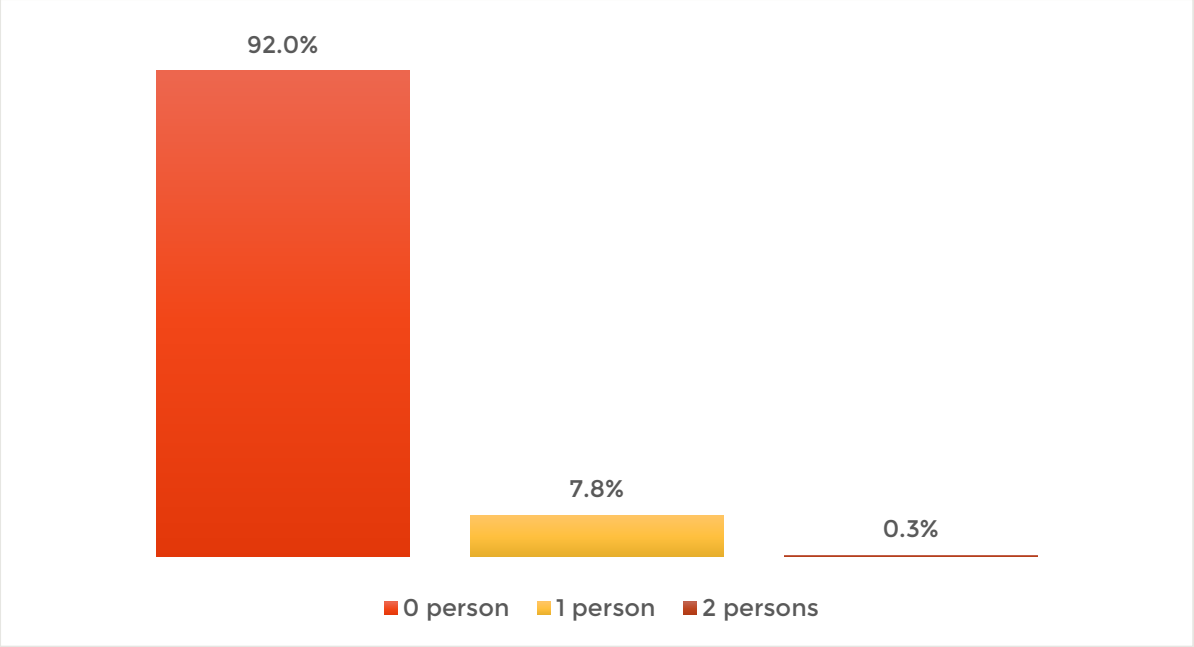



**Figure 3: Distribution of Persons with Disabilities in Surveyed Households**

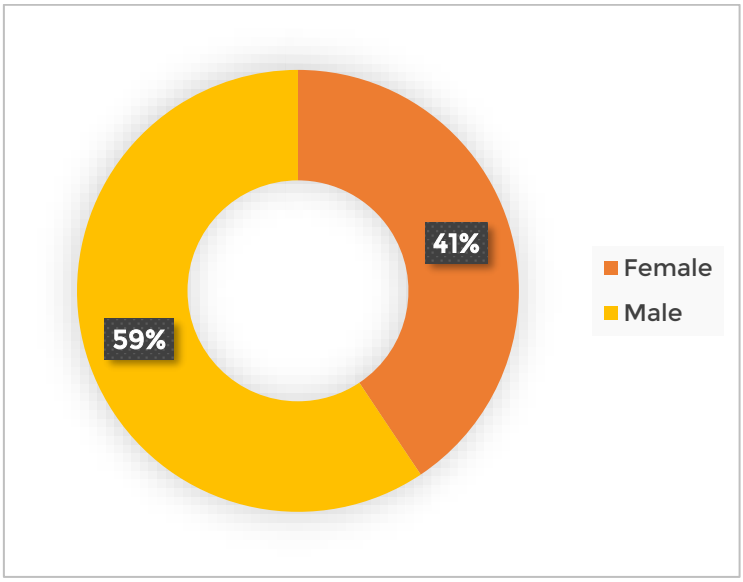



**Figure 4: Gender Distribution of Persons with Disabilities**

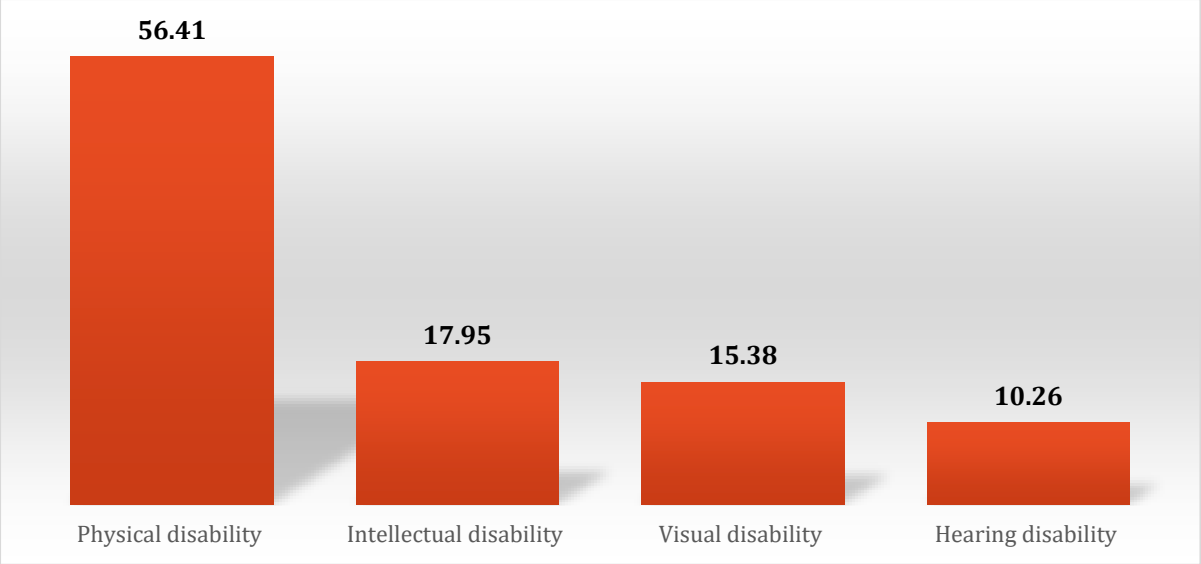



**Figure 5: Disability types (*multiple responses)**

# OCCUPATION OF HOUSEHOLD HEAD

The data offers detailed information on the primary occupations or main sources of income for individuals who head households within the surveyed population according to figure number 6. Agriculture emerges as the predominant occupation, constituting 41.3% of the responses. Other significant occupations include day laboring (10.0%), business (5.8%), and various manual labor activities such as rickshaw/van pulling (7.8%), auto pulling (5.3%), and fishing (6.8%). Additionally, a notable percentage (16.8%) falls under the category of "Others," indicating diverse sources of income within the surveyed households. This diverse occupational profile reflects the varied economic activities contributing to the livelihoods of the households represented in the survey.

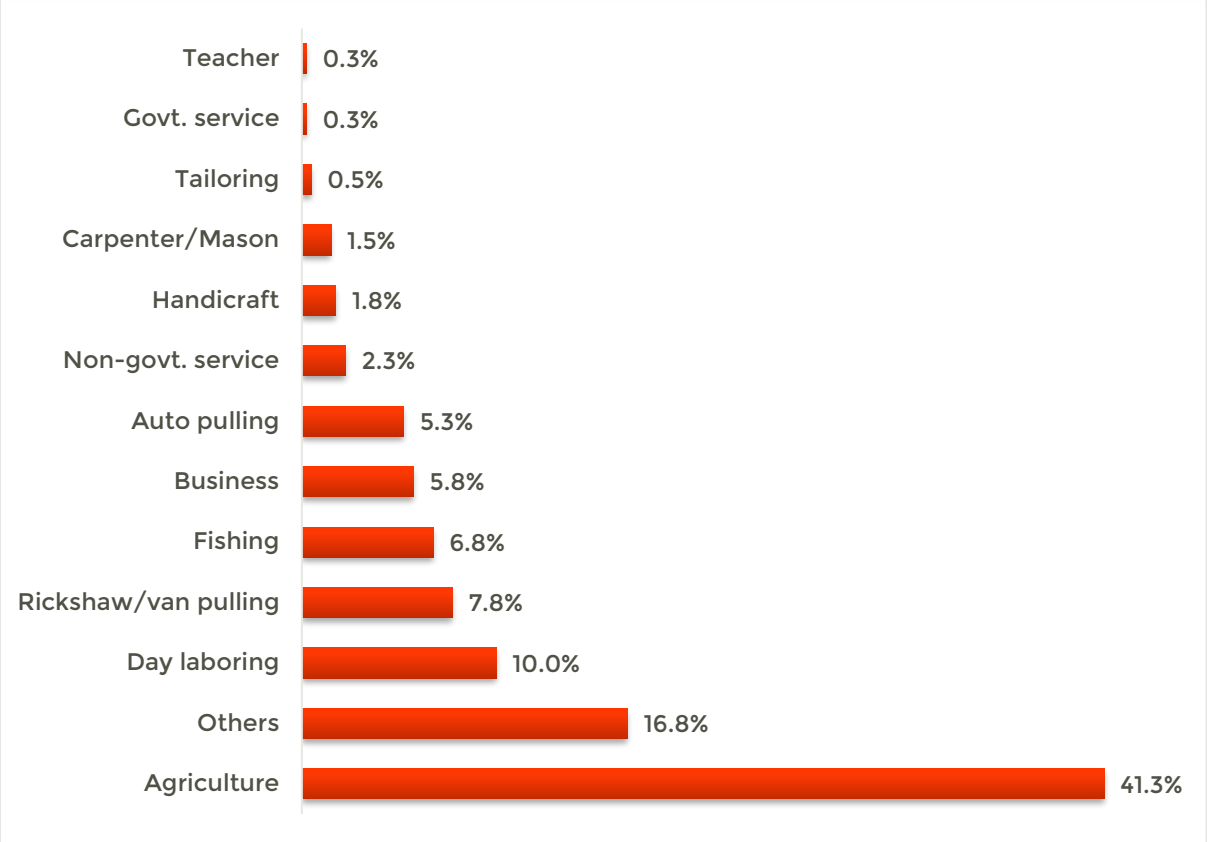



**Figure 6: Main Occupation (Main Income Source) of Household Heads in the Surveyed Population**

The insights derived from the data in Figure 7 offer a glimpse into the secondary occupations engaged by the household heads in the surveyed population. Notably, agriculture remains a significant secondary occupation, accounting for 35.3% of the responses. Day laboring is another prevalent secondary occupation, constituting 13.8% of the cases. Other notable secondary occupations include various manual labor activities such as rickshaw/van pulling (3.3%), auto rickshaw pulling (2.0%), and fishing (3.3%). Additionally, a considerable percentage (35.3%) falls under the category of "Others," suggesting diverse secondary income sources within the surveyed households.

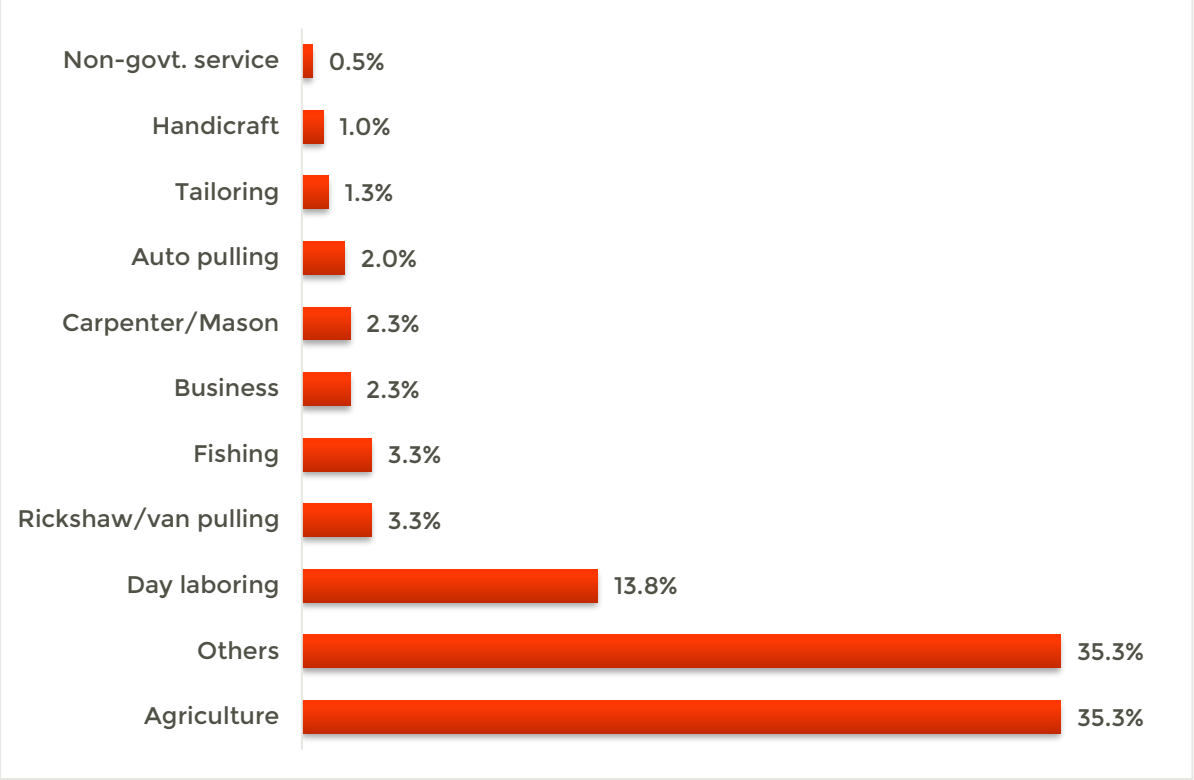



**Figure 7: Secondary Occupation (Second Income Source) of Household Heads in the Surveyed Population**

# MONTHLY INCOME & EXPENDITURE

The Endline Study reveals a significant income distribution among surveyed households, with 26.3% earning 0-5000 taka and a notable 38.8% falling in the 5001–10000-taka range (Figure 8). Correspondingly, monthly expenditure patterns mirror this trend, with 26.8% allocating funds in the 0-5000 taka range and 41.8% in the 5001–10000-taka range (Figure 9). These percentages highlight a prevalence of lower-income households, suggesting a financial landscape where a substantial portion manages expenses within constrained budgets.

The average monthly income in Katuli Union increased from 5445 BDT at baseline to 7753 BDT at endline. In Andhar Manik, income rose from 6538 BDT to 9520 BDT. Kauka Union, South Char Pouli experienced a modest increase from 7600 BDT to 8000 BDT, while in Goyla Hossain, income increased from 7723 BDT to 8813 BDT over the study period.

The study delves into the borrowing behavior of low-income households for unforeseen expenses, adding complexity to observed income distribution and expenditure patterns. It emphasizes the need for critical analysis, suggesting that reliance on borrowing indicates a more intricate financial reality. The apparent correlation between income and expenditure, as highlighted by the study's focus on proportional expenditure to income, explores the financial dynamics of these households. The data indicates that a substantial portion of families manages their expenses within constrained budgets. However, the

revelation that extreme or poor households resort to borrowing suggests that financial constraints may be more intricate than the proportional expenditure model implies.

The borrowing behaviour, particularly for unforeseen expenses, points to financial vulnerabilities that are not adequately captured by this straightforward analysis of income and expenditure patterns, necessitating an in-depth study. Unforeseen events such as health emergencies or post-disaster recovery often require additional financial resources beyond what the proportional expenditure model considers. This finding lightly underscores the importance of considering external factors and events that can significantly impact the financial well-being of households.

On the asset ownership front (Figure 10), 66.0% of households report possessing fixed assets, indicating economic stability and asset accumulation. The absence of fixed assets in 34.0% of households prompts exploration into potential economic disparities. Generally, this percentage-based analysis offers a clear snapshot of economic dynamics within the surveyed population, emphasizing the need for a nuanced understanding of income, expenditure, and fixed asset ownership for a comprehensive evaluation.

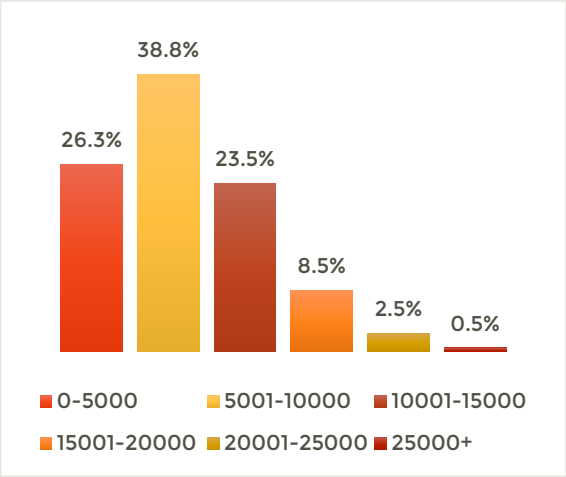



**Figure 8: Average monthly income**

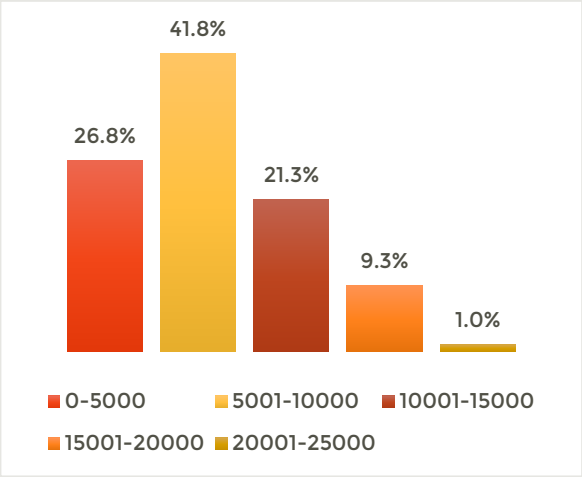



**Figure 9: Average monthly expenditure**

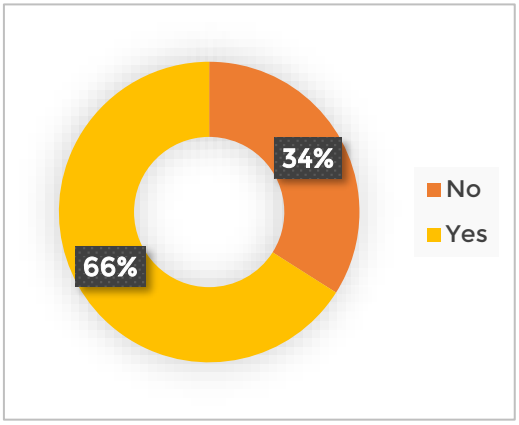



**Figure 10: Distribution of Fixed Assets in Households**

# TYPES OF ASSETS

Figure 10 reveals the diverse array of assets held by surveyed households, with the majority owning livestock (37.2%), showcasing a significant reliance on agricultural or livestock-related activities. Mobile phones are prevalent, with 35.9% reporting ownership, emphasizing the widespread use and importance of mobile technology in the community. Televisions are owned by 10.1% of households, indicating a certain level of access to entertainment and information. Precious metals, such as gold and silver, are reported by 5.7% of respondents, reflecting some investment in valuable assets. The category of 'Others' encompasses various assets not explicitly mentioned, representing a diverse range of holdings among 4.1% of households. Automotive vehicles, rickshaws, shops, and business capital are each owned by 1.4% of households, reflecting a mix of transport and business assets. Ownership of ponds and vans is reported by 0.4% of households, indicating less common but still existing forms of asset ownership. Radio ownership is the least reported, with only 0.2% of respondents indicating possession. This distribution provides valuable insights into the asset composition of the surveyed population and underscores the varied economic activities within the community.

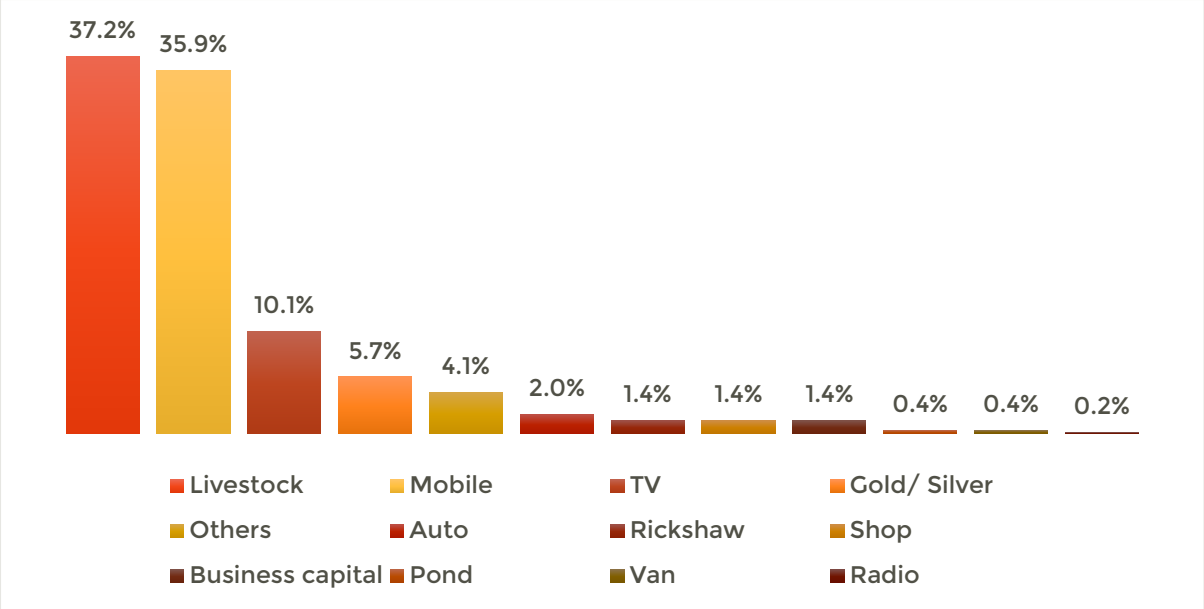



**Figure 11: Asset Ownership Distribution in the Households (*multiple responses)**

# LAND OWNERSHIP

The data (Figure 12) indicates that approximately 48.0% of the surveyed households possess some amount of land, while 52.0% do not. This information sheds light on the distribution of land ownership within the surveyed population, showcasing a relatively even split between households with and without land. Over the study period, there was an increase in the percentage of households owning land, rising from 42.0% at baseline to 48.0% at endline. The main reason for increasing land ownership people shared their opinion that there are some lands they get back from river erosion, few respondents procured land due to economic solvency and think that procuring land is an asset for next generation.

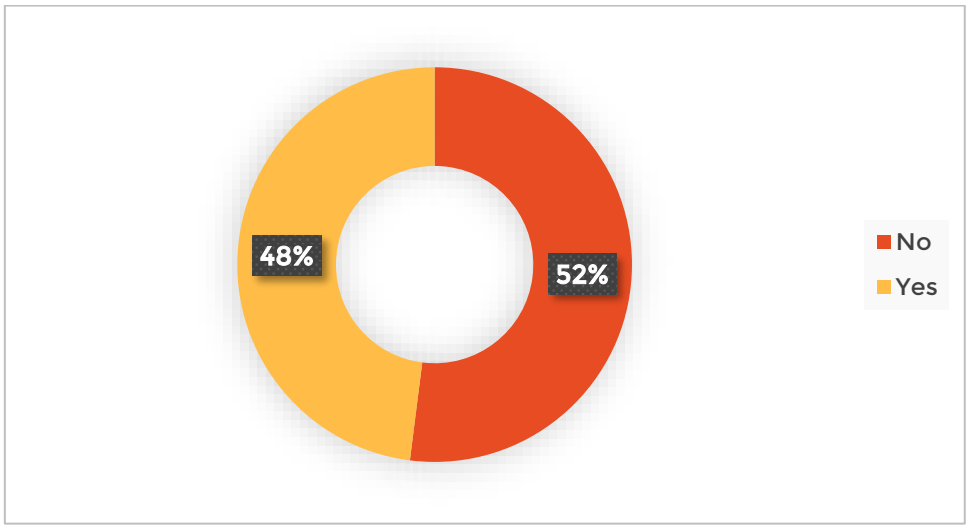



**Figure 12: Land Ownership Status in the Surveyed Households**

For households possessing agricultural land, the data (Figure 13) reveals the distribution of the amount of land owned. The majority of these households, comprising 56.3%, own land above 40 decimals. Additionally, 12.3% have land ranging from 5 to 20 decimal, while 8.5% own land within the range of 21 to 40 decimal. A smaller percentage of households, at 23.0%, own agricultural land below 5 decimals. This information provides a nuanced understanding of the varying sizes of agricultural land holdings within the subset of households that own land, contributing to insights into the diversity of land ownership patterns in the surveyed population.

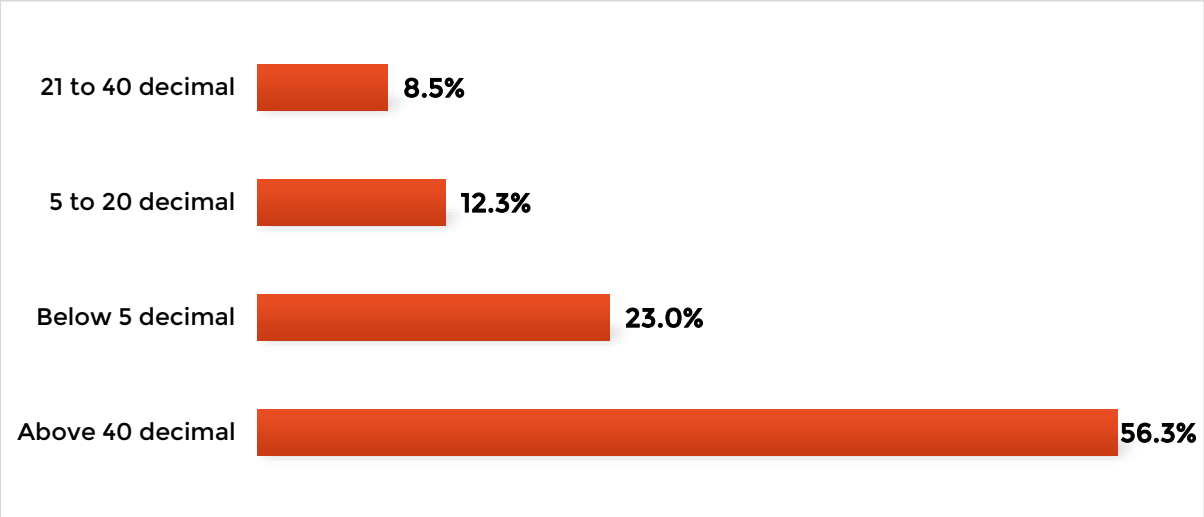



**Figure 13: Extent of Agricultural Land Ownership in Households with Land**

For households owning homestead land, the data (Figure 14) illustrates the distribution of land sizes. The majority, constituting 52.8%, own homestead land above 40 decimals, showcasing larger property sizes. Additionally, 35.5% of households possess homestead land ranging from 5 to 20 decimals, while 4.3% own land within the range of 21 to 40 decimal. A smaller percentage of households, at 7.5%, own homestead land below 5 decimals. This information provides insights into the diverse sizes of homestead land holdings within the subset of households that own such land, contributing to a comprehensive understanding of homestead ownership patterns in the surveyed population.

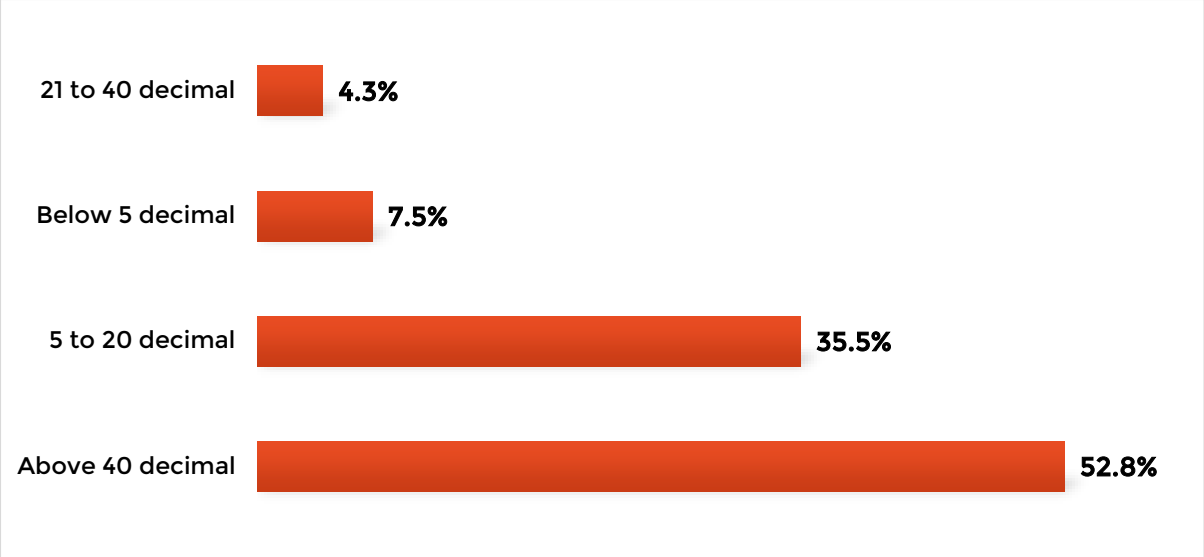



**Figure 14: Extent of Homestead Land Ownership in Households with Land**

# KNOWLEDGE ON CLIMATE CHANGE

Figure 15 illustrates the distribution of knowledge or awareness regarding climate information among the surveyed individuals and households. Approximately 66.5% of respondents or households exhibit knowledge about climate-related information, indicating a substantial increase from the baseline where only 21.0% had such awareness. Conversely, the percentage of respondents lacking awareness or knowledge in this regard has decreased to 33.5% from the baseline value of 79.0%.

The data further delves into respondents' ideas about climate change, Disaster Risk Reduction (DRR), and flood resilience. In terms of climate change and DRR, there has been a significant shift, with 66.5% of respondents now having an idea compared to the baseline's 21.0%. Similarly, there is a notable improvement in awareness of flood resilience, with 69.8% of respondents having an idea in the endline data, compared to the baseline's 29.0%. This indicates a positive trend in increasing awareness and knowledge within the

surveyed population regarding climate-related matters, disaster risk reduction, and flood resilience.

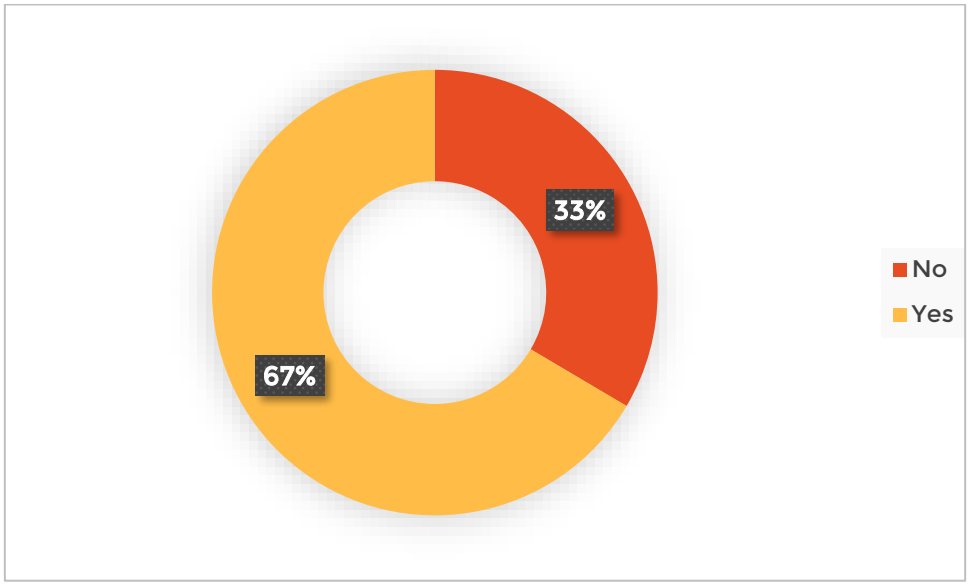



**Figure 15: Knowledge of Climate Information among Surveyed Individuals and Households**

The (Figure 16) presents the distribution of knowledge or awareness regarding early warning systems among the surveyed individuals and households. Approximately 69.8% of respondents or households indicate having knowledge about early warning systems, while 30.3% report a lack of awareness or knowledge in this domain. This data provides insights into the prevalence of awareness regarding early warning systems within the surveyed population, highlighting a substantial proportion that is informed about these systems.

Examining the changes in sources of information between baseline and endline, there are noticeable shifts. The use of a public address system or "Mike" has decreased from 56.0% to 35.5%, reflecting a significant change. Television and neighbor interactions have also witnessed declines, moving from 53.0% to 29.4% and 50.0% to 41.9%, respectively. Mobile phones, Union Parishad, and newspapers have experienced reductions in their respective percentages.

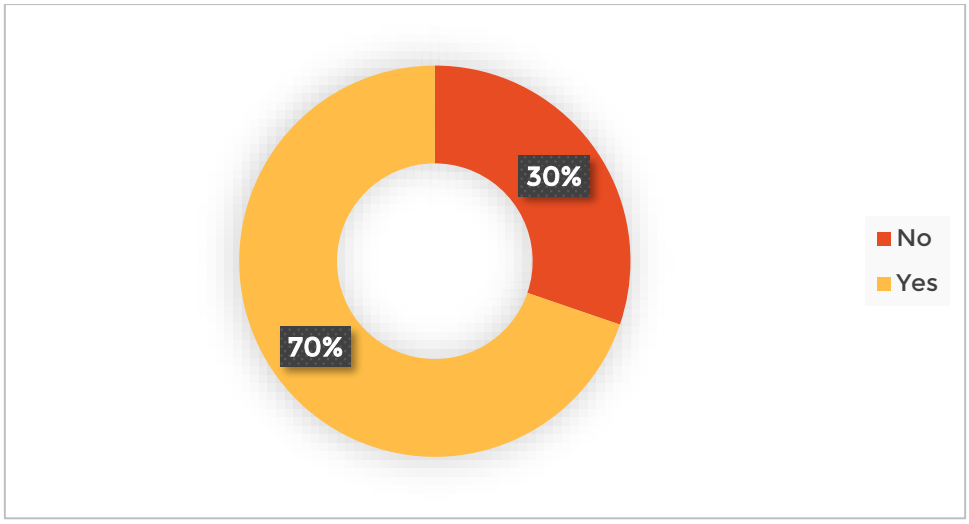



**Figure 16: Knowledge of Early Warning Systems among Surveyed Individuals and Households**

The Red Crescent (RC) employs a diverse range of channels, including official alerts and community engagement, to gather information related to early warnings from sources such as meteorological agencies and local communities. Trained personnel and volunteers within RC play a crucial role in disseminating this information accurately and promptly to ensure effective disaster preparedness and response. Despite the mandate of local governments (LGIs) to provide early warnings, the data indicates a need for improvement in their outreach efforts, suggesting the necessity for enhanced communication strategies and increased awareness initiatives to establish a more robust and widespread early warning system. Furthermore, the discrepancy between the low percentage of individuals receiving early warnings from LGIs and their involvement in organizing "miking" activities underscores the importance of streamlining coordination between LGIs and actual warning delivery mechanisms. Additionally, the increasing trend of receiving early warnings through mobile phones, particularly in flood-prone areas, presents a positive development, although there is still untapped potential for broader dissemination via mobile technology. In conclusion, the findings emphasize the significance of a multi-faceted approach involving collaborative efforts between organizations like RC and LGIs, as well as the exploration of emerging technologies like mobile phones, to enhance the effectiveness and reach of early warning systems within the surveyed population.

For respondents or households with knowledge about early warning systems, the (Figure 17) provides insights into the sources of this information. The most common source is the Red Crescent, accounting for 31.2% of response. Other significant sources include neighbors (15.7%), followed by the use of a public address system or "Mike" (13.3%), and television (11.0%). Mobile phones also play a role, contributing to 8.7% of the responses. Other sources, such as signboards/billboards, radio, newspapers, local government, teachers, NGOs, posters/leaflets, and internal sources, represent varying percentages of the responses. This information highlights the diverse channels through which individuals and households acquire knowledge about early warning systems, contributing to a nuanced understanding of the information dissemination landscape in the surveyed population.

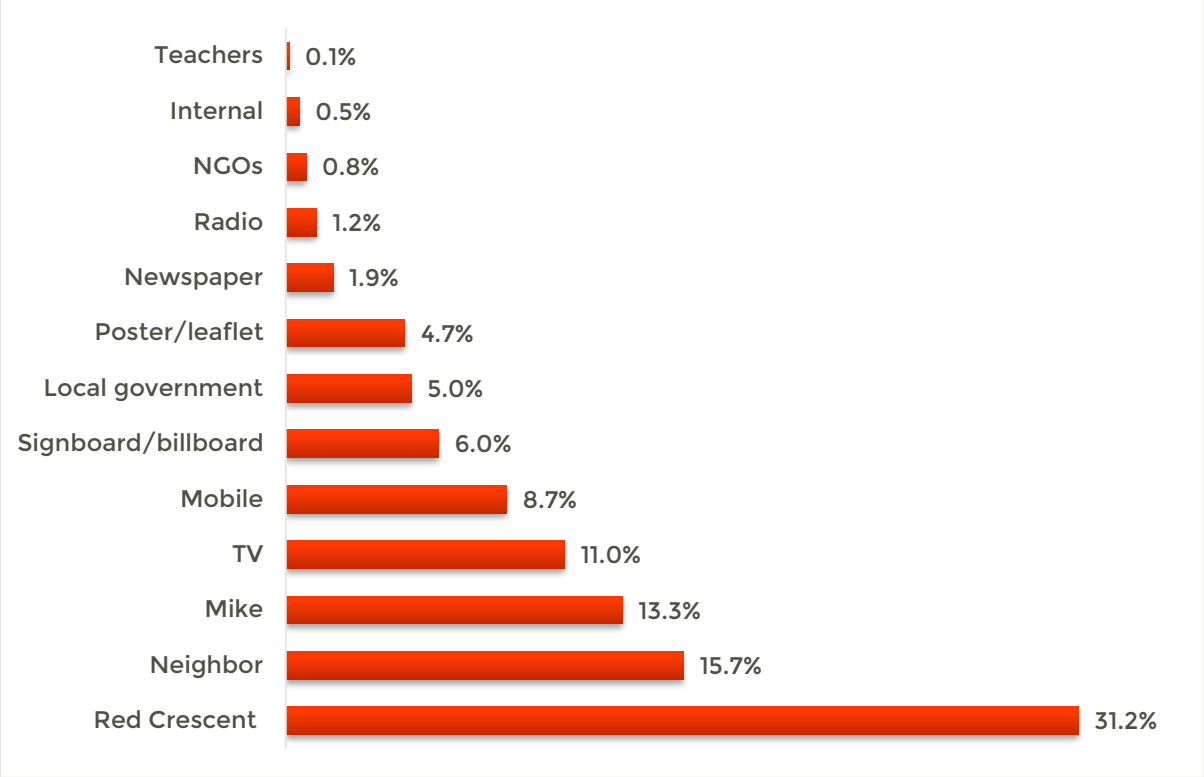



**Figure 17: Sources of Knowledge about Early Warning Systems among Surveyed Individuals and Households (* multiple responses)**

The (Figure 18) presents the frequency and percentage distribution of various disasters that have affected households in the surveyed area over the past five years (2019-2023). The most commonly reported disaster is flooding, affecting 46.5% of the respondents. River erosion follows as the second most prevalent disaster, impacting 25.5% of households. Other disasters include drought (9.8%), storms or tornadoes (5.4%), and the COVID-19 pandemic (6.6%). Thunderstorms and excessive rainfall have affected smaller percentages of households, at 1.9% and 4.3%, respectively. Additionally, a minimal percentage of respondents (0.1%) reported other types of disasters not specified in the provided categories. This information provides a comprehensive overview of the range of disasters experienced by households in the surveyed area, contributing to a better understanding of the local disaster landscape. While floods remained a prevalent concern at both baseline and endline, the community's perceived impact of river erosion decreased from 89.0% to 47.8%. Notably, the perceived impact of COVID-19 dropped significantly from 69.0% to 12.3%. Other disasters, including storms, drought, thunderstorms, and excessive rainfall, also exhibited varying degrees of change over the study period.

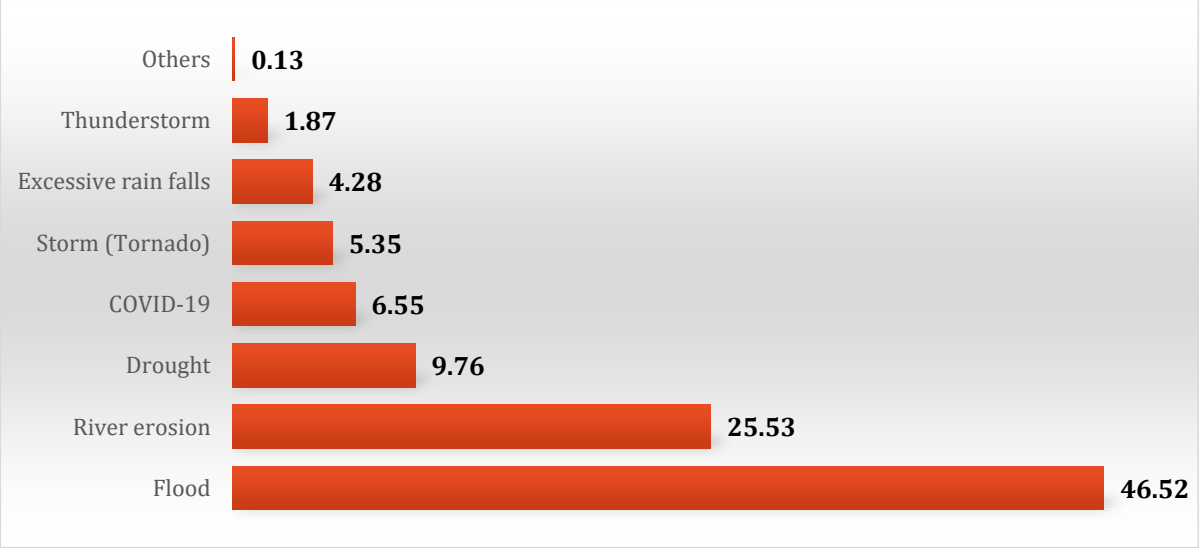



**Figure 18: Disasters Affecting Households in the Past Years in the Surveyed Area (*multiple responses)**

The (Figure 19) presents the distribution of the years in which disasters have impacted households in the surveyed area. The majority of reported disaster impacts occurred in the year 2023, constituting 44.8% of responses. In the preceding years, the distribution is as follows: 2019 (1.8%), 2020 (16.3%), 2021 (12.5%), and 2022 (24.8%). This information provides a temporal perspective on the occurrence of disasters, highlighting the most recent year, 2023, as a period with a significant impact on the surveyed households.

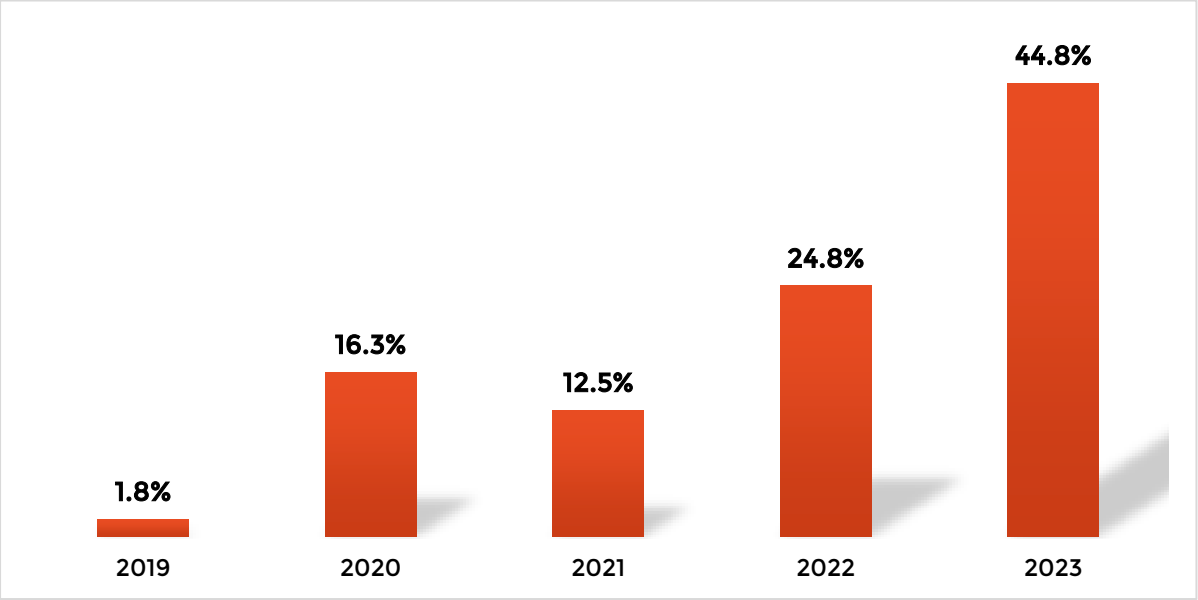



**Figure 19: Years of Disaster Impact on Households in the Surveyed Area**

The (Figure 20) illustrates the distribution of responses regarding whether surveyed individuals have received any training related to climate resilience, early warning systems, or related topics. Approximately 62.0% of respondents affirm having received such training, while 38.0% report not having received any training in these areas. This data provides insights into the level of exposure to climate resilience and early warning system

training within the surveyed population, indicating a significant portion that has undergone relevant training.

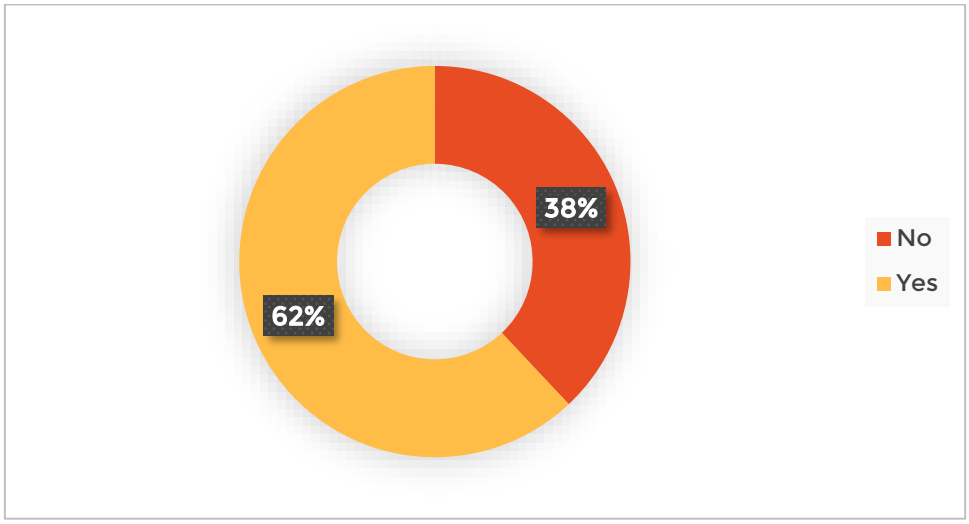



**Figure 20: Training on Climate Resilience and Early Warning Systems among Surveyed Individuals**

# HOUSEHOLD PREPAREDNESS

The (Table 4) provides insights into the engagement of surveyed individuals or households in climate-resilience activities following relevant training. The majority of respondents report involvement in raising their homes (37.7%), which contributes to enhancing the community's resilience to climate-related challenges. Additionally, activities such as raising latrines (23.0%) and improving tube-wells (17.5%) reflect efforts to make essential infrastructure more resilient. Another significant percentage of respondents (15.4%) have actively participated in disseminating climate-related messages, contributing to community awareness. A smaller percentage (6.4%) expresses a lack of awareness regarding such activities. The percentages in both the "% of responses" and "% of cases" columns provide a dual perspective on the engagement levels, contributing to a nuanced understanding of individual and household contributions to climate resilience initiatives in the community.

**Table 4: Involvement in Climate-Resilience Activities after Training among Surveyed Individuals [*multiple responses]**

| | % of responses |
|---|---|
| I raise our home | 37.7% |
| I raise the latrine | 23.0% |
| I improve my tube-well | 17.5% |
| I disseminate message | 15.4% |
| I'm not aware of | 6.4% |

The (Figure 21) presents the distribution of responses regarding whether surveyed households take any type of action before the occurrence of floods. A significant majority of households, constituting 59.0%, affirm taking preventive actions before floods.

Conversely, 41.0% of households report not taking any specific actions before floods. This information provides insights into the prevalence of proactive measures taken by households to mitigate the impact of floods in the surveyed area. Comparing baseline and endline data, there is an evident shift in households' actions. More households took actions before the flood, increasing from 49.0% to 59.0%, while the percentage of households not taking actions before the flood decreased from 51.0% to 41.0%. Interestingly, actions during and after the flood displayed variations, indicating evolving community responses over time.

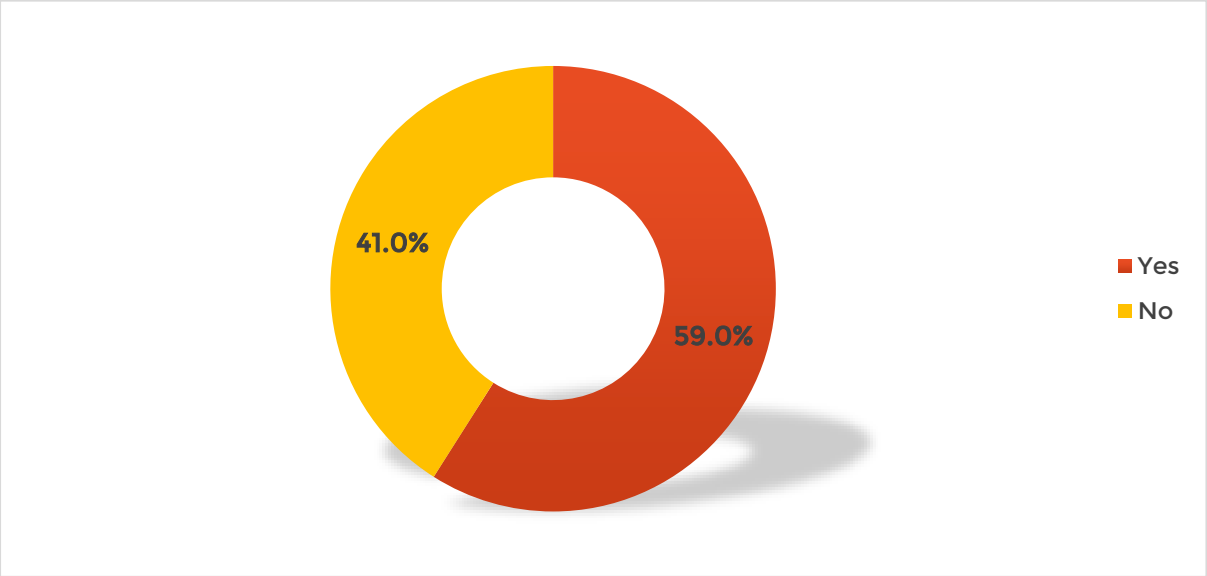



**Figure 21: Actions Taken by Households Before Floods in the Surveyed Area**

For households taking preventive actions before floods, the (Table 5) outlines the types of actions commonly undertaken. The most prevalent action is raising the household plinth (26.2%), contributing to flood resilience by elevating living spaces. Additionally, preserving food and fuel (25.7%) is a common practice, ensuring essential supplies are safeguarded. Saving money (17.6%) and taking information about flood shelters (6.7%) also represent proactive measures. Other actions include raising the platform of tube-well and latrine (5.9%), informing the community about flood preparedness (4.1%), and preparing safe places for domestic animals (13.7%). A minimal percentage (0.2%) reported other types of actions not specified in the provided categories. The percentages in both the "% of responses" and "% of cases" columns offer a comprehensive view of the diverse actions taken by households, contributing to a nuanced understanding of pre-flood preparedness in the surveyed area.

**Table 5: Preventive type of actions Taken by Households Before Floods in the Surveyed Area [*multiple responses]**

| | % of responses |
|---|---|
| **Raise the household plinth** | 26.2% |
| **Preserve food and fuel** | 25.7% |
| **Save money** | 17.6% |
| **Prepare safe place for domestic animals.** | 13.7% |

| | % of responses |
|---|---|
| **Take the information about the flood shelter.** | 6.7% |
| **Raised the platform of tube-well and latrine** | 5.9% |
| **Inform community people to be prepared for flood** | 4.1% |
| **Others** | 0.2% |

The (Figure 22) presents the distribution of responses regarding whether surveyed households take any type of action during floods. A significant majority of households, constituting 65.3%, affirm taking actions during floods. Conversely, 34.8% of households report not taking any specific actions during floods. This information provides insights into the prevalence of actions taken by households to cope with or respond to floods in the surveyed area.

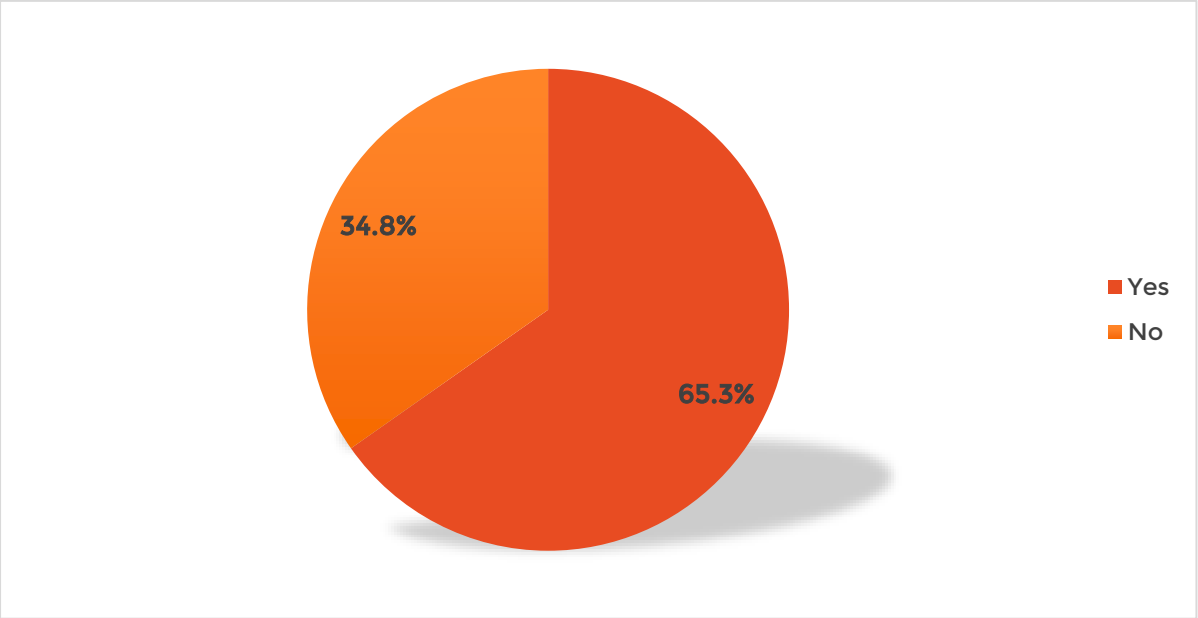



**Figure 22: Actions Taken by Households During Floods in the Surveyed Area**

For households taking actions during floods, the (Table 6) outlines the types of actions commonly undertaken. The most prevalent action is shifting properties and materials to safe places (26.9%), contributing to minimizing potential losses during floods. Taking shelter on roads, in shelter centers, or at a neighbor's or relative's house or rooftop is reported by 11.5% of respondents. Additionally, advising others to shift and take safe shelter (6.3%), working together to reduce flood losses (11.9%), lending money (10.6%), and selling livestock (12.7%) represent common strategies. Boiling water before drinking (5.3%) and collecting relief if provided (7.1%) are also reported actions. A minimal percentage (1.1%) reported other types of actions not specified in the provided categories. The percentages in both the "% of responses" and "% of cases" columns offer a comprehensive view of the diverse actions taken by households, contributing to a nuanced understanding of responses during floods in the surveyed area.

**Table 6: Type of Actions Taken by Households During Floods in the Surveyed Area [*multiple responses]**

| | % of responses |
|---|---|
| Shift properties and materials in safe places | 26.9% |
| Selling livestock | 12.7% |
| Work together to reduce the loss of flood | 11.9% |
| Take shelter on roads or shelter centers or a neighbor or relative house or rooftop | 11.5% |
| Lending Money | 10.6% |
| Collect relief if provided | 7.1% |
| Internal | 6.8% |
| Advise others to shift and take safe shelter | 6.3% |
| Boil water before drinking | 5.3% |
| Others | 1.1% |

The (Figure 23) presents the distribution of responses regarding whether surveyed households take any type of action after floods. A significant majority of households, constituting 64.0%, affirm taking actions after floods. Conversely, 36.0% of households report not taking any specific actions after floods. This information provides insights into the prevalence of post-flood actions taken by households to recover or adapt in the surveyed area.

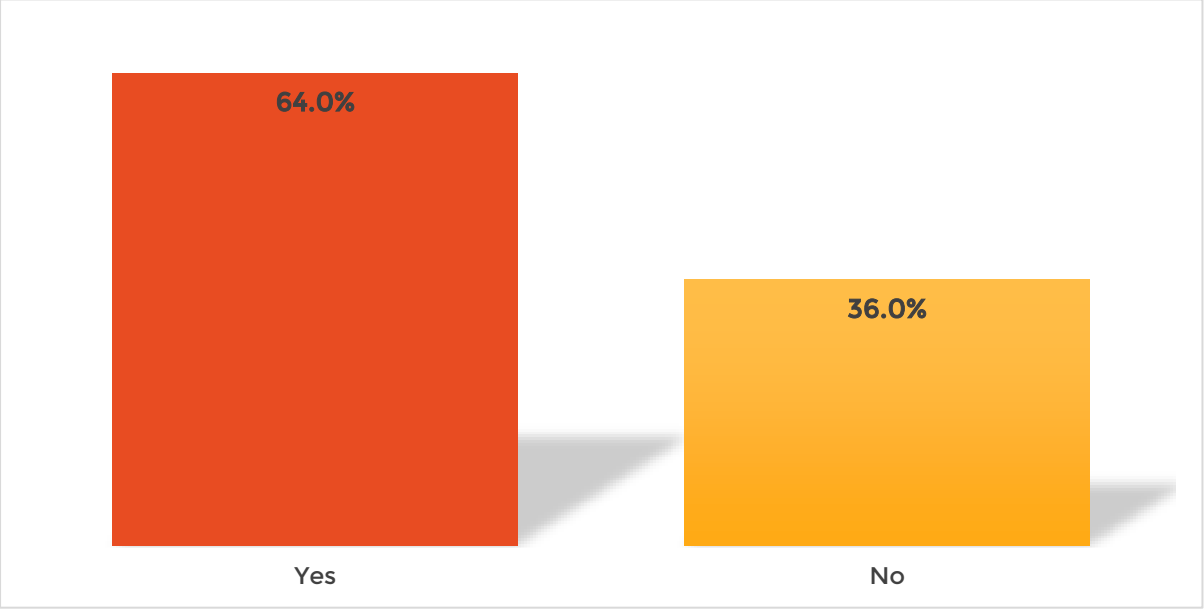



**Figure 23: Actions Taken by Households After Floods in the Surveyed Area**

For households taking actions after floods, the (Table 7) outlines the types of actions commonly undertaken. The most prevalent action is returning to the household (23.1%), indicating a phase of recovery or restoration. Communicating with Union Parishad (UP) representatives and other service-providing organizations is reported by 3.9% of respondents, suggesting engagement with local governance and support networks. Collecting relief and other support if provided is reported by 16.9% of households, indicating reliance on external assistance. Repairing damaged houses is a significant

action reported by 34.4% of respondents, emphasizing the importance of restoring shelter. Selling assets (11.5%) and lending money (10.1%) represent financial coping strategies. A minimal percentage (0.2%) reported other types of actions not specified in the provided categories. The percentages in both the "% of responses" and "% of cases" columns offer a comprehensive view of the diverse actions taken by households, contributing to a nuanced understanding of post-flood recovery efforts in the surveyed area.

**Table 7: Type of Actions Taken by Households After Floods in the Surveyed Area [*multiple responses]**

| | % of responses |
|---|---|
| Repair damaged houses | 34.4% |
| Back to Household | 23.1% |
| Collect relief and other support if provided | 16.9% |
| Selling assets | 11.5% |
| Lending money | 10.1% |
| Communicate with UP representatives and other service-providing organizations | 3.9% |
| Others | 0.2% |

# FLOOD EARLY WARNING

The (Figure 24) presents the distribution of responses regarding the knowledge of understanding flood early warning messages among surveyed households. The majority of households, accounting for 75.3%, affirm having knowledge and understanding of flood early warning messages. In contrast, 24.8% of households report not having such knowledge. This information provides insights into the level of awareness and comprehension of flood early warning messages within the surveyed area.

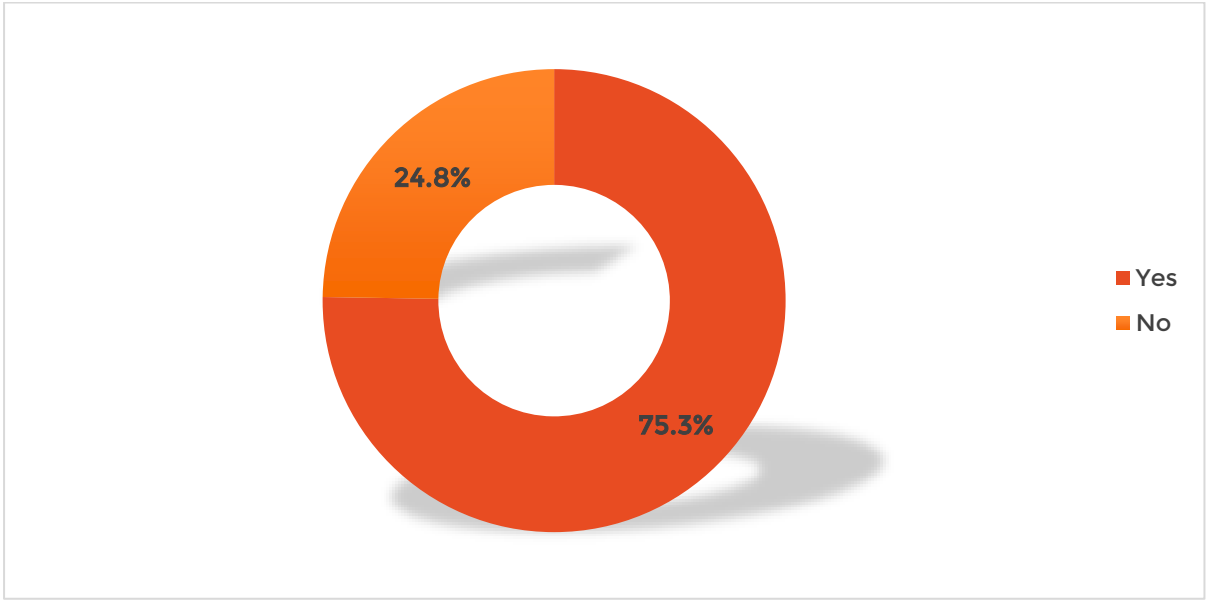



**Figure 24: Understanding of Flood Early Warning Messages Among Surveyed Households**

The (Figure 25) presents the distribution of responses regarding whether surveyed households have ever received flood early warning messages. The majority of households,

constituting 86.8%, affirm having received flood early warning messages. In contrast, 13.3% of households report not having received such messages. This information provides insights into the prevalence of flood early warning message dissemination and reception within the surveyed area.

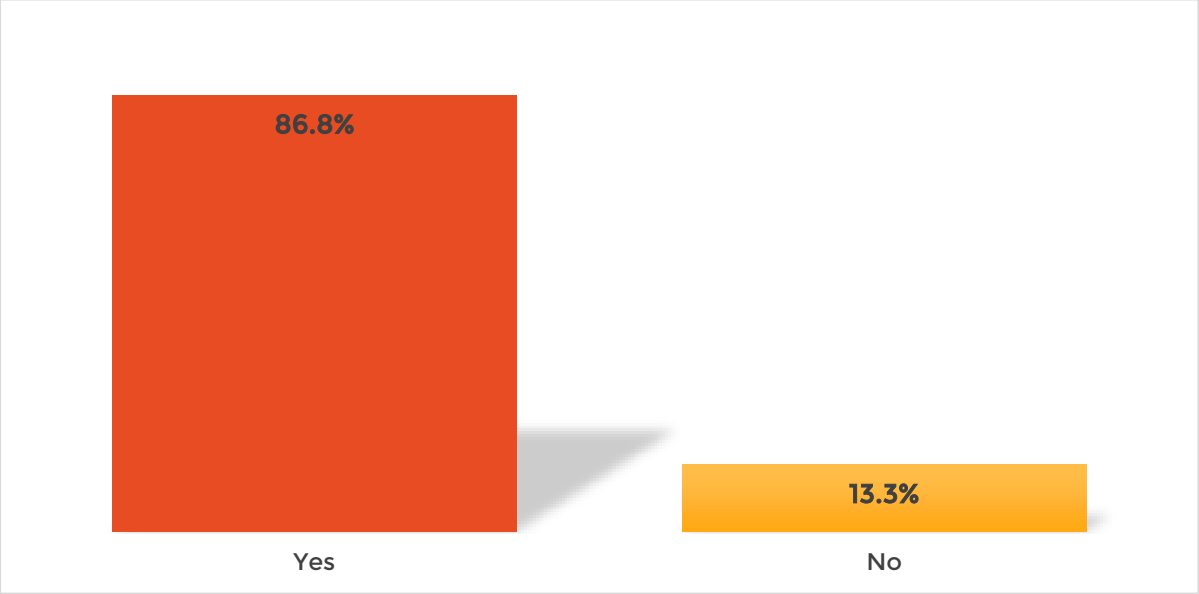



**Figure 25: Receipt of Flood Early Warning Messages Among Surveyed Households**

For households that have received flood early warning messages, the (Table 8) outlines the sources of these messages. The most common source is the Red Crescent, accounting for 32.3% of responses, indicating the organization's significant role in disseminating early warnings. TV is another prominent source, reported by 14.2% of respondents, emphasizing the visual communication channel. Radio (1.7%), mobile phones (11.6%), and newspapers (3.8%) represent varied media used for message dissemination. The use of a loudspeaker or "Mike" is prevalent, reported by 20.8% of respondents, suggesting community-level broadcasting. Union Parishad and Upazila/District Parishad contribute to local governance involvement in disseminating warnings, with percentages of 10.7% and 1.9%, respectively. Teachers, NGOs, and other sources collectively contribute to the diverse channels through which flood early warning messages are communicated to households. The percentages in both the "% of responses" and "% of cases" columns provide a comprehensive understanding of the distribution of these sources among the surveyed households.

**Table 8: Sources of Flood Early Warning Messages Received by Surveyed Households [*multiple responses]**

| | % of responses |
|---|---|
| **Red crescent** | 32.3% |
| **Mike** | 20.8% |
| **TV** | 14.2% |
| **Mobile** | 11.6% |
| **Union Parishad** | 10.7% |
| **Newspaper** | 3.8% |
| **Upazila/District Parishad** | 1.9% |

| | % of responses |
|---|---|
| Radio | 1.7% |
| Others | 1.7% |
| NGOs | 0.7% |
| Teachers | 0.6% |

# TRAINING ON DRR, COVID-19, ETC.

The (Figure 26) presents the distribution of responses regarding whether surveyed households have participated in training or awareness sessions related to disaster. The majority of households, constituting 71.5%, report having participated in such training or awareness sessions. In contrast, 28.5% of households indicate not having participated in these sessions. This information sheds light on the prevalence of disaster-related education and preparedness activities within the surveyed area.

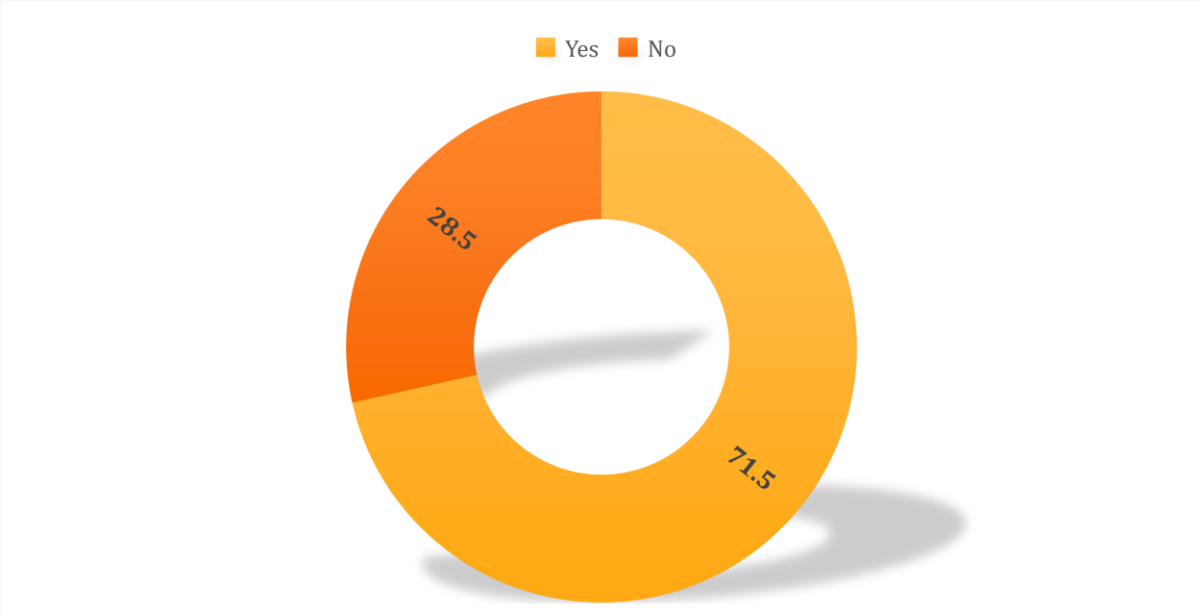



**Figure 26: Participation in Training or Awareness Sessions Related to Disaster Among Surveyed Households**

For households that participated in training or awareness sessions related to disaster, the (Table 9) outlines the specific topics covered during these sessions. COVID-19 emerges as a predominant focus, with 29.9% of respondents indicating training on this topic. WASH (Water, Sanitation, and Hygiene) is the second most common topic, reported by 24.4% of respondents, emphasizing the importance of hygiene and sanitation measures. Health-related topics, more broadly, encompassing aspects beyond COVID-19, are mentioned by 30.9% of respondents. Shelter-related training is reported by 14.5% of respondents, highlighting the significance of knowledge regarding safe and resilient shelter practices. The "Others" category, representing additional topics, is reported by a minimal percentage of respondents. The percentages in both the "% of responses" and "% of cases" columns offer insights into the distribution of training topics among the surveyed households.

**Table 9: Topics of Training or Awareness Sessions Attended by Surveyed Households [*multiple responses]**

| | % of responses |
|---|---|
| **Health** | 30.9% |
| **COVID-19** | 29.9% |
| **WASH** | 24.4% |
| **Shelter** | 14.5% |
| **Others** | 0.3% |

The (Figure 27) captures the frequency of participation and the topics covered in disaster risk reduction training among surveyed households. The majority of respondents, constituting 34.3%, report participating in training sessions more than three times, indicating sustained engagement in disaster-related education. Additionally, 1-time participation is reported by 30.8% of respondents, while 17.5% participated 2 times and another 17.5% participated 3 times. The data underscores a varied level of involvement among surveyed households, providing valuable insights into the depth and continuity of their engagement in disaster risk reduction training.

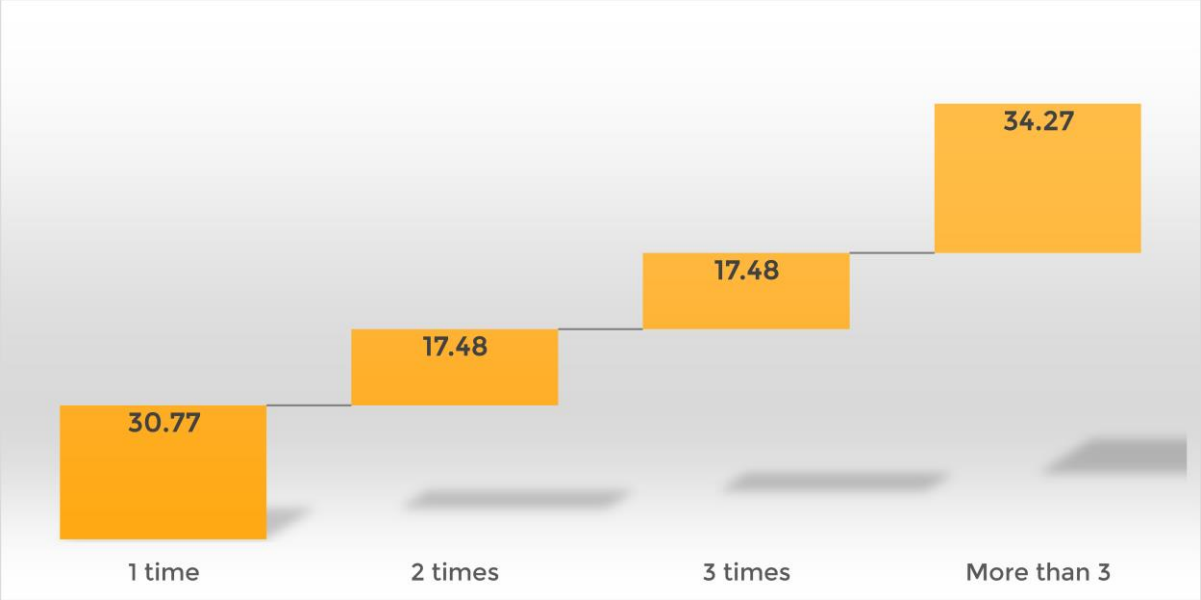



**Figure 27: Frequency of Participation and Topics Covered in Disaster Risk Reduction Training Among Surveyed Households**

The (Figure 28) reflects the perceived impact of training sessions on knowledge and awareness among surveyed households. A significant majority, comprising 51.4%, strongly agree that these training sessions have increased their knowledge and awareness. Another 45.8% agree with the positive impact of the sessions. The project respondent learned how they can minimize loss from the training. After getting training people keep their cattle and crops in safe shelter. There are many initiatives they took after training. Only a small percentage express a neutral stance (2.1%), and negligible responses indicate disagreement with the statement. Overall, the overwhelmingly positive responses suggest that the majority of surveyed households feel that the training sessions have effectively enhanced their understanding and awareness of disaster-related topics.

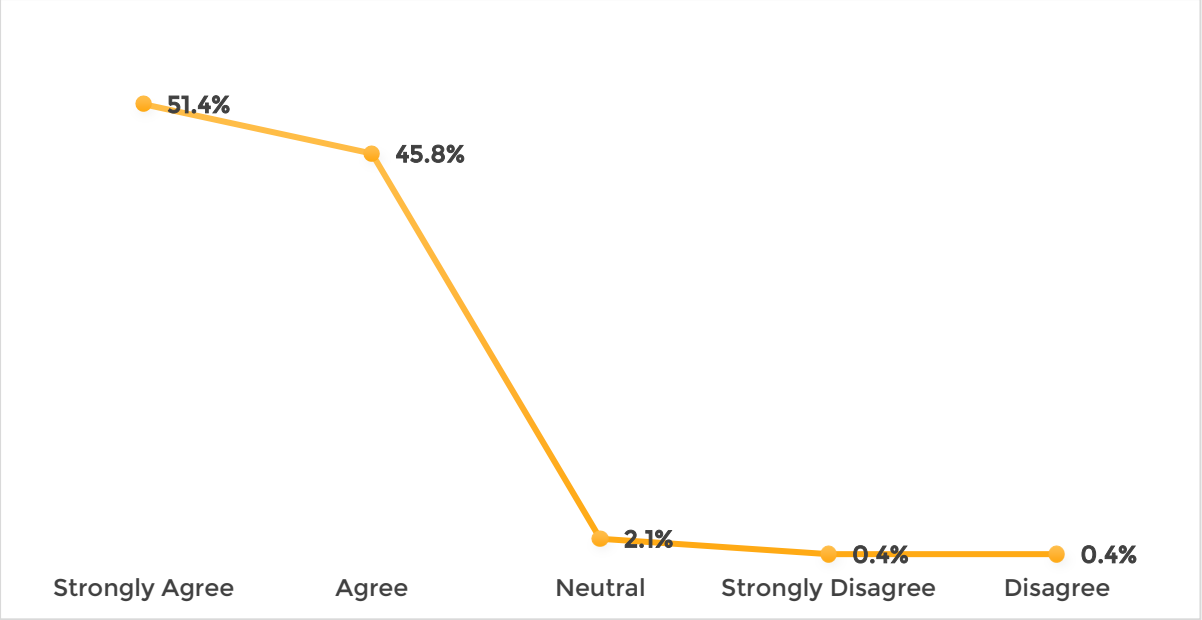



**Figure 28: Perceived Impact of Training Sessions on Knowledge and Awareness Among Surveyed Households**

# CONTRIBUTION TO DREF

The (Figure 29) presents data on the extent of household contributions to community disaster emergency response. A significant majority, accounting for 67.8%, report that they or their households have actively contributed to community disaster emergency response. In contrast, 32.3% indicate no such contributions. This information highlights the engagement and proactive involvement of a substantial portion of surveyed households in community-level efforts aimed at disaster response and emergency management.

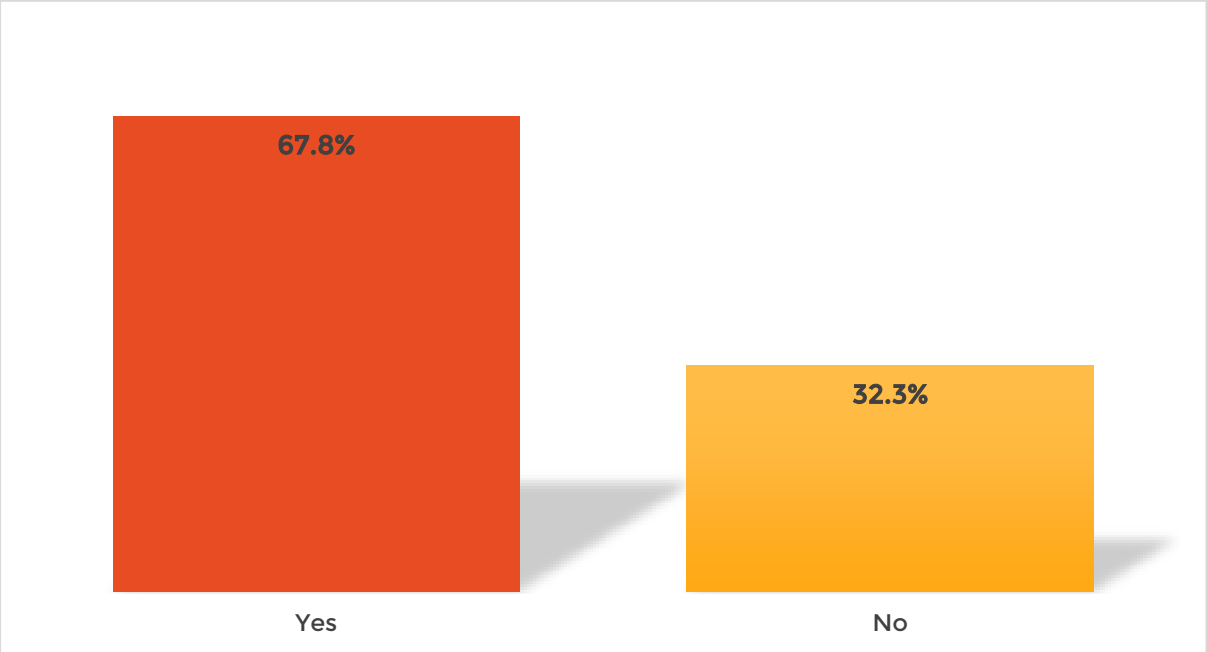



**Figure 29: Household Contribution to Community Disaster Emergency Response**

The (Figure 30) outlines the frequency with which surveyed households have made contributions to the Community Disaster Emergency Response Fund (DREF). A significant majority, constituting 75.7%, report making quarterly contributions where the baseline value 0%. Additionally, 13.3% contribute on a half-yearly basis, while 11.1% make annual contributions. This data illustrates a regular and periodic pattern of household contributions to the DREF, with a prevailing trend towards quarterly participation. Such consistent financial support from households enhances the community's preparedness and resilience in the face of potential disasters.

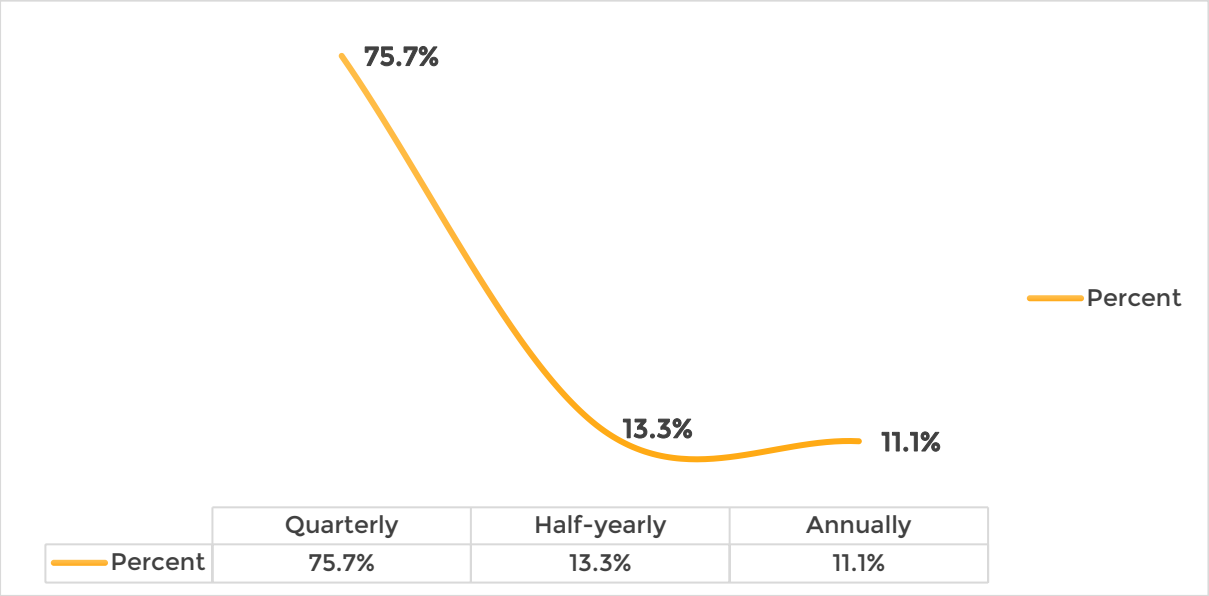



**Figure 30: Frequency of Household Contributions to the Community Disaster Emergency Response Fund (DREF)**

# LIVELIHOOD IMPACT & SUPPORT

The (Figure 31) depicts the impact of the last flood on the livelihood of surveyed households. A significant majority, comprising 67.5%, reported that their livelihood was indeed hampered during the last flood. This indicates the widespread negative consequences of floods on the economic activities and sustenance of the surveyed households. Understanding these impacts is crucial for devising effective strategies and interventions to mitigate the economic fallout of floods on communities.

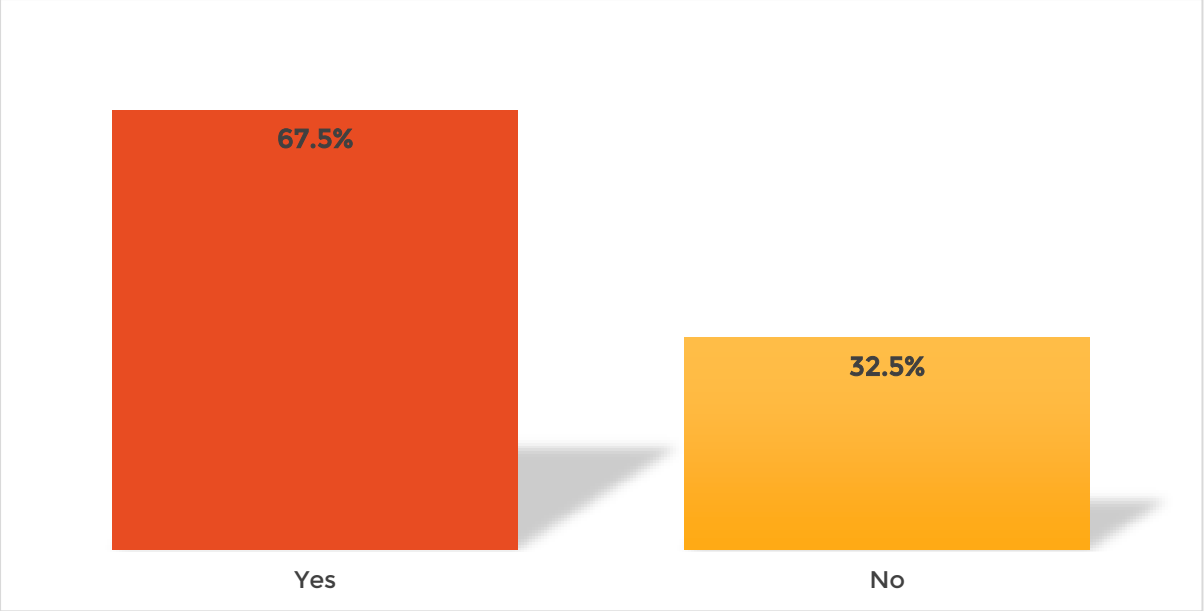



**Figure 31: Impact of Last Flood on Household Livelihood**

The (Table 10) illustrates the diverse coping mechanisms adopted by households in response to the losses incurred during floods. The most common strategies involve using savings (19.8%), reducing daily costs (20.6%), and temporary/permanent migration to other places for working purposes (16.2%). These findings shed light on the resilience and adaptability of households facing flood-related challenges. Additionally, the data underscores the importance of understanding and supporting various coping strategies to enhance the overall resilience of communities in flood-prone areas.

**Table 10: Coping Mechanisms Employed by Households During Flood-Related Losses [*multiple responses]**

| | % of responses |
|---|---|
| Reduce daily cost | 20.6% |
| Use savings | 19.8% |
| Borrow from other | 18.2% |
| Temporary/permanent migration to other places for working purpose | 16.2% |
| Taking loans (NGO/others) | 11.6% |
| Forced selling (livestock, boat, gold, lands) | 4.9% |
| Go through starvation | 4.1% |
| Send children for working to other places (cities/towns) | 1.0% |
| Drop down my children from school | 1.0% |
| Others | 1.0% |
| Received gifts from in-law's house | 0.9% |
| Get financial support from govt. and non-govt. agencies | 0.7% |

The (Figure 32) indicates that a significant majority of respondents (69.5%) did not receive support from the Programme to initiate or enhance income-generating activities. Conversely, 30.5% of the participants reported receiving support. This information is crucial

for Programme evaluation and future planning, highlighting the need to explore ways to expand support to a larger proportion of the community for economic empowerment and sustainable development.

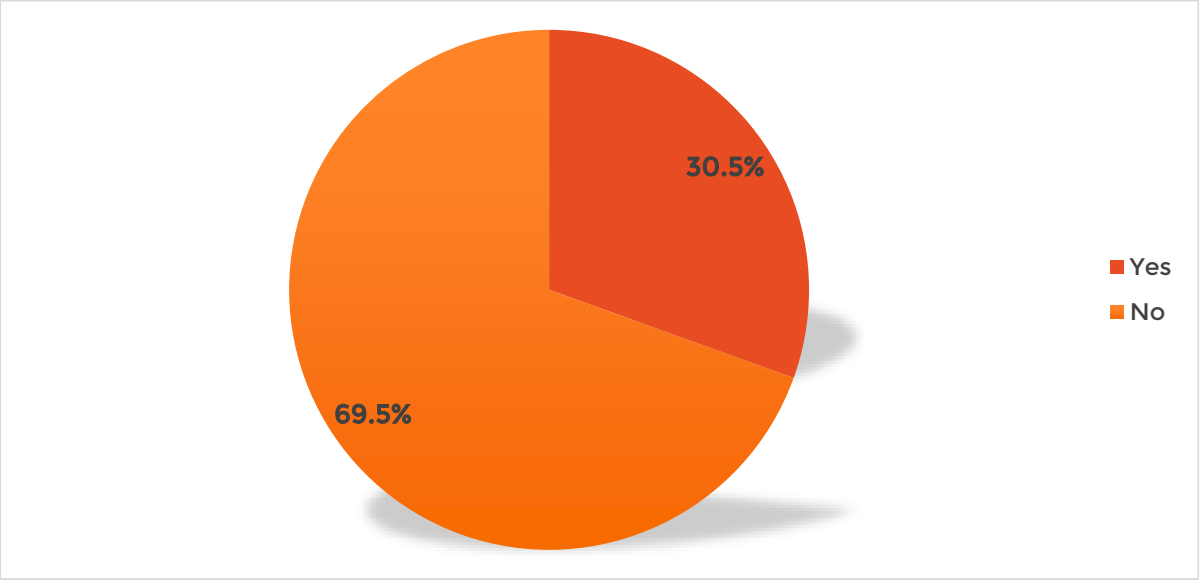



**Figure 32: Participation in Income Generation Support Programme**

Among respondents who reported receiving support from the Programme (30.5% of the total), the (Table 11) indicates that various types of assistance were provided. The majority received livelihood support (41.4%), followed by training and orientations (29.9%). Additionally, a notable percentage benefited from initiatives for income generation (17.1%), and a smaller proportion received market linkage support (11.2%). This diversity in support signifies a holistic approach to fostering economic stability and self-sufficiency within the community.

**Table 11: Types of Support Received from Income Generation Programme [*multiple responses]**

| | % of responses |
|---|---|
| **Livelihood support** | 41.4% |
| **Training and orientations** | 29.9% |
| **Initiatives for income generation** | 17.1% |
| **Market linkage support** | 11.2% |
| **Others** | 0.4% |

The (Figure 33) reveals that a significant proportion of respondents (76.3%) did not successfully initiate or enhance any Income Generating Activities (IGA) as a result of the support received from the Programme. However, 23.8% of respondents reported success in establishing or improving IGAs, indicating that a notable portion of beneficiaries experienced positive outcomes in terms of economic empowerment and sustainability. Further investigation into the factors contributing to success or challenges in initiating IGAs could provide valuable insights for Programme improvement.

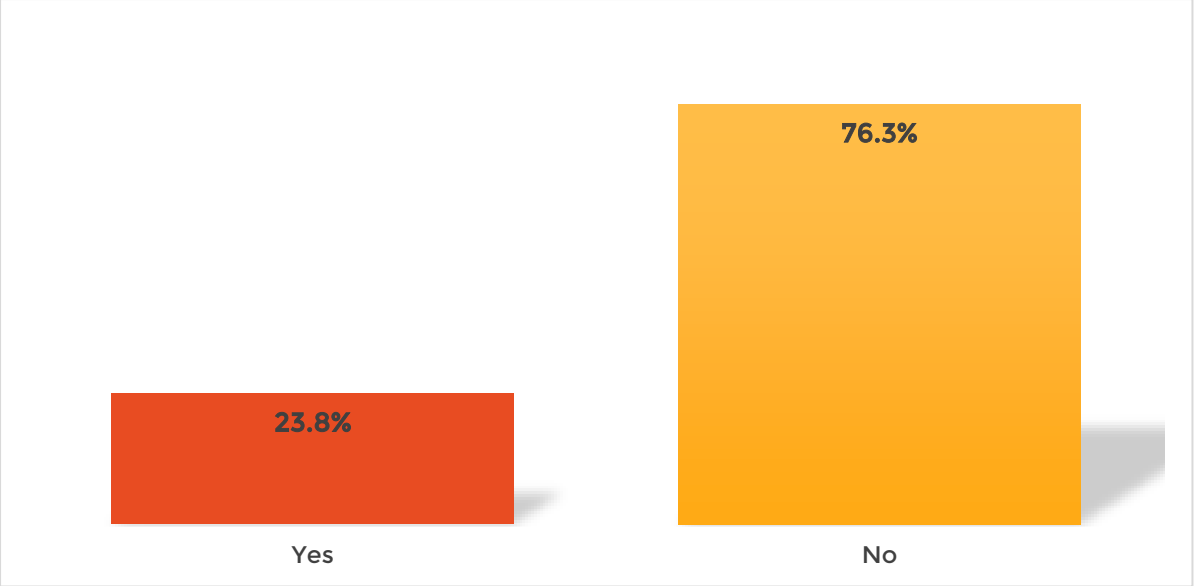



**Figure 33: Success in Initiating/Enhancing Income Generating Activities (IGA)**

The responses (Table 12) indicate varied impacts of the support received on respondents' livelihoods and income. The majority (76.8%) mentioned improved family well-being and treatment. Additionally, 40.0% highlighted positive effects on child education, demonstrating the support's broader impact on the family's future. Home repair (50.5%) and savings (52.6%) were also significant areas of improvement, suggesting that the support played a crucial role in enhancing housing conditions and financial stability. Smaller percentages reported impacts on land acquisition (8.4%). The diverse ways in which the support has positively influenced respondents' lives emphasize its multifaceted contribution to their overall well-being.

**Table 12: Impact of Support on Livelihood and Income [*multiple responses]**

| | % of responses |
|---|---|
| **Family treatment** | 33.3% |
| **Saving** | 22.8% |
| **Home repair** | 21.9% |
| **Child education** | 17.4% |
| **Land acquisition** | 3.7% |
| **Others** | 0.9% |

# SAVINGS LOCATION

The participants exhibited a variety of approaches (as shown in Table 13) in terms of where they save their earnings from their Income-generating Activities (IGA). 46.3% of the respondents expressed a preference for saving in local Shomittees where 87% of the total female respondents had a positive view of this, indicating a dependence on community-based financial systems. Furthermore, 30.5% of individuals choose to utilize the assistance of non-governmental organizations (NGOs) for the sake of savings. A minority (5.3%) chose banks, emphasizing a formal financial option. In addition, 12.6% of individuals expressed a preference for saving money by relying on their family, highlighting the significance of

familial connections. The existence of alternative saving techniques (15.8%) highlights the diverse strategies that individuals and families employ to safeguard and handle their income.

**Table 13: Saving Practices from Income-generating Activities (IGA) [*multiple responses]**

| | % of responses |
|---|---|
| **Local shomittee** | 41.9% |
| **NGO** | 27.6% |
| **Others** | 14.3% |
| **Relative** | 11.4% |
| **Bank** | 4.8% |

# CASH FOR CATTLE & RESILIENT STOVE

The (Figure 34) reveals that a significant majority of respondents (82.3%) did not receive cash for cattle purchases from the project. In contrast, a minority of participants (17.8%) reported receiving cash for this specific purpose. The project mapped the beneficiary category based on their financial vulnerability. Most vulnerable households received this support in priority basis.

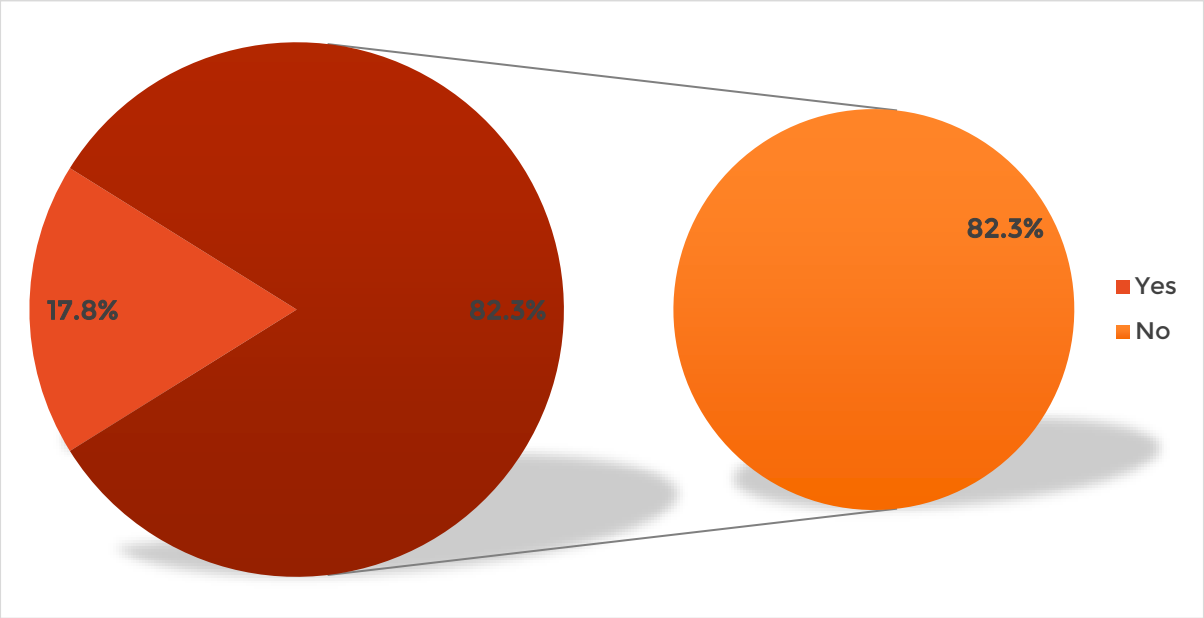



**Figure 34: Cash for Cattle Purchases from the Project**

The (Figure 35) indicates that a substantial percentage of respondents (82.5%) reported receiving a flood-resilient cement stove from the project. In contrast, a smaller proportion (17.5%) did not benefit from this specific initiative. This suggests that the project has successfully distributed flood-resilient cement stoves to a significant majority of the surveyed households.

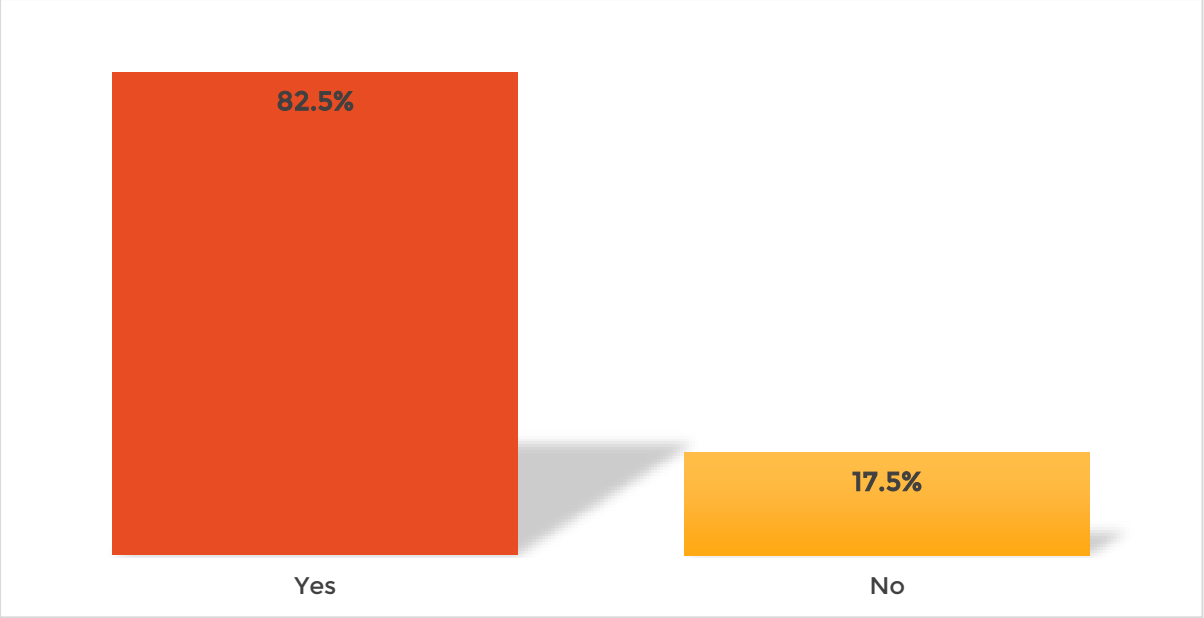



**Figure 35: Flood-Resilient Cement Stove Distribution**

# PASSA PROGRAMME AND SHELTER REPAIR

The (Figure 36) reveals that approximately half of the respondents (48.5%) were aware of the Participatory Approach for Safe Shelter Awareness (PASSA). In contrast, the other half (51.5%) reported not being familiar with PASSA. This suggests a balanced distribution in terms of awareness, indicating a need for further promotion or information dissemination about PASSA within the surveyed population.

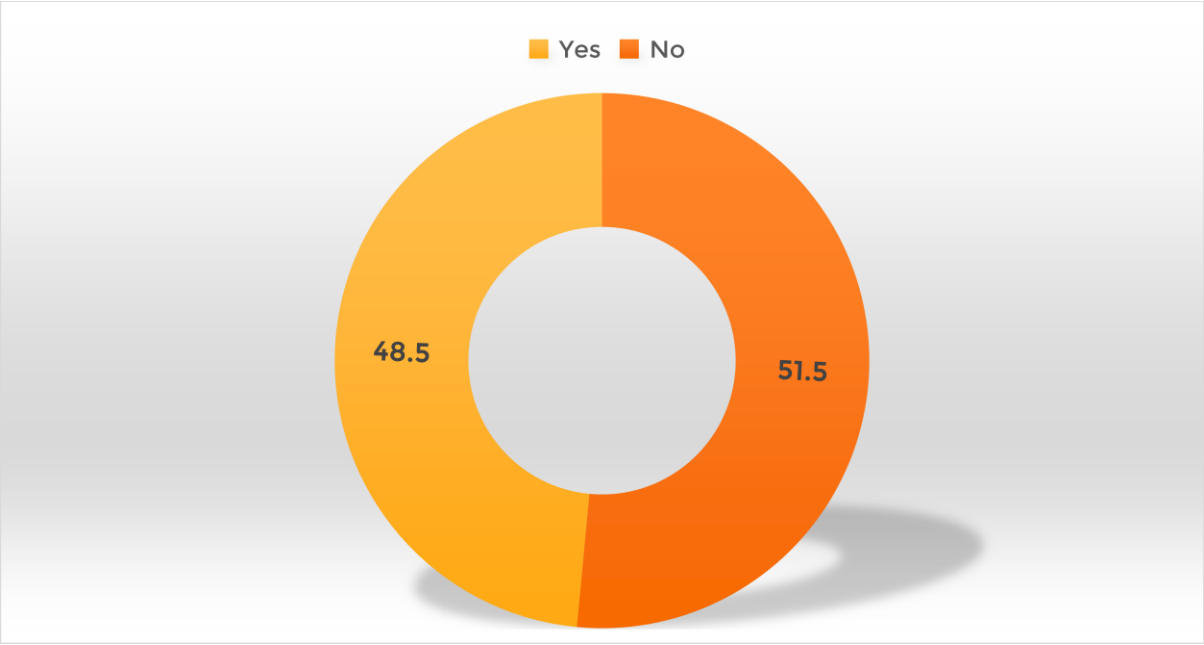



**Figure 36: Awareness of Participatory Approach for Safe Shelter Awareness (PASSA)**

The analysis (Figure 37) indicates that 41.0% of respondents participated in the Red Crescent Model House (PASSA) training or activities. In contrast, 59.0% reported not having

participated. This suggests a substantial portion of the surveyed population engaging in PASSA-related initiatives, indicating some level of community involvement and interest in the Red Crescent Model House Programme.

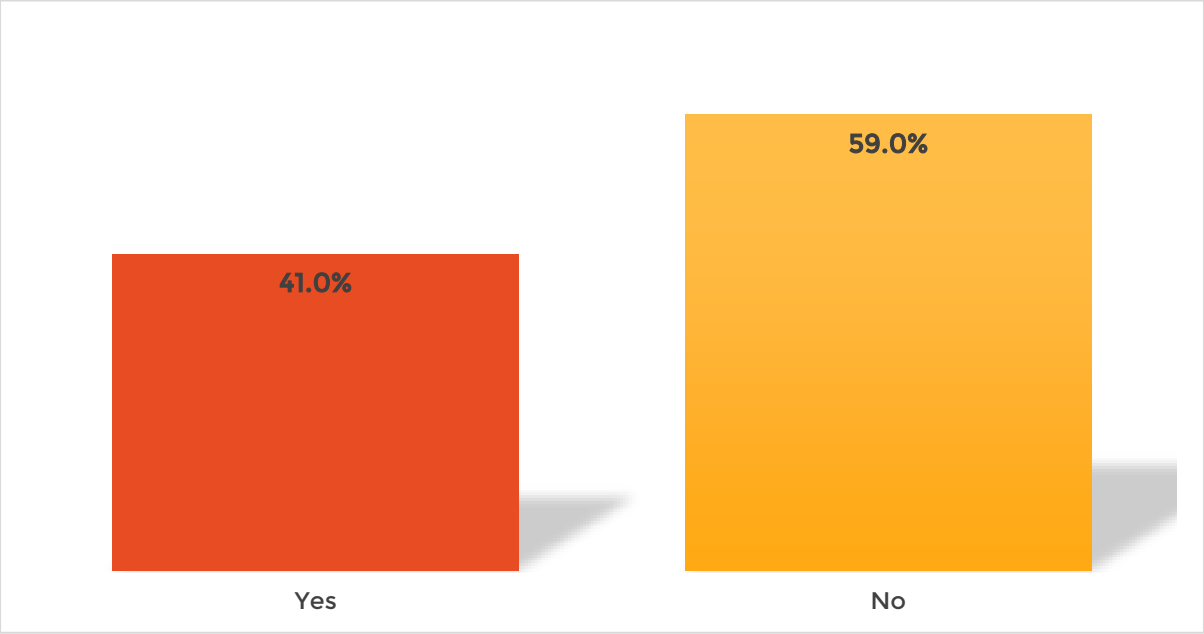



**Figure 37: Participation in Red Crescent Model House (PASSA) Training or Activities**

The data (Table 14) on specific actions or improvements made to shelters indicates diverse responses among respondents. About 9.6% of participants reported actively transforming their houses to align with the PASSA model, showcasing a direct application of the model's principles. In contrast, a significant portion, approximately 38.8%, mentioned that they had only observed the PASSA model house without implementing changes to their own dwellings. Additionally, 8.8% of respondents stated that they repaired their existing houses to conform to the PASSA model. Intriguingly, 40.4% expressed having plans to incorporate PASSA model features into their houses in the future, indicating a forward-looking perspective. A minor percentage (2.4%) cited unspecified other actions or improvements. This diversity in responses highlights varying levels of engagement with the PASSA model, with a notable proportion expressing intentions for future enhancements.

**Table 14: Specific Actions or Improvements Made to Shelter [*multiple responses]**

| | % of responses |
|---|---|
| Have a plan do in future | 40.4% |
| Only see the model house | 38.8% |
| Make house as PASSA model | 9.6% |
| Repair old house as model | 8.8% |
| Others | 2.4% |

The (Figure 38) provides insights into how respondents perceive the impact of the Participatory Approach for Safe Shelter Awareness (PASSA) on their shelter resilience. The majority, constituting 59.8% of respondents, reported that the Programme led to improved structural stability in their shelters. Additionally, 34.8% acknowledged enhanced flood

protection, demonstrating the effectiveness of the PASSA initiative in mitigating the impact of floods. A smaller percentage, 3.1%, cited better temperature insulation as a positive outcome. The category "Others" represents 2.4% of respondents who reported diverse factors contributing to increased shelter resilience. Overall, the PASSA Programme appears to have played a crucial role in reinforcing shelter structures and protecting them from environmental challenges, as indicated by the respondents' perceptions.

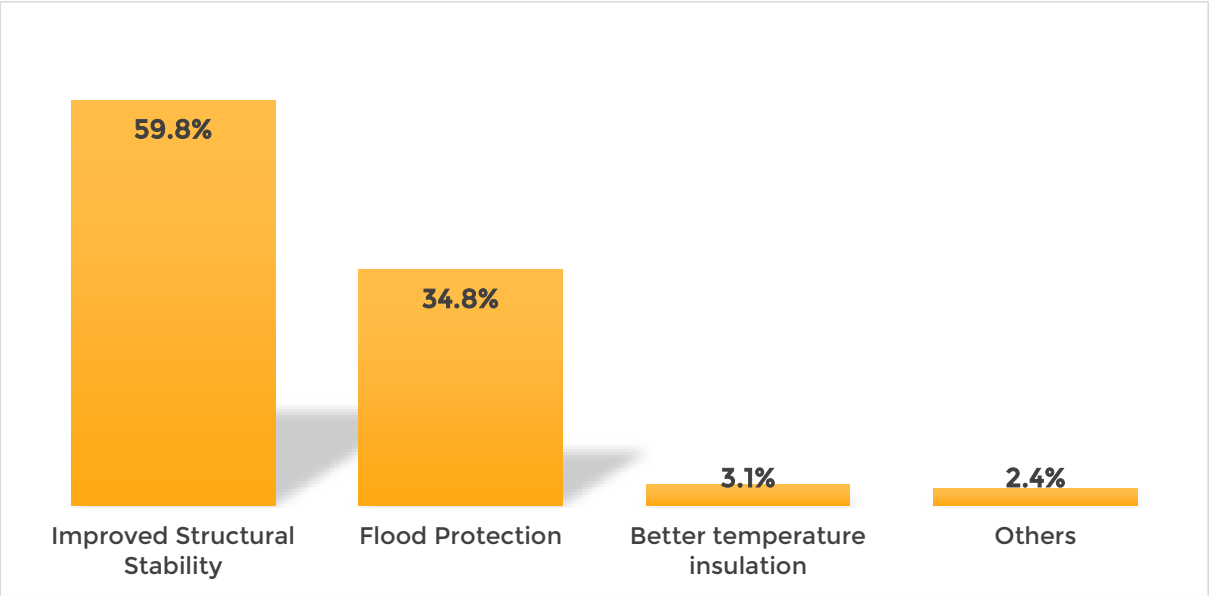



**Figure 38: Impact of Participatory Approach for Safe Shelter Awareness (PASSA) on Shelter Resilience**

The (Figure 39) indicates that the majority of respondents, accounting for 91.3%, did not receive cash grant support for shelter repair. In contrast, 8.8% of the respondents reported receiving such support. The project provided training on sheldter improvement and house repairing. Total 25% respondent received the training where the baseline value is 5%.

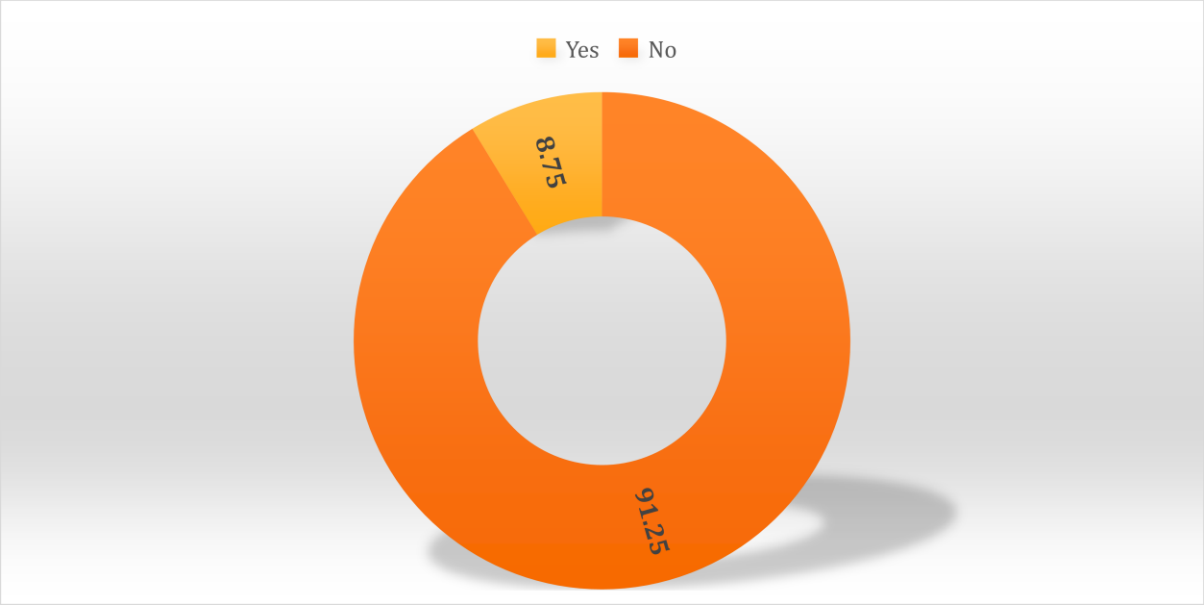



**Figure 39: Receipt of Cash Grant Support for Shelter Repair**

The (Figure 40) illustrates that a substantial majority of respondents, constituting 94.3%, utilized the cash grant received for shelter repair. Only a small percentage, 5.7%, reported not utilizing the provided cash for this purpose. This indicates that the overwhelming majority of those who received cash grants directed these funds towards addressing and improving their shelter conditions. Understanding the effective utilization of financial assistance is crucial for evaluating the impact and success of shelter support Programmes within the community.

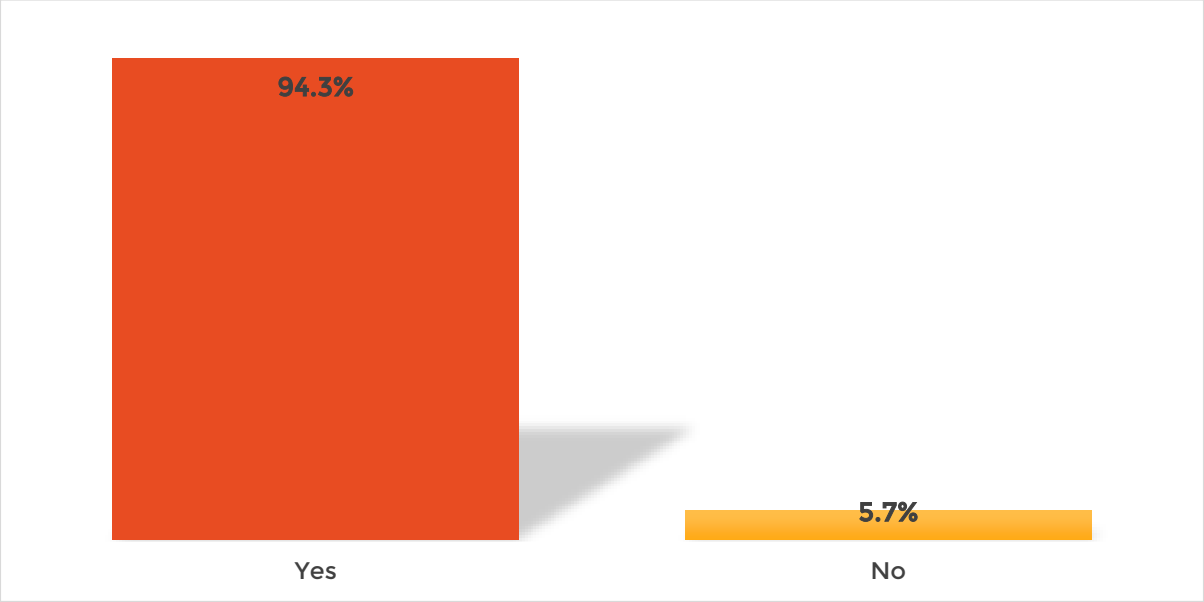



**Figure 40: Utilization of Cash Grant for Shelter Repair**

# WATER SUPPLY SOURCES

This (Table 15) indicates that the vast majority of households, 99.8%, rely on tube-wells as their major source of drinking water. Only a negligible percentage reported using alternative sources such as pond water (0.3%), rainwater (1.2%), pipe water (0.3%), or other sources (0.3%). This highlights the significant dependence on tube-wells within the community for meeting the drinking water needs of the households. Understanding the prevalent water sources is essential for assessing water quality, identifying potential health risks, and implementing targeted interventions if necessary. The (Figure 41) shows that the majority of households, 93.0%, have tube wells, while 7.0% do not. Tube wells play a crucial role in providing a reliable source of drinking water to the community. Assessing the distribution and condition of tube wells can inform interventions to ensure sustained access to clean and safe water for households, particularly in areas where tube wells are not currently present.

**Table 15: Major Source of Drinking Water for Household Members [*multiple responses]**

| | % of responses |
|---|---|
| **Tube-well** | 98.0% |
| **Rain water** | 1.2% |

| | |
|---|---|
| **Pond** | 0.3% |
| **Pipe water** | 0.3% |
| **Other** | 0.3% |

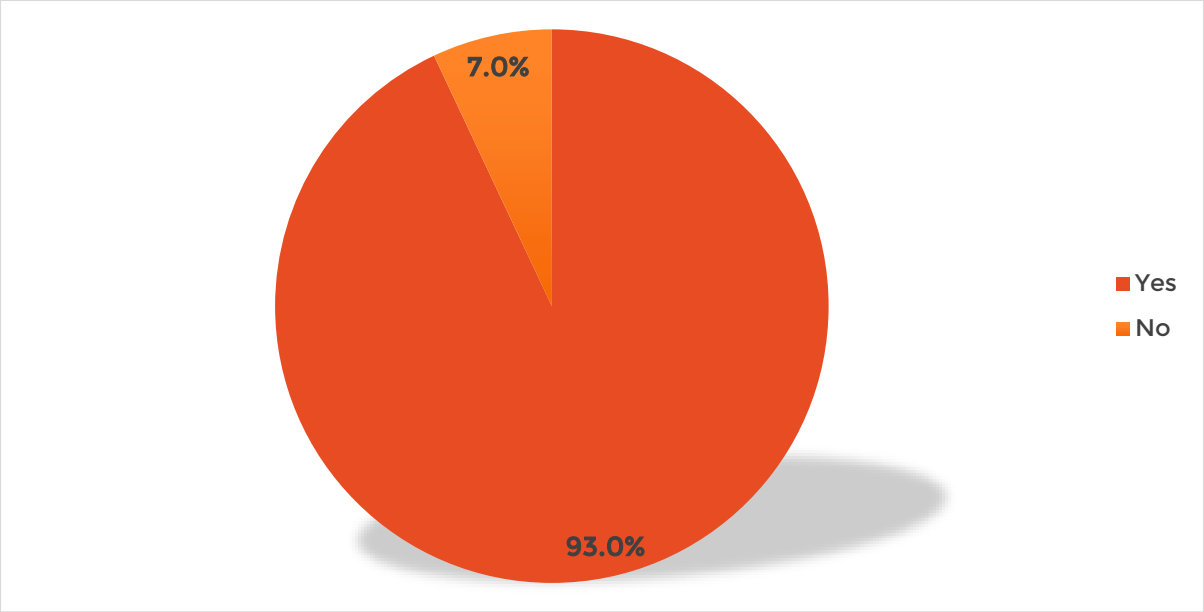



**Figure 41: Availability of Tube Wells in Household**

Among households with tube wells, 68.3% have improved tube wells with platforms, making them usable during floods. However, 31.7% still lack this improvement, indicating potential vulnerabilities in accessing clean water during flood situations (Figure 42). Addressing the improvement of tube wells can contribute to enhancing the resilience of water sources in flood-affected areas.

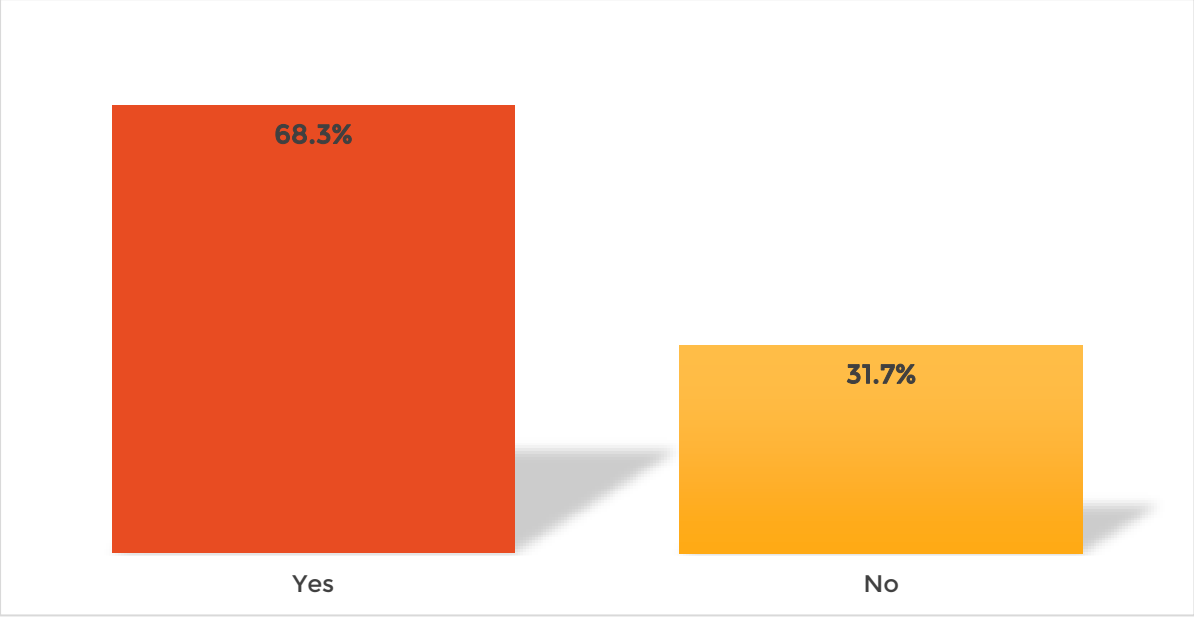



**Figure 42: Condition of Tube Wells in Households**

In households without improved tube wells, members rely on various alternative water sources for drinking. The majority (68.7%) use their neighbor's tube wells, emphasizing the

importance of community support. Additionally, 13.3% access tube wells in the community, while others resort to water sources from institutions, river water, rainwater, bottled water, and various other alternatives. This highlights the diverse strategies employed by households to secure drinking water in the absence of improved tube wells (Table 16).

**Table 16: Alternative Water Sources for Households without Improved Tube Wells [*multiple responses]**

| | % of responses |
|---|---|
| Neighbor's tube-well | 68.7% |
| Tube-well in community | 13.3% |
| Institution's water source (school, college, mosque) | 6.7% |
| Others | 5.3% |
| Bottled water | 2.7% |
| River water purified with tablet | 1.3% |
| Rainwater | 1.3% |
| River water directly | 0.7% |

During floods, households primarily rely on well-functioning tube wells for drinking water, constituting 87.8% of responses. However, a small percentage (8.1%) reported using inundated tube wells, suggesting adaptability in accessing water sources despite challenges. Other sources include bottled water, river water (directly or purified with tablets), pipe water, and various other alternatives, showcasing the diverse strategies employed by households to secure safe drinking water during flood situations. Total 87% people treat water by using different techniques (boil, using water purifying tablet, and other means) before drink during flood.

**Table 17: Sources of Drinking Water for Households During Flood [*multiple responses]**

| | % of responses |
|---|---|
| Well-functioning Tube-well | 87.8% |
| Inundated tube-well | 8.1% |
| Bottled water | 2.1% |
| River water directly | 0.9% |
| Others | 0.5% |
| River | 0.2% |
| River water purified with tablet | 0.2% |
| Pipe water | 0.2% |

The majority of water collection during floods is performed by female members, accounting for 58.3% of responses. Male members contribute to the task at a rate of 30.1%, while children and others play a smaller role, constituting 9.7% and 2.0%, respectively. This distribution underscores the gender dynamics in water collection responsibilities during challenging situations, reflecting the significant contribution of female members in securing essential resources for the household (Table 18).

**Table 18: Water Collection During Flood by Household Members [*multiple responses]**

| | % of responses |
|---|---|
| Female member | 58.3% |
| Male member | 30.1% |
| Children | 9.7% |
| Others | 2.0% |

The data (Table 19) indicates that households exhibit varied patterns in daily water collection during floods. A significant portion, 42.3%, collects water more than three times a day, highlighting the recurrent need for this essential resource. Furthermore, 23.5% collect water three times a day, while 19.0% and 15.3% collect water two times and one time a day, respectively. This diverse range in collection frequencies underscores the adaptive strategies employed by households to address their water needs during flood situations.

**Table 19: Frequency of Daily Water Collection During Flood [*multiple responses]**

| | % of responses |
|---|---|
| One time | 15.3% |
| Two times | 19.0% |
| Three times | 23.5% |
| More than that | 42.3% |

The majority of households heavily rely on tube-wells, constituting 94.1% of responses, for domestic purposes during floods. This indicates the importance of tube-wells as a consistent and accessible water source for various daily activities such as cooking, bathing, washing, and cattle nurturing. Meanwhile, only a small percentage reported using alternative sources, including rivers (3.6%), rainwater (1.0%), pipe water (0.5%), and others (0.7%). This highlights the centrality of tube-wells in fulfilling the diverse water needs of households during flood situations (Table 20).

**Table 20: Sources of Water for Domestic Purposes During Floods [*multiple responses]**

| | % of responses |
|---|---|
| Tube-well | 94.1% |
| River | 3.6% |
| Rainwater | 1.0% |
| Others | 0.7% |
| Pipe water | 0.5% |
| Pond | 0.2% |

# LATRINE AND SANITATION

The analysis (Figure 43) reveals that the majority of households, comprising 92.8% of respondents, have access to a latrine. This suggests that a significant portion of the surveyed population has adopted proper sanitation practices by having a latrine facility in their households. Only a small percentage, 7.3%, reported not having a latrine, indicating that sanitation coverage is relatively high among the surveyed households. The presence

of latrines contributes to improved hygiene and sanitation conditions within the community.

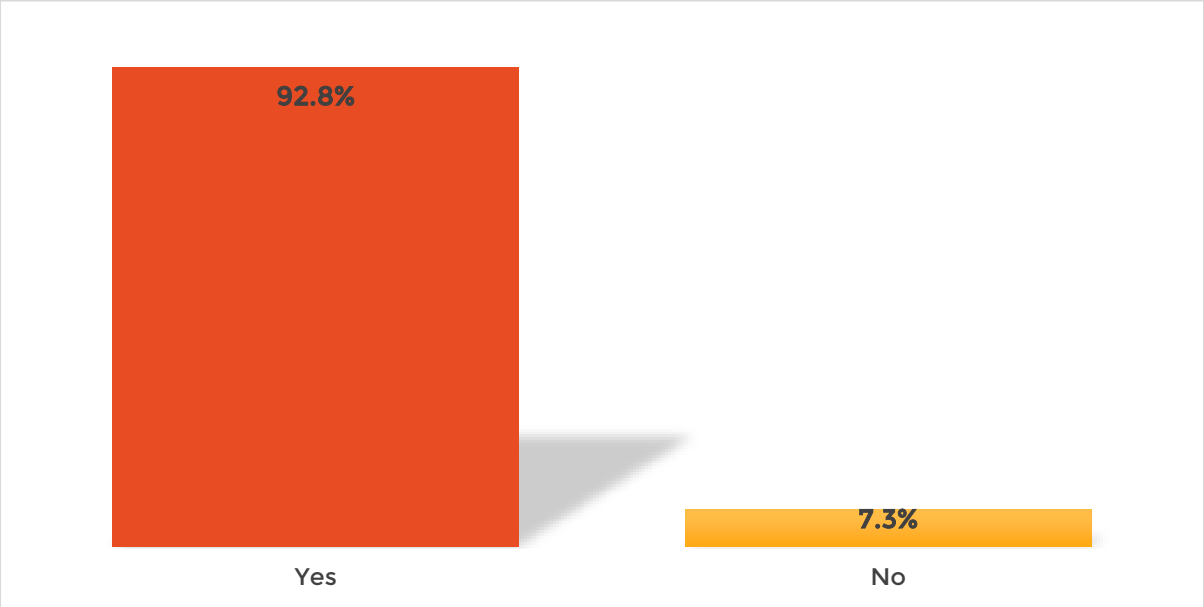



**Figure 43: Latrine Availability in Households**

The data (Figure 44) illustrates the distribution of latrine types in households, revealing that a significant portion of latrines are either semi-pucca (46.6%) or kaccha (47.2%). A smaller percentage of households have pucca latrines (5.1%), while hanging latrines constitute only 1.1%. This diversity in latrine types indicates variations in construction materials and infrastructure. Further analysis of latrine conditions and types could provide insights into the sanitation infrastructure's adequacy and potential areas for improvement. A positive trend is observed in latrine conditions from baseline to endline. The percentage of kaccha (unimproved) latrines decreased from 61.0% to 47.2%, while semi-pucca and pucca (improved) latrines increased from 15.0% to 46.6% and 2.0% to 5.1%, respectively. The percentage of hanging latrines also showed a decrease from 2.0% to 1.1%, indicating overall progress in sanitation infrastructure.

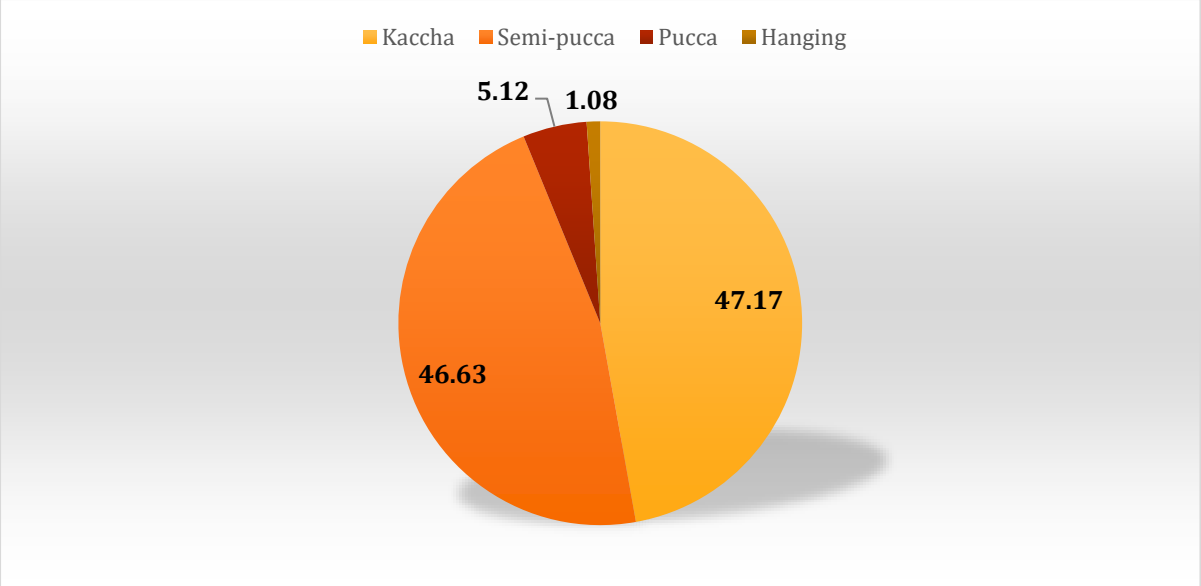



**Figure 44: Types of Latrines in Households**

The (Figure 45) provides information on the distance of household latrines from the living room. A majority of households (51.5%) have their latrines situated within the range of 11-20 feet from the living room. The distribution shows a fairly even spread, with 17.0% having latrines within 0-10 feet, 18.8% within 21-30 feet, 6.8% within 31-40 feet, and 6.0% beyond 40 feet.

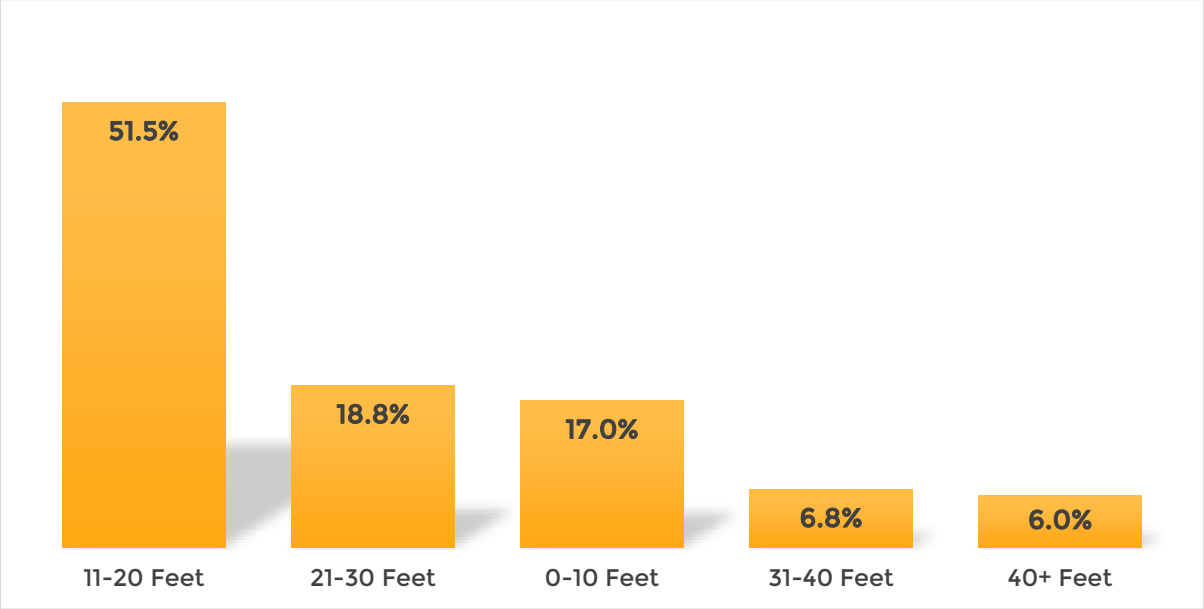



**Figure 45: Distance of Household Latrine from Living Room**

The (Figure 46) presents information on the proximity of household latrines to drinking water sources. The majority of households (66.8%) have their latrines located within 0-10 feet from the drinking water source, indicating close proximity for a significant portion of the surveyed population. The distribution shows that 19.8% have latrines within 11-20 feet, 7.5% within 21-30 feet, and 3.0% each within 31-40 feet and beyond 40 feet.

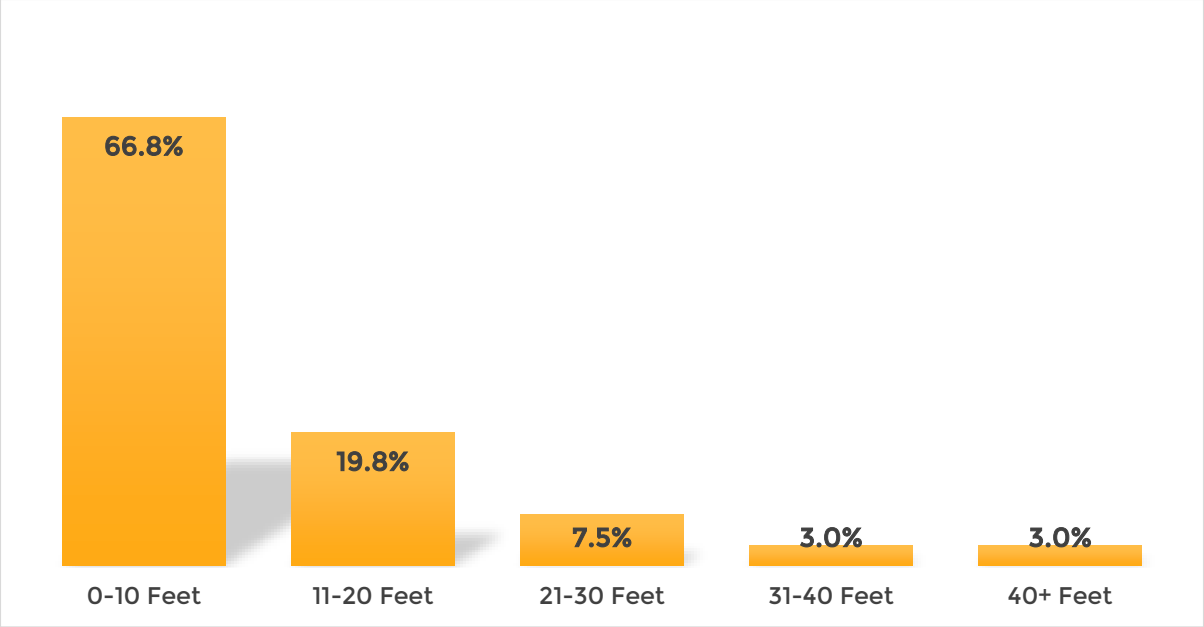



**Figure 46: Distance of Household Latrine from Drinking Water Source**

The (Figure 47) indicates the improvement status of household latrines based on observational data. Among the surveyed households, 48.8% have improved latrines, while 51.2% have latrines that are not categorized as improved. Improved latrines typically involve better construction and facilities, highlighting an area for potential intervention or improvement in sanitation infrastructure for the surveyed community. Understanding the distribution of latrine types is essential for designing targeted interventions to enhance sanitation and hygiene practices.

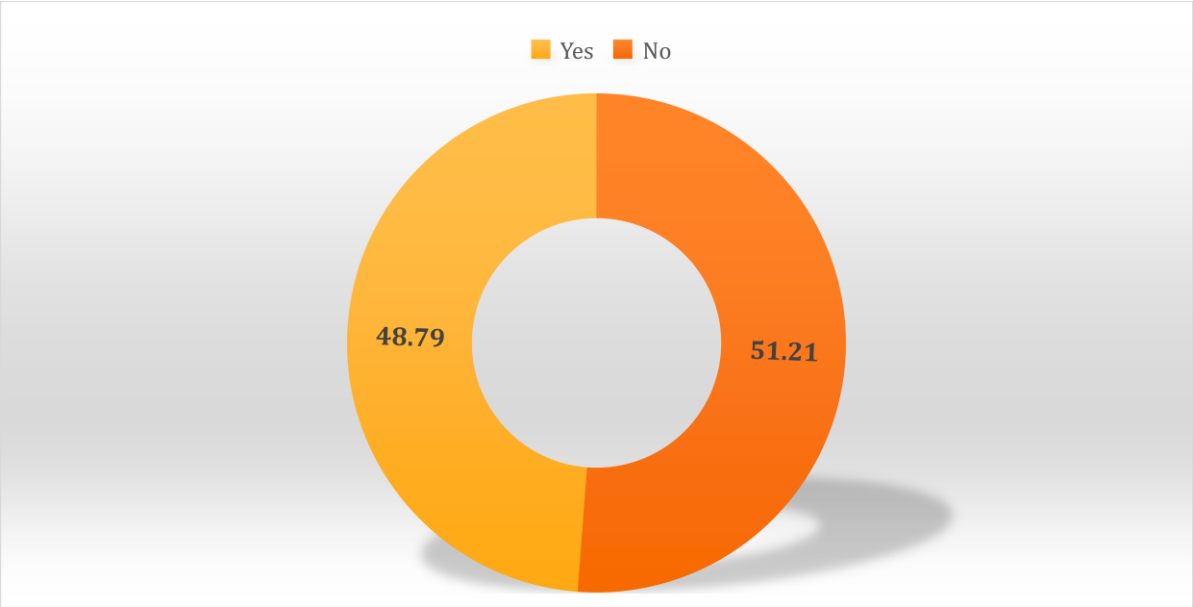



**Figure 47: Improvement Status of Household Latrine**

The (Figure 48) provides insights into the flood protection status of household latrines. Approximately 52.0% of the surveyed households have latrines that are protected from floods, the baseline value 26%. This information highlights the vulnerability of a

considerable number of latrines to flood-related damage. Implementing measures to safeguard latrines from floods could contribute to improved sanitation resilience in flood-prone areas.

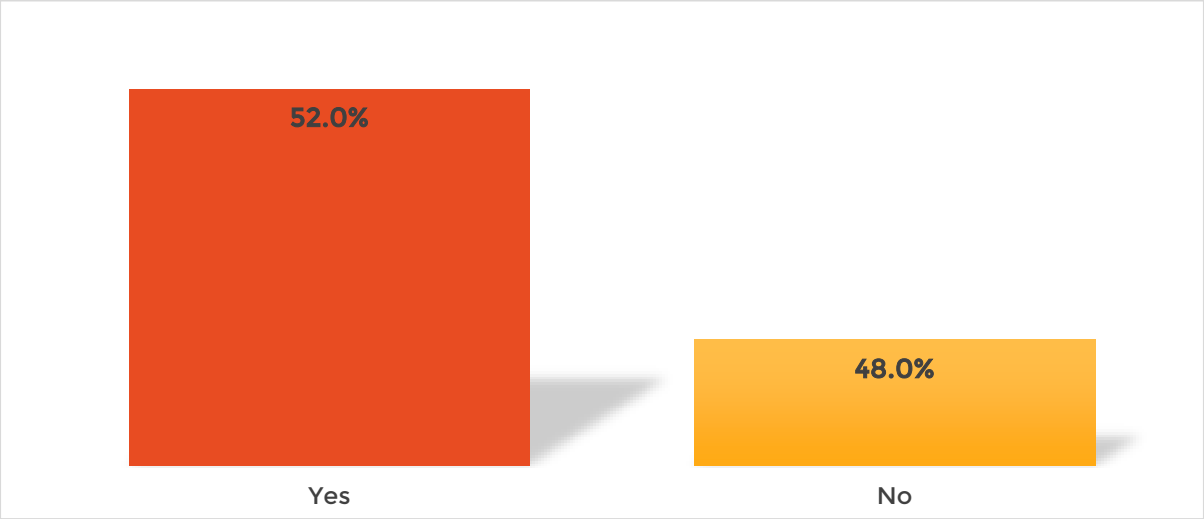



**Figure 48: Flood Protection Status of Household Latrine**

The (Figure 49) indicates that 85.3% of respondents or household members use sandals during the defecation process, while 14.8% do not. This practice of using sandals during defecation can be associated with hygiene considerations and is a positive behavior that contributes to personal cleanliness and well-being in the context of sanitation practices.

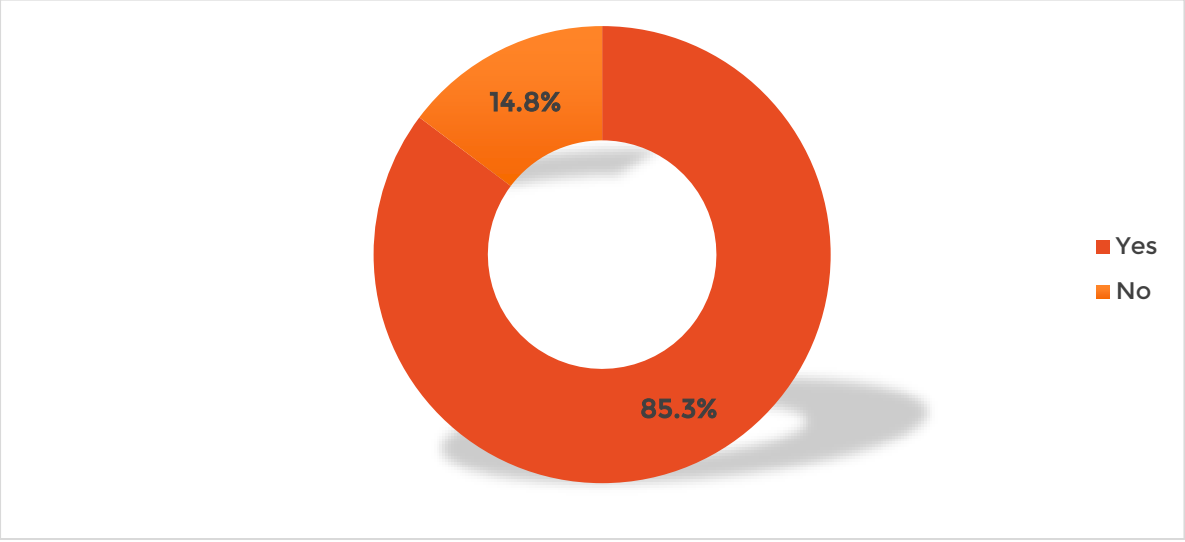



**Figure 49: Utilization of Sandals During Defecation**

# HANDWASHING PRACTICES

The (Figure 50) reveals that a significant majority, 97.5%, of respondents or their household members practice handwashing after defecation, using soap or mud. This reflects a positive hygiene behavior that contributes to the prevention of diseases and the overall well-being of the individuals and the community. The practice of using soap or mud for

handwashing enhances cleanliness and reduces the risk of infections associated with poor sanitation.

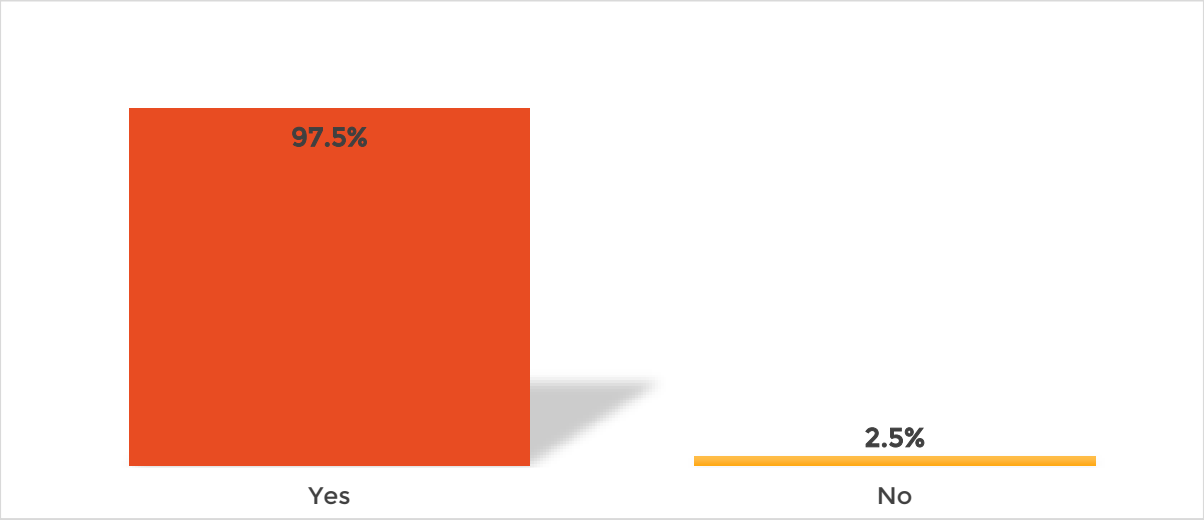



**Figure 50: Handwashing Practices After Defecation**

The (Table 21) indicates that the majority (80.8%) of respondents or their household members use the latrine during floods, demonstrating a positive sanitation behavior even in challenging circumstances. However, a noteworthy 9.0% still resort to open defecation, while a smaller percentage utilizes the latrines of shelter centers or defecates directly in floodwater. This information highlights areas where interventions or awareness campaigns could be targeted to improve sanitary practices during flood situations.

**Table 21: Defecation Practices During Flood [*multiple responses]**

| | % of responses |
|---|---|
| **Use latrine** | 80.8% |
| **Defecate openly** | 9.0% |
| **Defecate in flood water** | 5.2% |
| **Use the latrine of shelter center** | 3.5% |
| **Other** | 1.5% |

# PROPER HANDWASHING

The (Figure 51) reveals that a significant majority (77.3%) of respondents are aware of the proper hand-washing technique, showcasing a good level of knowledge in this crucial hygiene practice. However, it is noteworthy that 22.8% still lack awareness. This information underscores the importance of ongoing hygiene education to ensure that a higher percentage of the population understands and follows proper hand-washing procedures.

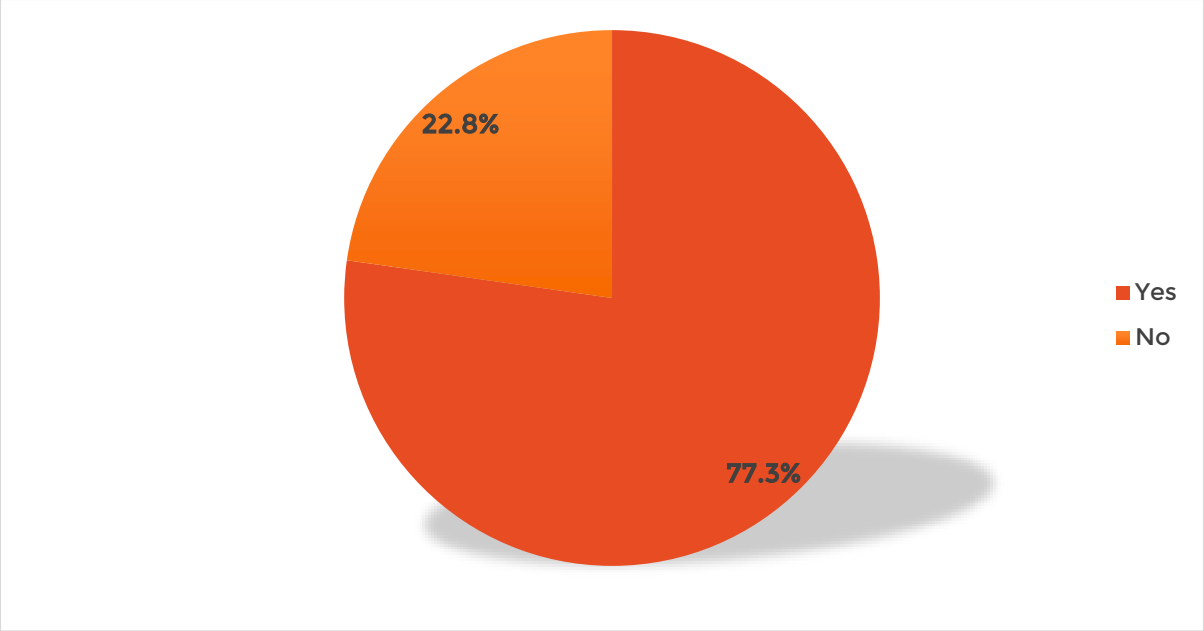



**Figure 51: Knowledge of Proper Hand-Washing Technique**

The data (Figure 52) illustrates that respondents who are aware of the proper hand-washing technique have varied perceptions regarding the duration. A substantial portion (43.4%) believes that 0-20 seconds is sufficient, while 24.6% opt for more extended durations, exceeding 60 seconds. This diversity in responses highlights the need for clear and consistent guidelines on the recommended duration for effective handwashing, ensuring a unified understanding among the community members. The comparison between baseline and endline data reveals a notable improvement in handwashing practices within the surveyed population. Across various scenarios, such as after defecation, before eating, and before cooking, there is a consistent increase in the percentage of respondents and their household members practicing proper hand hygiene, indicating a positive impact of interventions aimed at promoting hygiene awareness over the designated time period.

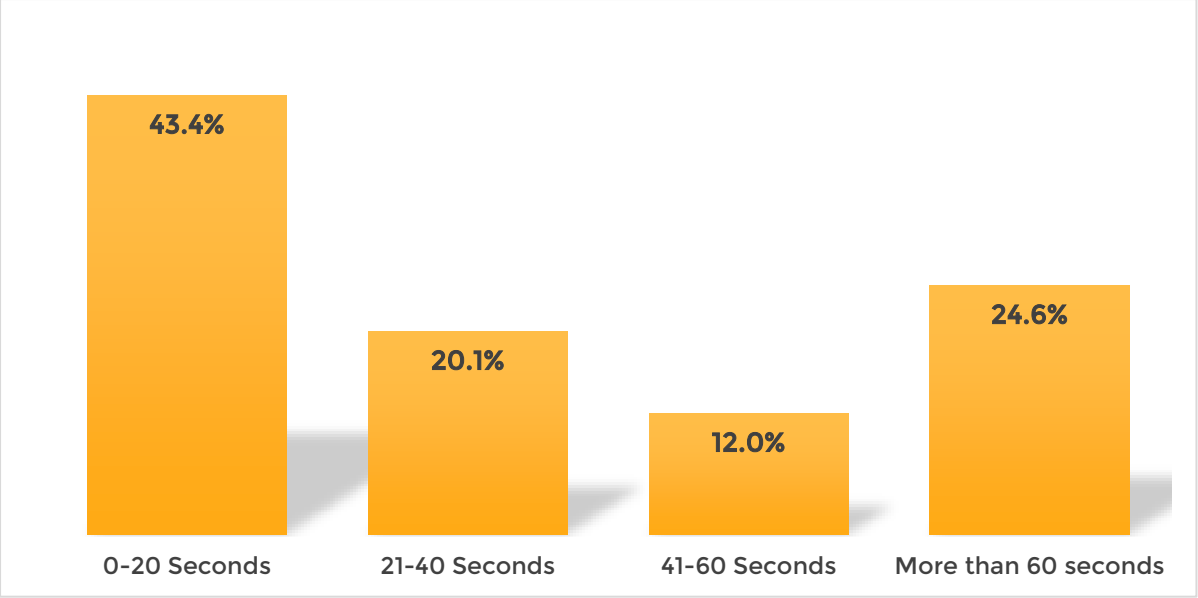



**Figure 52: Duration for Proper Handwashing**

# HANDWASHING TIMES

The (Table 22: Hand-Washing Practices at Different Times) provides insights into the hand-washing practices of the respondents at various times. Notably, a significant percentage (99.0%) indicates that handwashing with soap commonly occurs after defecation. However, there are variations in adherence to hand hygiene at other critical times, such as before eating (65.5%) and before serving foods (16.5%). These findings underscore the importance of targeted hygiene education to promote consistent hand-washing practices across different contexts and contribute to overall community health.

**Table 22: Hand-Washing Practices at Different Times [*multiple responses]**

| | % of responses |
|---|---|
| **After defecation** | 30.5% |
| **Before eating** | 20.2% |
| **Before cooking** | 10.5% |
| **After cleaning baby's bottom** | 10.2% |
| **Before preparing foods** | 9.4% |
| **Before feeding babies** | 7.5% |
| **After coming from outside of the home** | 6.5% |
| **Before serving foods** | 5.1% |
| **Others** | 0.2% |

# FOOD/DRINK COVERAGE

The (Figure 53) indicates that the majority of households (91.3%) reported properly covering their food and drinking water. This is a positive hygiene practice as it helps protect food and water from contaminants, contributing to the overall health and well-being of the household members. The 8.8% who reported not covering their food and drinking water

may benefit from awareness campaigns on the importance of proper storage to prevent contamination and ensure food safety.

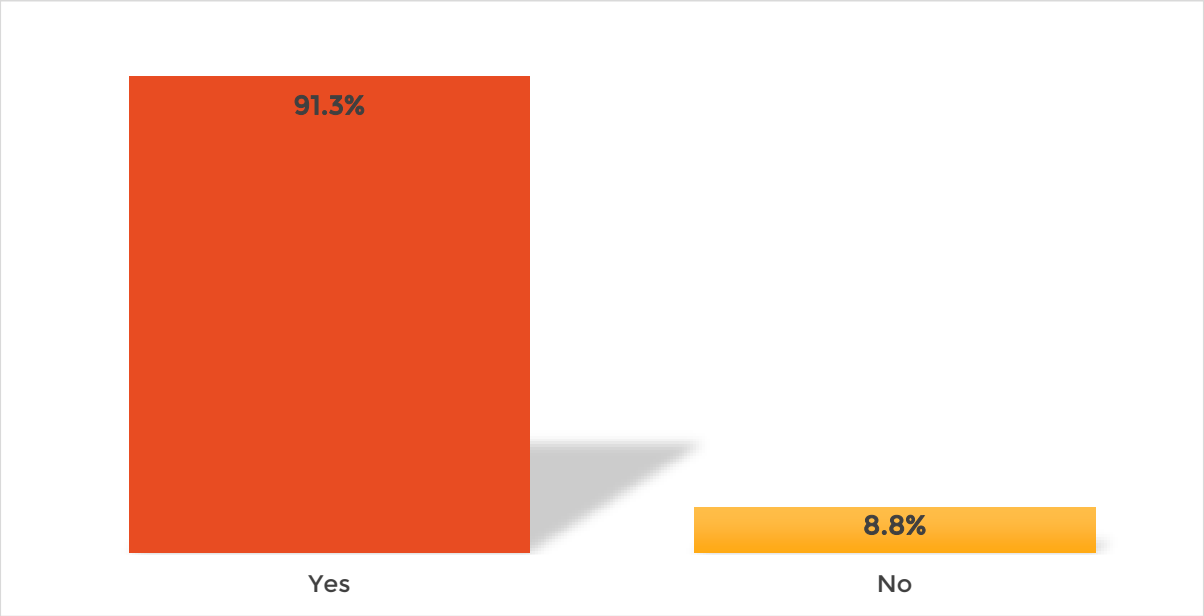



**Figure 53: Covering of Food and Drinking Water in the Household**

# MENSTRUAL HYGIENE

The (**Error! Reference source not found.**) reveals a promising understanding of hygiene management during the menstrual period among the participants, with an overall majority of 86.8% reporting awareness. Interestingly, there appears to be a subtle gender disparity in reported understanding, with females showing a slightly lower reported understanding at 82.7% compared to males at 90.7%. This finding suggests that while both genders generally grasp the concept of menstrual hygiene, males may possess a slightly higher awareness level. However, it's important to note that a significant portion of both genders, albeit smaller in number, reported a lack of understanding, with 17.4% of females and 9.3% of males indicating so.

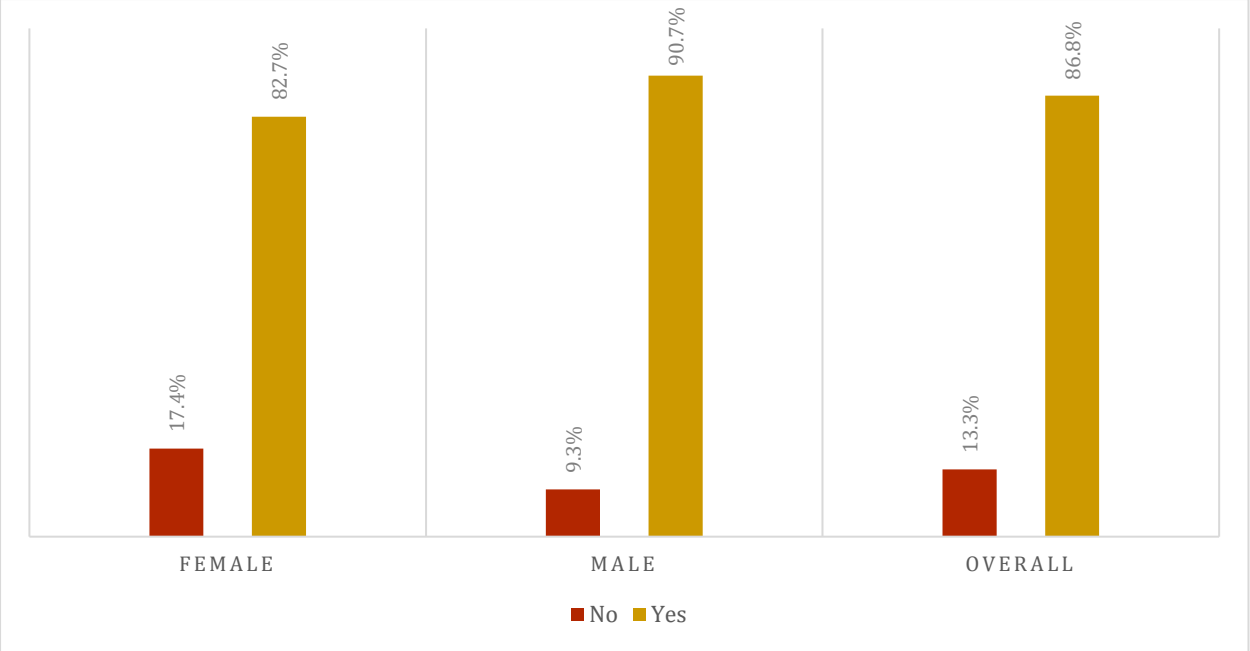



**Figure 54: Knowledge of Hygiene Management during Menstrual Period**

# HEALTH CARE

The (Table 23) provides insights into the healthcare seeking behavior and treatment sources of the respondents. The majority of households tend to seek medical assistance from various sources, with pharmacies (22.5%) and village doctors (22.5%) being the most commonly used. Community clinics (15.6%) and GoB hospitals (16.5%) also play significant roles in providing healthcare services. The presence of Red Crescent Mobile Health Camps (5.0%) indicates outreach efforts to deliver health services. However, it's noteworthy that a small percentage (1.0%) reported not seeking treatment, possibly due to various reasons such as lack of capability or preference. Understanding these patterns can guide healthcare initiatives for improved accessibility and awareness.

**Table 23: Healthcare Seeking Behavior and Treatment Sources [*multiple responses]**

| | % of responses |
|---|---|
| Pharmacy | 22.5% |
| Village doctor | 22.5% |
| GoB hospital (Upazila/district) | 16.5% |
| Community clinic | 15.6% |
| Kobiraj | 8.7% |
| Red Crescent Mobile Health Camp | 5.0% |
| Local paramedic | 4.2% |
| Private clinic | 2.3% |
| Upazila/Sadar private clinic | 1.9% |
| Don't take treatment/have no capability | 1.0% |

The (Figure 55) indicates that 24.0% of households reported that at least one member suffered from diseases during the last flood, while the majority (76.0%) did not face such health issues. This information highlights the potential health risks and challenges faced by a significant portion of the population during flood events. Understanding the types of diseases and their prevalence can aid in developing targeted healthcare interventions and disaster response strategies.

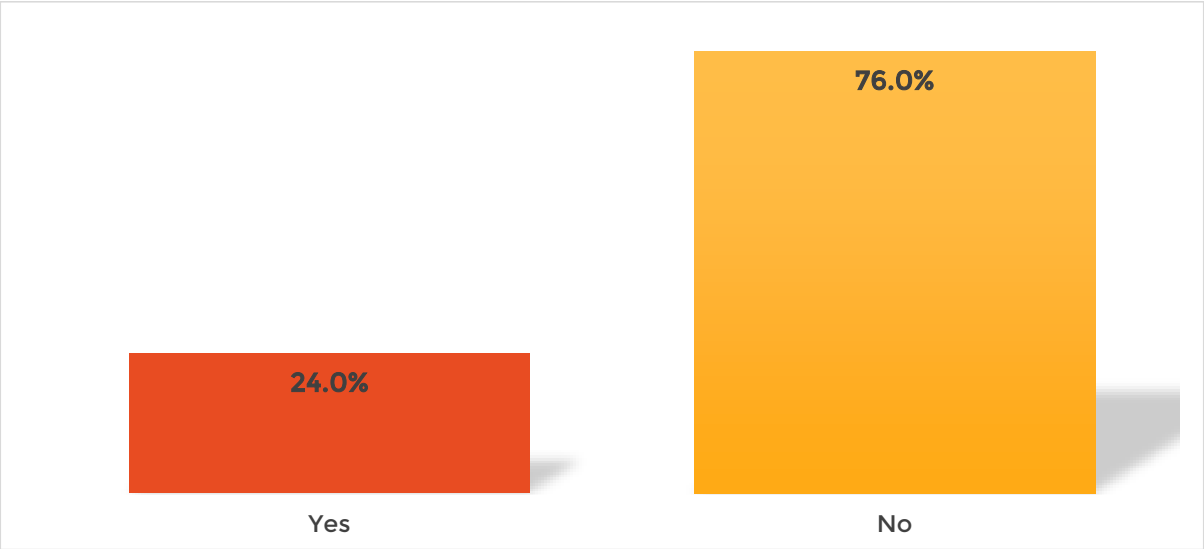



**Figure 55: Incidence of Diseases Among Household Members During the Last Flood**

The (Table 24) presents the types of diseases reported by households during the last flood. The most prevalent health issues include diarrhea (33.3%), fever (22.4%), and abdominal pain (16.2%). Other ailments reported include cholera, dysentery, cold-influenza, urinary problems, itching, hepatitis, and blood pressure, each with varying percentages. The data underscores the diverse health challenges faced by households during flood situations, emphasizing the importance of public health measures and targeted medical assistance in flood-prone areas.

**Table 24: Types of Diseases Among Household Members During the Last Flood [*multiple responses]**

| | % of responses |
|---|---|
| Diarrhea | 33.3% |
| Fever | 22.4% |
| Abdominal pain | 16.2% |
| Dysentery | 9.1% |
| Urinary problem and itching | 8.6% |
| Cholera | 7.6% |
| Cold influenza | 1.9% |
| Hepatitis | 0.5% |
| Blood pressure | 0.5% |
| Scabies | 0.0% |

The (Figure 56) illustrates the distribution of the number of household members affected by diseases during the last flood. The majority of households reported that one member (65.6%) was affected, followed by two members (21.9%). A smaller percentage reported three members (10.4%) or four members (1.0%) being affected. The data provides insights into the extent of health impacts within households, highlighting the need for comprehensive healthcare measures during flood events.

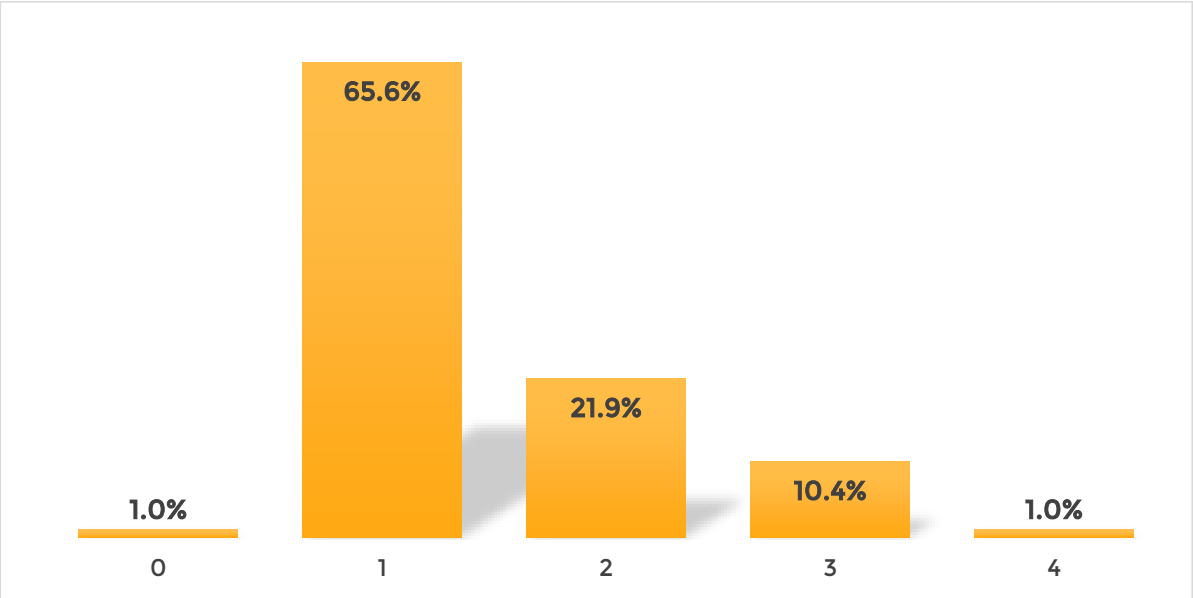



**Figure 56: Number of Household Members Affected by Diseases During Last Flood**

The (Table 25) outlines the various measures taken by households to overcome health problems during and after the disaster or flood period. The most common responses include seeking assistance from the village doctor (56.8%) and going to government health centers (45.8%). Other notable measures include the use of self-medication processes (39.5%) and visiting community clinics (32.8%). The data highlights the diverse range of health-related actions undertaken by households, emphasizing the importance of accessible healthcare services in disaster-prone areas.

**Table 25: Health Measures Taken During and After Disaster/Flood Period [*multiple responses]**

| | % of responses |
|---|---|
| Go to the village doctor | 22.4% |
| Go to government health center | 18.0% |
| Self-medication process | 15.6% |
| Community clinic | 12.9% |
| Red Crescent mobile health camp | 11.7% |
| Go to dispensary | 11.3% |
| Local paramedic | 4.1% |
| Go to private clinic | 2.0% |
| Take no steps | 1.4% |
| Go to the NGOs health service centers | 0.5% |
| Tele-medicine/mobile | 0.1% |

The (Table 26) presents information about the services utilized by households for pregnant care. The data indicates that a significant proportion of respondents seek care from government hospitals (63.3%) and community clinic services (32.8%). Additionally, Red Crescent mobile health camps (30.0%) and household-based services (39.5%) are also prominent. The diversity in the utilization of services suggests that households access a mix of formal and informal healthcare options to address maternal health needs during and after disaster or flood periods.

**Table 26: Services Utilized for Pregnant Care [*multiple responses]**

| | % of responses |
|---|---|
| Govt. hospitals | 27.1% |
| Household based services | 16.9% |
| Community clinic services | 14.0% |
| Red Crescent mobile health camp | 12.8% |
| MCH | 12.3% |
| Kobiraj | 11.3% |
| Private clinic | 3.7% |
| NGO services | 1.2% |
| Others | 0.6% |

# NUTRITIOUS FOODS FOR PREGNANT WOMEN

The Table 27 provides insights into the types of nutritious foods typically consumed by pregnant women in the surveyed households. The data reveals a diverse diet, with a significant emphasis on vegetables (89.8%), rice (90.5%), and eggs and fish (both at 81.0%). These findings suggest that pregnant women in the community have a well-rounded nutritional intake, incorporating various food groups such as protein sources, dairy, fruits, and carbohydrates. The diversity in food choices indicates a conscious effort to ensure a balanced and nutritious diet during pregnancy.

**Table 27: Types of Nutritious Foods Consumed by Pregnant Women [*multiple responses]**

| | % of responses |
|---|---|
| Rice | 16.5% |
| Vegetables | 16.3% |
| Egg | 14.7% |
| Fish | 14.7% |
| Potato | 10.7% |
| Milk | 9.2% |
| Bread | 8.1% |
| Fruits | 5.1% |
| Meat | 4.0% |
| Honey | 0.5% |
| Others | 0.4% |

# COVID-19 KNOWLEDGE

The (Figure 57) presents data on the awareness of Coronavirus/COVID-19 among the surveyed population. The majority of respondents (94.3%) are aware of COVID-19, demonstrating a high level of knowledge within the community. The relatively low number of individuals (5.8%) who are not aware of COVID-19 suggests that information about the virus has reached and been understood by the majority of the surveyed population.

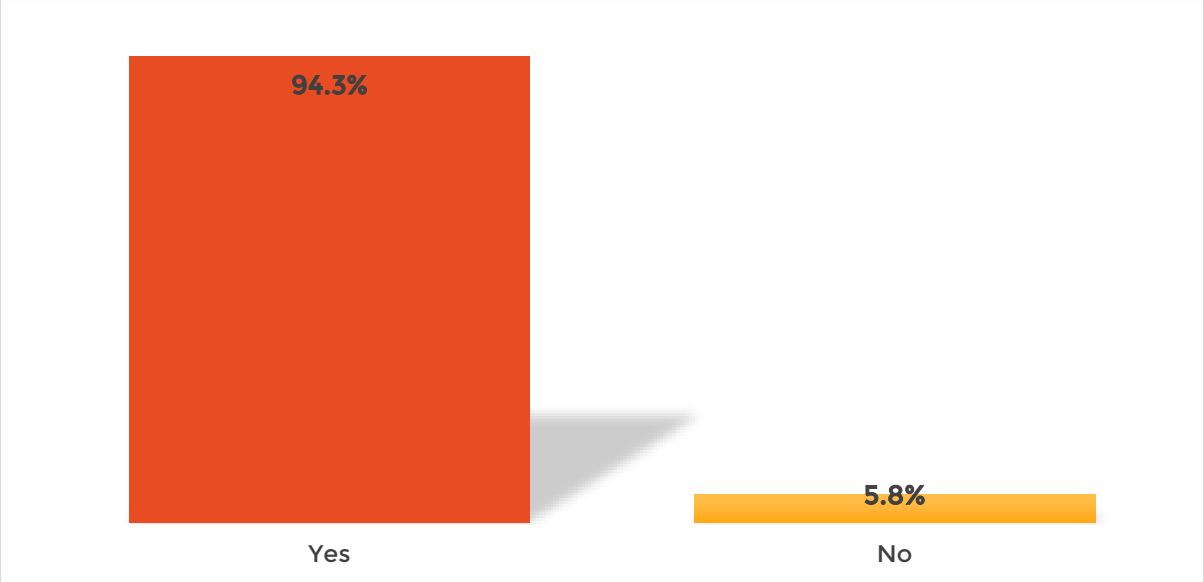



**Figure 57: Awareness of Coronavirus/COVID-19**

The (Table 28) illustrates the diverse sources from which individuals in the surveyed population have gained awareness about Coronavirus/COVID-19. The most prominent source is household members, friends, relatives, and neighbors, constituting 23.4% of responses. Other significant sources include Red Crescent (21.3%), television (13.5%), and miking (15.8%). The distribution across various channels indicates that information about COVID-19 has been disseminated through multiple channels, reaching the community through both traditional and digital media, as well as interpersonal communication. This diversified awareness strategy contributes to a comprehensive understanding of the pandemic within the surveyed population.

**Table 28: Sources of Awareness about Coronavirus/COVID-19 [*multiple responses]**

| | % of responses |
|---|---|
| From household members, friends, relatives, neighbors | 23.4% |
| Red crescent | 21.3% |
| Miking | 15.8% |
| Television | 13.5% |
| From health professionals (doctors, health workers, NGO workers) | 7.8% |
| Online platform (social media – Facebook, YouTube) Online News portal) | 6.3% |
| Newspaper (printed) | 5.2% |
| Mobile messages | 4.7% |
| Radio | 2.0% |

The (Table 29) outlines the practices adopted by individuals to ensure safety from COVID-19 within the surveyed population. The most prevalent practices include handwashing with soap frequently (25.8%), wearing a face mask when outside (22.6%), and remaining at home most of the time (17.4%). These responses reflect a mix of personal hygiene measures, social distancing efforts, and lifestyle adjustments to minimize the risk of COVID-19 transmission. The varied practices indicate a collective effort to adhere to recommended safety guidelines and protect both individual and community health.

**Table 29: Practices for COVID-19 Safety [*multiple responses]**

| | % of responses |
|---|---|
| Handwashing with soap frequently | 25.8% |
| Wearing a face mask when outside | 22.6% |
| Remain at home most of the time | 17.4% |
| Keep 1m/3ft/two hands] distance with others | 13.4% |
| Avoiding where many people congregate/crowds | 9.5% |
| Cleaning hands with sanitizer frequently | 6.6% |
| Sneeze/cough in the inside of the elbow | 4.7% |
| Do not have any practices | 0.1% |

The (Figure 58) presents data on the number of doses of the coronavirus vaccine administered to individuals within the surveyed population. The majority of respondents have received three doses (59.0%), indicating completion of the recommended vaccination schedule. A notable portion has received two doses (32.8%), while a smaller percentage has either not taken any doses (3.0%) or has received more than three doses (3.0%). This distribution reflects the vaccination status of the community, highlighting the efforts towards achieving widespread vaccination coverage against COVID-19.

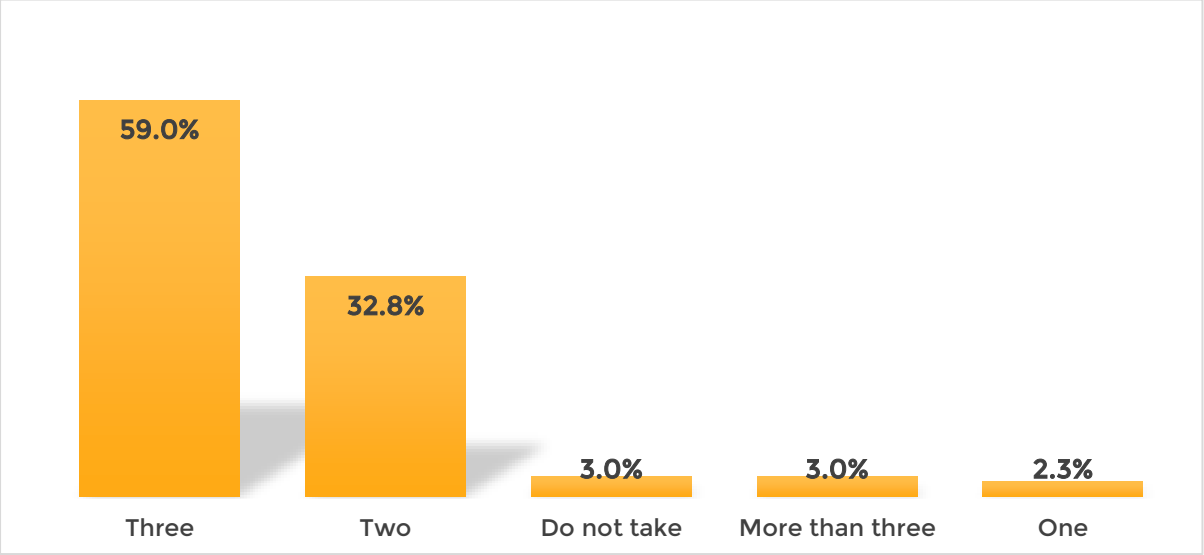



**Figure 58: COVID-19 Vaccine Doses Received**

# GENDER-BASED VIOLENCE

The (Figure 59) provides insights into the experiences of violence, including verbal, physical, or sexual, among the surveyed population. All respondents who reported experiencing gender-based violence are women. A majority of respondents (84.0%) reported not experiencing any form of violence. A small percentage (1.5%) acknowledged experiencing violence, while some respondents (14.5%) indicated uncertainty or a lack of knowledge regarding such incidents. Understanding the prevalence of violence within the community is crucial for addressing and mitigating potential risks and promoting overall well-being.

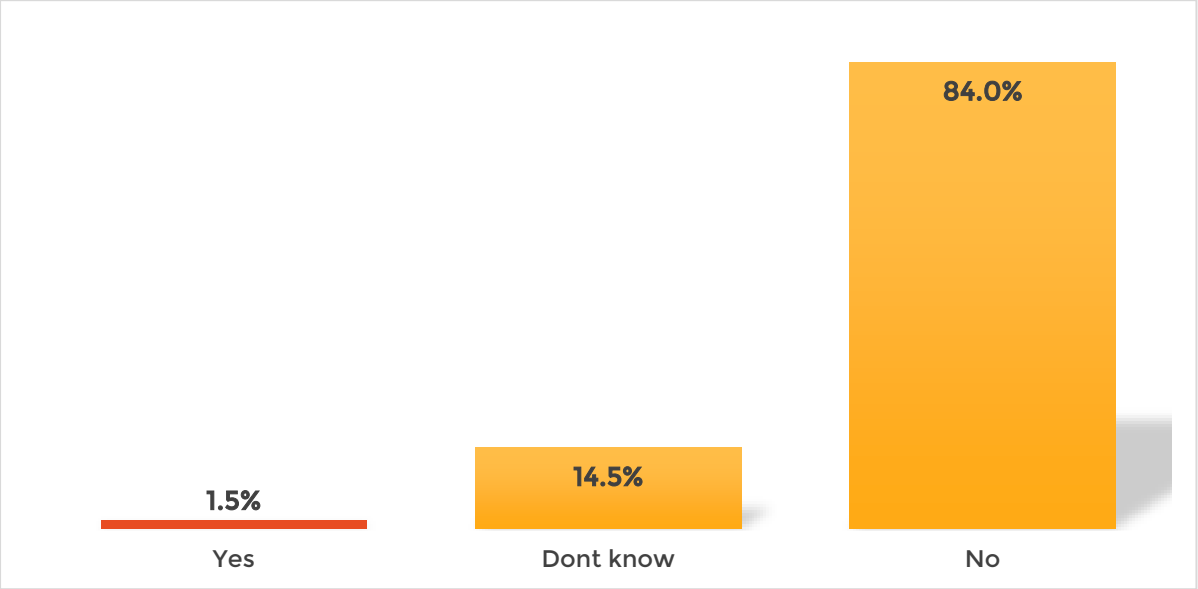



**Figure 59: Experience of Violence, Including Verbal, Physical, or Sexual**

This (Table 30) delineates the perpetrators of gender-based violence among those who reported experiencing such incidents. The respondents identified different sources of violence, with 33.33% attributing it to their partner, another 33.33% to family members, and 50% to community members. A smaller percentage (22.22%) mentioned strangers as perpetrators. Understanding the sources of gender-based violence is crucial for implementing targeted interventions and support systems to address and prevent such incidents within the community.

**Table 30 : Perpetrators of Gender-Based Violence [*multiple responses]**

| | % of responses |
|---|---|
| **Stranger** | 33.3% |
| **Partner** | 22.2% |
| **Family member** | 22.2% |
| **Community member** | 22.2% |

The (Figure 60) reveals information about the existence of safe spaces or shelters specifically designated for women and girls during a disaster or flood. Among the respondents, 18.5% reported the presence of designated safe spaces, while 45% indicated the absence of such spaces. Notably, a significant proportion (36.5%) responded with

"Don't know," suggesting a lack of awareness or information about the existence of safe spaces. Understanding the community's knowledge and perception of available safe spaces is essential for improving and expanding gender-sensitive support systems during emergencies.


**Figure 60: Designated Safe Spaces for Women and Girls**

The (Figure 61) provides insights into whether individuals sought help after experiencing gender-based violence. A significant majority (94%) indicated that they did not seek help, while 6% reported seeking assistance. Understanding the barriers and factors influencing help-seeking behavior is crucial for developing effective support mechanisms and addressing issues related to gender-based violence in the community.

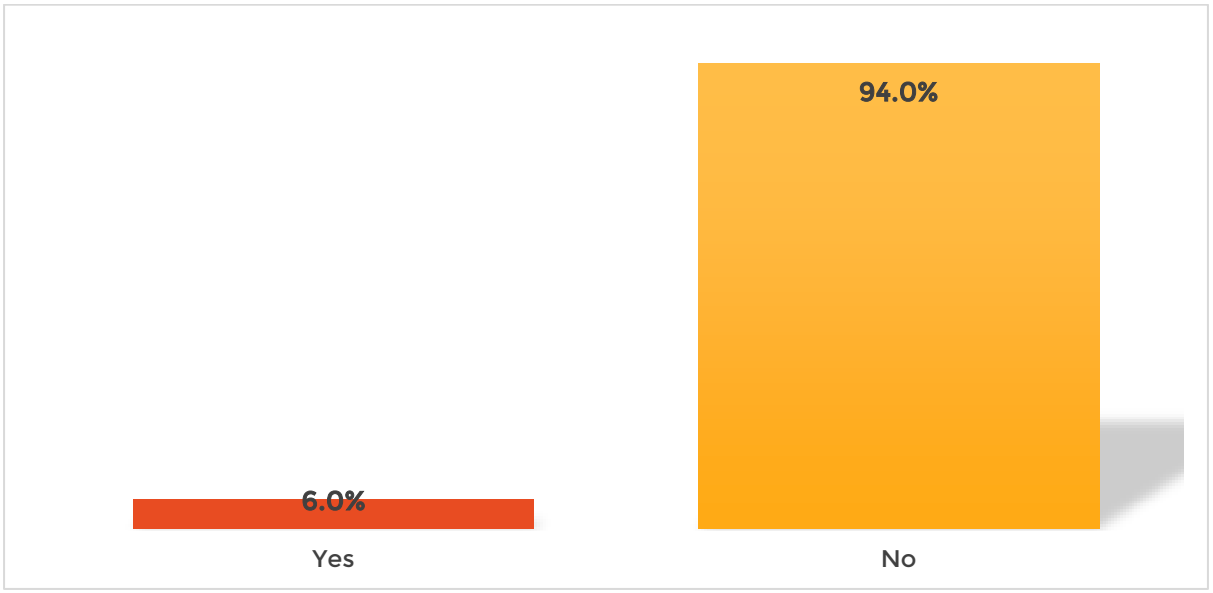



**Figure 61: Seeking Help After Gender-Based Violence**

The (Figure 62) indicates that among those who sought help after experiencing gender-based violence, 95.8% reported receiving the assistance they needed, while 4.2% were unsure. This insight into the effectiveness of the support system highlights the importance of ensuring that available resources and interventions adequately address the needs of individuals facing gender-based violence.

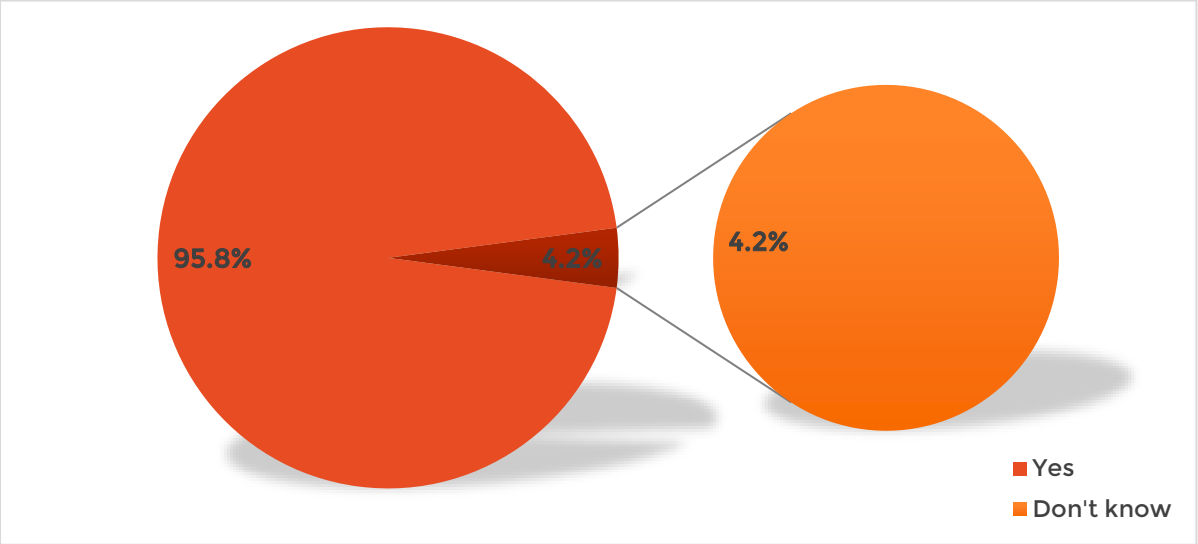



**Figure 62: Received Help After Gender-Based Violence**

# FEEDBACK AND COMPLAINTS RESPONSE MECHANISM FCRM

The (Figure 63) presents data on the awareness of respondents regarding the Red Crescent's Complaint Response Mechanism. It shows that 76.3% of the participants are aware of this mechanism, while 23.8% reported not having knowledge about it. This information underscores the need for continued efforts to enhance awareness and understanding of complaint response mechanisms, ensuring that affected individuals can effectively voice their concerns and seek assistance.

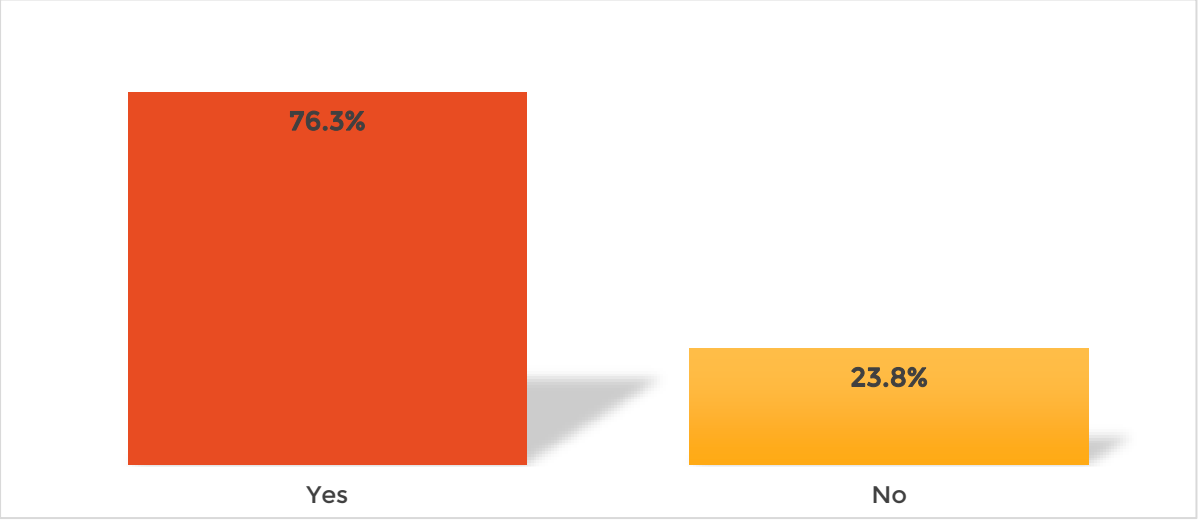



**Figure 63: Awareness of Red Crescent's Feedback Complaint Response Mechanism**

The (Table 31) outlines the available channels of the Red Crescent's Complaint Response Mechanism (FCRM) as reported by respondents. The most commonly known channel is the suggestion box, with 44.3% awareness, followed by the hotline number at 25.5%. A smaller percentage of respondents mentioned awareness of the FCRM committee (7.8%), and a significant portion (22.3%) reported receiving information verbally. The data highlights the varied channels through which individuals can access the complaint response mechanism, emphasizing the importance of diverse communication strategies for effective outreach.

**Table 31: Channels of Red Crescent's Complaint Response Mechanism (FCRM) [*multiple responses]**

| | % of responses |
|---|---|
| Suggestion box | 44.3% |
| Hotline number | 25.5% |
| Verbally | 22.3% |
| FCRM committee | 7.8% |
| Others | 0.2% |

The provided data (Table 32) sheds light on the effectiveness of the Red Crescent's Complaint Response Mechanism (FCRM). A minimal percentage, merely 0.7% of respondents, reported submitting complaints, indicating a relatively low utilization of this feedback channel. Among those who did submit complaints, a noteworthy 50.0% expressed satisfaction with the responsiveness, reporting that their concerns were addressed within the stipulated four-week timeframe. Furthermore, all respondents providing feedback (100.0%) perceived the FCRM system as effective. This suggests that while the utilization of the FCRM might be limited, those who engage with it find it to be an efficient and responsive mechanism for addressing their concerns within a reasonable timeframe.

**Table 32: Evaluation of Red Crescent's Complaint Response Mechanism (FCRM)**

| | Percent |
|---|---|
| **Complaints Submitted** | 0.7% |
| **Complaints Addressed within 4 Weeks** | 50.0% |
| **Perception of FCRM Effectiveness** | 100.0% |

# PROGRAMME IMPACT AND SUSTAINABILITY

This analysis table (Figure 64: ) shows the responses from the participants of the end line evaluation of the Integrated Flood Resilience Programme (IFRP) through Community-based Disaster Risk Reduction (CBDRR) conducted by the Center for People and Environ (CPE) for the International Federation of Red Cross and Red Crescent Societies (IFRC) and Bangladesh Red Crescent Society (BDRCS). The question was whether they think that the IFRP activities will be sustained even after the project ends. The table indicates that:

- Most of the participants (77.5%) answered Yes, meaning they are confident that the IFRP activities will continue to benefit the communities in terms of disaster preparedness and resilience.

- A smaller proportion of participants (21.3%) answered May be, meaning they are uncertain or have some doubts about the sustainability of the IFRP activities. They may have some concerns about the availability of resources, the commitment of stakeholders, or the changing context of disasters.
- Only a few participants (1.3%) answered No, meaning they are pessimistic or have no faith in the sustainability of the IFRP activities. They may have some reasons to believe that the IFRP activities will not be maintained or supported by the communities or other actors.

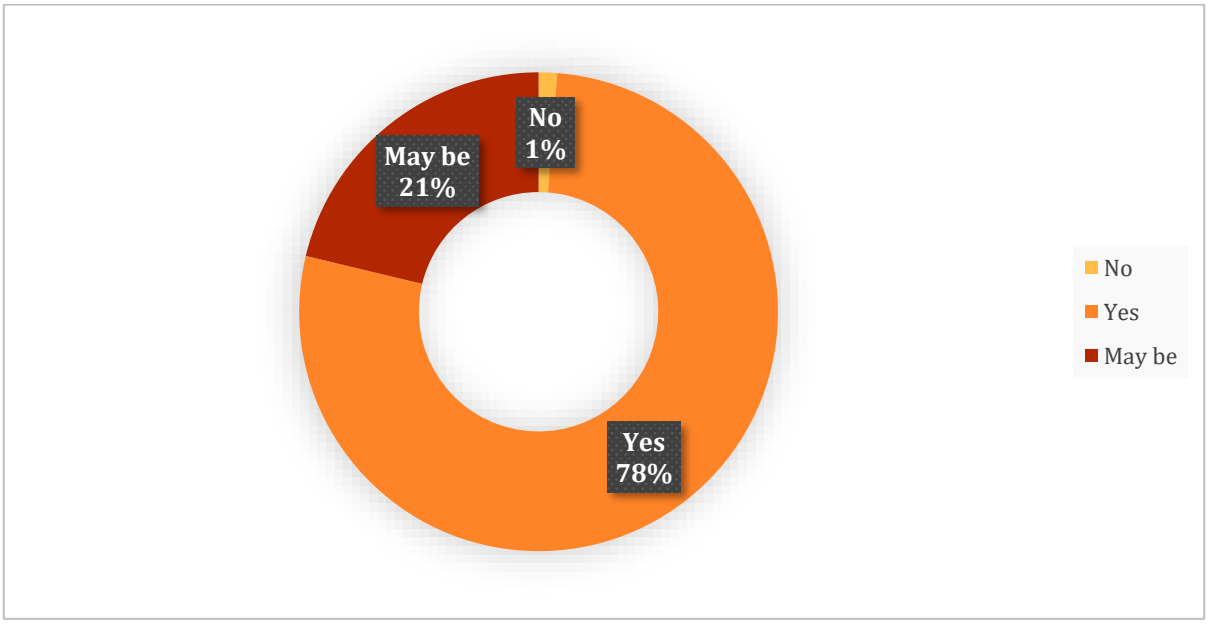



**Figure 64: Projection of Sustained Participation in Red Crescent IFRP Activities**

# EVALUATION CRITERIA BASED FINDINGS

## RELEVANCE AND APPROPRIATENESS

The Integrated Flood Resilience Programme (IFRP) exemplifies the importance of relevance and appropriateness in program interventions. Adapting initiatives to the specific needs and context of the targeted communities ensures their effectiveness and sustainability. For example, IFRP offered tailoring training to women, empowering them to contribute to household income while utilizing their existing skills. This intervention not only addressed the economic vulnerability of women but also fostered their social inclusion and agency. Additionally, recognizing the crucial role of safe water access during floods, IFRP implemented tube-well ground raising and repair initiatives. This ensured a reliable source of clean drinking water, mitigating health risks and promoting hygiene during critical times. Furthermore, installing flood water level measurement scales empowered communities to be proactive in their preparedness efforts. By providing them with real-time information, communities could make informed decisions regarding evacuation and resource allocation when floods threatened, thus minimizing potential damage and loss of life. These examples demonstrate how IFRP's intervention design prioritized relevance and appropriateness, achieving tangible results in building community resilience.

## EFFICIENCY

The evaluation methodically assesses the efficiency of Programme delivery, closely scrutinizing the implementation of interventions and the overall quality of these interventions. A key focus is placed on how effectively the Programme utilized its chosen modality to ensure the highest standards of intervention quality. Additionally, the evaluation delves into the Programme's adherence to established timelines, evaluating whether activities were carried out in a timely manner and met the prescribed deadlines and project timelines. This comprehensive scrutiny aims to provide valuable insights into the operational efficiency of the Programme's delivery mechanisms.

The Integrated Flood Resilience Programme (IFRP) emphasizes the importance of efficiency in maximizing the impact of interventions with limited resources. By focusing on strengthening existing structures and building community capacity, IFRP achieved significant results with minimal resource expenditure. One key example is the program's emphasis on raising awareness about the Early Warning System (EWS). By leveraging existing communication channels and community networks, IFRP ensured that vital information reached people quickly and effectively, enabling them to take timely action before floods struck. Additionally, strengthening existing Disaster Management Committees (DMCs), Community Disaster Response Teams (CDRTs), and Community Volunteers (CVs) created a network of trained individuals prepared to respond to emergencies efficiently. This strategic approach maximized the utilization of existing resources while building long-term community preparedness, demonstrating IFRP's commitment to efficiency in achieving its goals.

The project showcased efficient resource utilization, with the majority of financial transactions, including procurement, fund disbursement, and payments, being completed promptly. This efficiency underscores the project's effective management and operational processes. However, it's worth noting that there was a minor issue concerning delays in staff recruitment. This specific challenge is further elaborated upon in the recommendation section, highlighting an area for improvement amidst overall strong financial management.

# EFFECTIVENESS

The evaluation rigorously examines the effectiveness of the Programme, probing into the degree to which planned objectives were accomplished in alignment with overarching goals and intended impacts. It scrutinizes the efficacy of the Programme in achieving its intended outcomes, particularly in terms of reducing vulnerability and enhancing the capacities of communities to respond to floods. The evaluation also assesses the Programme's effectiveness in promoting community engagement and ensuring robust accountability measures throughout its implementation. By thoroughly analyzing these dimensions of effectiveness, the evaluation aims to provide a comprehensive understanding of the Programme's impact in meeting its predetermined objectives and fostering resilience within the targeted communities.

The Integrated Flood Resilience Programme (IFRP) has demonstrated its effectiveness in building community resilience to floods through a range of measurable outcomes. For instance, the program has achieved significant reductions in flood-related damage to houses and infrastructure, thanks to interventions such as PASSA-model housing and community-based disaster risk reduction initiatives. Additionally, IFRP has empowered communities to be more self-reliant, evident in increased household income generated through livelihood support and improved access to safe water and sanitation. Furthermore, the program has fostered stronger social cohesion and collective action, demonstrated by the active participation of communities in disaster preparedness and response activities. These tangible results underscore the effectiveness of IFRP's interventions in enhancing community resilience and reducing vulnerability to floods.

# COVERAGE

The Integrated Flood Resilience Programme (IFRP) is successful in achieving broad coverage, ensuring that its interventions reach the most vulnerable members of the targeted communities. This is evident through the program's focus on geographically dispersed areas prone to riverbank erosion, flooding, and high migration rates. By implementing a multi-pronged approach that addresses various needs, IFRP has ensured that its benefits reach a diverse range of individuals, including women, youth, and marginalized groups. The program's reliance on existing community networks and structures has further facilitated its outreach, ensuring that interventions are tailored to local contexts and address the specific vulnerabilities of different populations. Through this comprehensive approach, IFRP has effectively reached those most in need of support, maximizing its impact and building resilience across entire communities.

# IMPACT

The evaluation scrutinizes the impact of the Integrated Flood Resilience Programme: Phase 2, aiming for a comprehensive understanding of the positive changes catalyzed by Programme activities. A focal point of this assessment is the Programme's efficacy in reducing vulnerability and enhancing the resilience capacity of communities, particularly with regard to livelihood, WASH, shelter, community mobilization, and volunteer group. The study seeks to capture the broader effects of the Programme, extending beyond the predefined objectives to encompass any unexpected changes or outcomes. By adopting a multifaceted approach to impact assessment, the evaluation aims to provide a nuanced and holistic perspective on how the Programme has influenced the targeted communities, contributing to their overall well-being. This examination of impact serves as a critical component of evaluating the Programme's success in achieving its overarching goals and intended impacts.

IFRP extended PASSA model housing support with cost sharing basis to the needy people. This intervention impacted community shelter support. Many people motivated and build their own house following this model. The evaluation team found that IFRP Phase 2 provide different types of livelihood interventions. Specially, small business support, rickshaw van, tailoring training, agriculture inputs, and cost sharing basis cattle support contributes many vulnerable communities people to combat with river erosion and increase household income. IFRP contributed to form different committees and volunteer groups in community level. These committees and groups work to make awareness on disaster, disseminate early warning message, participated distribution and rescue during flood that leads to make the community as a strong resilience.

The Integrated Flood Resilience Programme (IFRP) Phase 2 implemented various interventions in the targeted communities, which are in riverbank erosion, flooding, and high migration rates area. The program provided PASSA-model housing support on a cost-sharing basis to those in need, positively impacting community shelter access. This intervention has motivated many people to build their own houses using the same model.

The evaluation team found that IFRP Phase 2 provides diverse livelihood support measures. These include small business support, rickshaw van distribution, tailoring training, agricultural inputs, and cost-sharing cattle support, all of which empower vulnerable community members to combat river erosion and increase their household income. Moreover, IFRP facilitated the formation of various committees and volunteer groups at the community level. These groups work to raise awareness about disasters, disseminate early warning messages, and participate in distribution and rescue efforts during floods, contributing to a stronger and more resilient community.

Many educational institutions incorporated a "Geography Sir" class that provides comprehensive information about disaster preparedness to students. This program equips students with knowledge about early warning systems, safety precautions, and essential survival skills. Students, in turn, share this information with other young people in their communities, contributing to a growing culture of resilience.

# COHERENCE

The evaluation scrutinizes the coherence of the Programme, focusing on collaboration models that have proven successful. Concrete examples of effective collaboration between BDRCS and other partners and stakeholders are highlighted, with a specific emphasis on avoiding duplication and ensuring complementarity with the work of other organizations involved in community resilience initiatives.

Coherence, the continuous integration of diverse interventions within a program, is crucial for achieving sustainable and impactful results. In the Integrated Flood Resilience Programme (IFRP), coherence was evident through the interconnectedness of its initiatives. For instance, livelihood interventions, such as small business support and agricultural training, provided communities with the economic means to invest in PASSA-model housing, thus enhancing their shelter security and overall resilience to floods. This integration of interventions adopted a sense of empowerment and self-reliance within the communities, contributing to the program's long-term success.

# SUSTAINABILITY AND CONNECTEDNESS

The sustainability and connectedness aspect of the evaluation entails a comprehensive examination of the Programme's lasting impact and its ability to establish enduring connections within the targeted community and among key stakeholders. By scrutinizing the mechanisms in place to retain key Programme outcomes, the evaluation seeks to determine the Programme's effectiveness in ensuring the continuation of positive changes in the community beyond the project timeline. Potential risks that could jeopardize the sustained achievements are carefully identified, shedding light on challenges that need to be addressed for long-term success. Additionally, the evaluation assesses the relationships between key stakeholders, emphasizing the importance of sustained collaboration and coordination even after the formal conclusion of the Programme. This analysis extends to evaluating the capacity-building efforts initiated by the Programme, including those directed towards BDRCS, with a focus on understanding how these efforts contribute to the overall sustainability of the Programme's impact.

The Integrated Flood Resilience Programme (IFRP) prioritized long-term sustainability by ensuring its interventions had a lasting impact beyond the project's lifespan. This was achieved through a focus on connectedness, integrating various activities to create a holistic approach to building resilience. By fostering flood awareness and knowledge of disaster preparedness through training workshops and community events, IFRP empowered individuals to take proactive measures to mitigate risks. Capacity building initiatives, like tailoring training for women and support for small businesses, equipped communities with the skills and resources to generate income and improve their livelihoods. The provision of PASSA model housing support not only provided secure shelters but also served as a model for future community-driven development. Additionally, promoting menstrual hygiene practices among adolescent girls and raising awareness about nutrition through agriculture training and inputs fostered a culture of well-being and empowered individuals to manage their health effectively. This connectedness between interventions ensured that the positive effects of IFRP would continue to ripple through communities long after the program's formal conclusion.

# TIMELINESS:

The project successfully completed the majority of its activities within the planned timeframe. Movement restrictions due to Covid-19 posed challenges for some interventions. Despite these challenges, the project team effectively implemented risk mitigation strategies. These strategies enabled the continuation of crucial activities, minimizing delays. As a result, the project demonstrated resilience and adaptability in maintaining timeliness under unforeseen circumstances.

# RECOMMENDATIONS

Based on the findings of the end-line evaluation of the Integrated Flood Resilience Programme: Phase 2, several key recommendations emerge to enhance the effectiveness and impact of future community resilience initiatives.

**1. Scale Up Successful Interventions:**

Replicate and expand shelter support programmes: Given that 48.5% of beneficiaries reported a considerable improvement in their knowledge and considered this beneficial, it is clear that technical and financial assistance should continue to be provided for the building of PASSA-model homes and other flood-resilient housing choices in neighboring communities within the same district.

Diversify livelihood support programs: By taking into account the skills and needs of various community members, expand the current livelihood support programs to cover a wider range of income-generating activities. This is necessary because 76.3% of respondents said they need trainings on this, and 69.5% of respondents said they have not been supported.

Promote cost-effective WASH solutions: Advocate for the adoption of cost-effective WASH systems, such as tubewell ground raising and repair, to ensure sustainable access to safe water and sanitation in flood-prone communities.

**2. Address Menstrual Hygiene and Adolescent Rights:**

Expand menstrual hygiene management interventions: Build upon existing initiatives to provide comprehensive menstrual hygiene education, access to sanitary products, and safe disposal facilities for adolescent girls.

Integrate adolescent rights awareness: Incorporate information about adolescent rights, including sexual and reproductive health rights, into existing project activities to empower young women and girls.

**3. Strengthen CDMC Capacity:**

Formalise partnerships with other institutes: Establish formal partnerships with research institutions and training providers to offer comprehensive disaster management training to CDMC members. This training should cover topics such as hazard assessment, risk reduction strategies, emergency response protocols, and post-disaster recovery.

**4. Address Child Marriage and Promote Gender Equality:**

Integrate child marriage prevention initiatives into future project activities: Implement targeted interventions to address the root causes of child marriage, including awareness-raising campaigns, education programmes, and economic empowerment initiatives for women and girls.

Increase female participation in decision-making processes: Actively involve more women in project planning, implementation, and monitoring activities, fostering greater gender equality and ensuring that programs address the specific needs of women and girls.

**5. Secure Post-Project Funding:**
Explore funding mechanisms for follow-up activities: Investigate potential sources of funding to support ongoing monitoring, evaluation, and maintenance of project results after the project phase-out period. This could involve collaboration with local government bodies like Union Parishads.

**6. Prioritize Youth and Women's Employment:**
Develop specific interventions for youth and women's employment: Design and implement targeted programs that facilitate skill development, entrepreneurship opportunities, and job placement for young people and women, fostering their economic empowerment and contribution to community development.

**7. Improve Reporting and Documentation:**
Streamline and expedite reporting and documentation processes: Establish clear guidelines and efficient procedures for project staff to submit timely reports and maintain comprehensive documentation of project activities and outcomes. This will enhance transparency, accountability, and facilitate future learning and innovations.

**8. Further Expand Project Reach:**
Consider scaling up the project to new communities: Based on vulnerability assessments and community demand, assess the feasibility of expanding the project to additional communities within the same district.

**9. Streamline Staff Recruitment Processes::**
Implement measures to expedite and streamline the staff recruitment process to ensure timely deployment of personnel.
• Develop standardized recruitment procedures and templates to reduce administrative overhead and streamline the hiring process.
• Utilize technology solutions, such as applicant tracking systems, to automate repetitive tasks and facilitate faster candidate screening and selection.
• Provide training and resources to hiring managers to enhance their proficiency in conducting efficient recruitment activities, including writing job descriptions, interviewing techniques, and candidate evaluation.

**10. Enhance Procurement Efficiency:**
Enhance the efficiency of procurement procedures to facilitate easy and timely acquisition of goods and services required for program implementation.
• Simplify procurement guidelines and documentation requirements to minimize bureaucratic hurdles and expedite the procurement process.
• Establish pre-approved vendor lists and framework agreements for commonly procured items to streamline procurement decision-making and reduce lead times.
• Leverage digital procurement platforms and e-procurement tools to enable online bidding, electronic contract management, and real-time tracking of procurement activities, thereby improving transparency and efficiency.

**11. Ensure Long-Term Sustainability:**

Develop a comprehensive sustainability strategy: Formulate a comprehensive strategy to ensure the long-term sustainability of program outcomes beyond the project lifespan. This strategy should focus on fostering community ownership, mobilizing local resources, and building partnerships with government agencies, NGOs, and other stakeholders.

Strengthen community-based monitoring mechanisms: Enhance the capacity of communities to monitor and evaluate project results, allowing for continuous improvement and adaptation based on local needs.

# CONCLUSION AND LESSONS LEARNED

In conclusion, the endline evaluation of the Integrated Flood Resilience Programme: Phase 2 provides valuable insights into the Programme's performance and impact in the targeted communities of Tangail. The findings indicate that the Programme has made significant strides in reducing vulnerability, enhancing community resilience, and promoting positive changes in economic conditions and Water, Sanitation, and Hygiene (WASH) behaviors. The multifaceted approach, encompassing Disaster Risk Reduction (DRR), climate change adaptation, WASH, health, shelter, livelihoods, and capacity development, has contributed to a more comprehensive and holistic understanding of community resilience.

Lessons learned from the evaluation underscore the importance of adaptive Programmeming that actively seeks and responds to feedback from target communities. The inclusion of socially excluded groups, such as Persons with Disabilities (PWD) and minorities, requires continued attention and tailored interventions. The efficient and timely delivery of Programme interventions, coupled with a focus on intervention quality, has proven instrumental in achieving positive outcomes. Collaboration and coordination mechanisms with other stakeholders need ongoing refinement to avoid duplication and maximize the impact of community resilience initiatives.

Looking forward, it is recommended that future Programme build on these lessons and recommendations to further strengthen the relevance, efficiency, and sustainability of community resilience efforts. Embracing a participatory and inclusive approach, coupled with continuous learning and adaptation, will be essential in navigating the dynamic challenges posed by floods and climate-related disasters. The achievements and lessons from the Integrated Flood Resilience Programme: Phase 2 serve as a foundation for shaping future initiatives that contribute meaningfully to the resilience and well-being of communities facing similar threats.

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# ANNEXURE

## A) COMPARISON OF BASELINE VERSUS ENDLINE

### Evolving Gender Dynamics

| Gender | Baseline | Endline |
|---|---|---|
| Male | 24.0% | 51.0% |
| Female | 76.0% | 49.0% |

### Demographic Changes: Baseline vs. Endline

| Description | Community wise sample | | | | Total | Total population of the four communities | Type |
|---|---|---|---|---|---|---|---|
| | Tangail | | | | | | |
| | Katuli Union | | Kauka Union | | | | |
| | Isapasha | Andhar Manik | South Char Pouli | Goyla Hossain | | | |
| Number of males | 815 | 815 | 982 | 913 | **3525** | **6930** | Baseline |
| Number of females | 827 | 774 | 953 | 851 | **3405** | | |
| Persons with disabilities | 40 | 31 | 30 | 35 | **136** | | |
| Number of males | 38 | 71 | 45 | 50 | 204 | **400** | Endline |
| Number of females | 61 | 80 | 25 | 30 | 196 | | |
| Persons with disabilities | 10 | 14 | 3 | 5 | 32 | | |

### Educational Attainment

| Education | Baseline | Endline |
|---|---|---|
| Have no formal education | 62.0% | 61.8% |
| Primary/PSC | 23.0% | 22.8% |
| JSC | 7.0% | 7.3% |
| SSC | 4.0% | 4.5% |
| HSC | 2.0% | 2.5% |
| Others | 2.0% | 1.3% |

### Household head's main occupation

| Household head's main occupation | Baseline | Endline |
|---|---|---|
| Agriculture | 42.0% | 41.3% |
| Day labouring | 24.0% | 10.0% |
| Rickshaw, auto, van, CNG and another vehicle pulling | 10.0% | 7.8% |
| Business | 7.0% | 5.8% |
| Handicrafts | 5.0% | 1.8% |
| Others (dependent on other members income) | 5.0% | 23.8% |
| Fishing | 3.0% | 6.8% |
| Non-govt. service | 2.0% | 2.3% |
| Tailoring | 1.0% | 0.5% |
| Teacher | 1.0% | 0.3% |

## Household head's secondary occupation

| Household head's secondary occupation | Baseline | Endline |
|---|---|---|
| Day laboring | 10.0% | 13.8% |
| Rickshaw, auto, van, CNG and other vehicle pulling | 8.0% | 3.3% |
| Business | 3.0% | 2.3% |
| Handicrafts | 1.0% | 1.0% |
| Others (dependent on other members income) | 3.0% | 35.3% |
| Fishing | 1.0% | 3.3% |
| Non-govt. service | 1.0% | 0.5% |
| Tailoring | 1.0% | 1.3% |
| Teacher | 1.0% | 0.0% |

## Average monthly income of the households (BDT)

| Average monthly income of the households (BDT) | | Baseline | Endline |
|---|---|---|---|
| Katuli Union | Isapasha | 5445 | 7753 |
| | Andhar Manik | 6538 | 9520 |
| Kauka Union | South Char Pouli | 7600 | 8000 |
| | Goyla Hossain | 7723 | 8813 |

## Average monthly expenditure of the households (BDT)

| Average monthly expenditure of the households (BDT) | | Baseline | Endline |
|---|---|---|---|
| Katuli Union | Isapasha | 5826 | 7551 |
| | Andhar Manik | 6867 | 8825 |
| Kauka Union | South Char Pouli | 8578 | 8500 |
| | Goyla Hossain | 7699 | 8000 |

## Household's fixed asset

| Household's fixed asset | Baseline | Endline |
|---|---|---|
| Households have fixed assets | 69.0% | 66.0% |
| Households do not have fixed assets | 31.0% | 34.0% |

## Types of fixed asset of the households

| Types of fixed asset of the households | Baseline | Endline |
|---|---|---|
| Mobile | 85.0% | 69.7% |
| Livestock | 60.0% | 72.4% |
| TV | 12.0% | 19.7% |
| Gold/Silver | 10.0% | 11.0% |
| Others | 4.0% | 8.0% |
| Business capital | 2.0% | 2.7% |
| Auto | 2.0% | 3.8% |
| Rickshaw | 2.0% | 2.7% |

| Types of fixed asset of the households | Baseline | Endline |
|---|---|---|
| Shop | 1.0% | 2.7% |
| Van | 1.0% | 0.8% |
| Pond | 1.0% | 0.8% |

## Own land of the households

| Own land of the households | Baseline | Endline |
|---|---|---|
| Households have own land | 42.0% | 48.0% |
| Households do not have own land | 58.0% | 52.0% |

## Respondent's ideas about climate change, DRR, and flood resilience

| Respondent's ideas about climate change, DRR, and flood resilience | Baseline | Endline |
|---|---|---|
| Respondents have no idea about climate change and DRR | 79.0% | 33.5% |
| Respondents have idea about climate change and DRR | 21.0% | 66.5% |
| Respondents have no idea about flood resilience | 71.0% | 30.3% |
| Respondents have idea about flood resilience | 29.0% | 69.8% |

## Sources of receiving idea about climate change, DRR, and flood resilience

| Sources of receiving idea about climate change, DRR, and flood resilience | Baseline | Endline |
|---|---|---|
| Mike | 56.0% | 35.5% |
| TV | 53.0% | 29.4% |
| Neighbor | 50.0% | 41.9% |
| Mobile | 43.0% | 23.3% |
| Union Parishad | 38.0% | 13.3% |
| Radio | 7.0% | 3.2% |
| Newspaper | 4.0% | 5.0% |
| Meeting | 4.0% | 1.4% |
| Techers | 2.0% | 0.4% |
| NGOs | 1.0% | 2.2% |

## Disasters affecting the community people

| Disasters affecting the community people | Baseline | Endline |
|---|---|---|
| Flood | 100.0% | 87.0% |
| River erosion | 89.0% | 47.8% |
| COVID_19 | 69.0% | 12.3% |
| Strom (Tornado) | 24.0% | 10.0% |
| Drought | 18.0% | 18.3% |
| Thunderstorm | 13.0% | 3.5% |
| Excessive rainfall | 10.0% | 8.0% |

| Household's actions to flood | Baseline | Endline |
|---|---|---|
| Households take actions before flood | 49.0% | 59.0% |
| Households do not take actions before flood | 51.0% | 41.0% |
| Households take actions during flood | 65.0% | 65.3% |
| Households do not take actions during flood | 35.0% | 34.8% |
| Households take actions after flood | 70.0% | 64.0% |
| Households do not take actions after flood | 30.0% | 36.0% |

| Respondent's idea about flood early warning message | Baseline | Endline |
|---|---|---|
| Respondents have idea about flood early warning message | 28.0% | 75.3% |
| Respondents have no idea about flood early warning message | 72.0% | 24.8% |

| Flood hampers household's livelihoods | Baseline | Endline |
|---|---|---|
| Household's livelihoods were hampered during last flood | 87.0% | 67.5% |
| Household's livelihoods were not hampered during last flood | 13.0% | 32.5% |

| Community people's coping with the challenges from the last flood | Baseline | Endline |
|---|---|---|
| Reduce daily cost | 64.0% | 52.6% |
| Use savings | 48.0% | 50.7% |
| Borrow from other | 47.0% | 46.7% |
| Take loans (NGO/community's rich people) | 45.0% | 29.6% |
| Temporary/permanent migration to other places for working purpose | 39.0% | 41.5% |
| Go through starvation | 13.0% | 10.4% |
| Forced asset selling (livestock, boat, gold, lands) | 9.0% | 12.6% |
| Get financial support from govt. and non-govt. agencies | 7.0% | 1.9% |
| Receive gift from in laws houses | 3.0% | 2.2% |
| Send children for working to other places (cities/towns) | 1.0% | 2.6% |

| Resilient houses to disaster and flood risk | Baseline | Endline |
|---|---|---|
| Houses were resilient to disaster and flood risk | 34.0% | 70.0% |
| Houses were not resilient to disaster and flood risk | 66.0% | 30.0% |

| Receiving shelter improvement or house preparing training | Baseline | Endline |
|---|---|---|
| Respondents and their household members received shelter improvement or house preparing training | 5.0% | 25.0% |
| Respondents and their household members did not receive any shelter improvement or house preparing training | 95.0% | 75.0% |

## Major sources of drinking water and household's own and improved tube-wells

| Major sources of drinking water and household's own and improved tube-wells | Baseline | Endline |
|---|---|---|
| Households have tube-well | 74.0% | 65.0% |
| Households have no tube-well | 26.0% | 30.0% |
| Household's tube wells are improved | 39.0% | 69.0% |
| Household's tube wells are not improved | 61.0% | 45.0% |

## Household's latrines and its types

| Household's latrines and its types | Baseline | Endline |
|---|---|---|
| Households have latrine | 81.0% | 92.8% |
| Households do not have latrine | 19.0% | 7.3% |

## Latrine conditions

| Latrine conditions | Baseline | Endline |
|---|---|---|
| Kaccha | 61.0% | 47.2% |
| Semi-pucca | 15.0% | 46.6% |
| Pucca | 2.0% | 5.1% |
| Hanging | 2.0% | 1.1% |

## Household's improved and flood protected latrines

| Household's improved and flood protected latrines | Baseline | Endline |
|---|---|---|
| Household's latrines were improved | 22.0% | 48.8% |
| Household's latrines were not improved | 78.0% | 51.2% |
| Household's latrines were flood protected | 26.0% | 52.0% |
| Household's latrines were not flood protected | 74.0% | 48.0% |

## Idea about improved and hygienic latrine

| Respondent's idea about improved and hygienic latrine | | Baseline | Endline |
|---|---|---|---|
| Idea about improved and hygienic latrine | Respondents have idea about improved and hygienic latrine | 25.0% | 84.0% |
| | Respondents do not have idea about improved and hygienic latrine | 75.0% | 16.0% |
| Using sandal during defecation | Respondents and their household members use sandal during defecation | 78.0% | 85.3% |
| | Respondents and their household members do not use sandal during defecation | 22.0% | 14.8% |
| Washing hands by using soap/mud after defecation | Respondents and their household members wash hands by using soap/mud after defecation | 84.0% | 97.5% |
| | Respondents and their household members do not wash hands by using soap/mud after defecation | 14.0% | 2.5% |

## Idea about proper hand washing technique

| Respondent's idea about proper hand washing technique | | Baseline | Endline |
|---|---|---|---|
| Idea about proper hand washing technique Idea about proper hand washing technique | Respondents have idea about proper hand washing technique | 27.0% | 77.3% |
| | Respondents do not have idea about proper hand washing technique | 73.0% | 22.8% |
| Idea about menstrual hygiene management | Respondents have idea about menstrual hygiene management | 78.0% | 86.8% |
| | Respondents do not have idea about menstrual hygiene management | 22.0% | 13.3% |
| Household's practice of covering foods using soap/mud after defecation | Households cover food items properly and hygienic way | 42.0% | 91.3% |
| | Households do not cover food items properly and hygienic way | 58.0% | 8.8% |

## Respondent's and their household member's practices of washing hands with soaps

| Respondent's and their household member's practices of washing hands with soaps | Baseline | Endline |
|---|---|---|
| After defecation | 88.0% | 99.0% |
| Before eating | 57.0% | 65.5% |
| Before cooking | 30.0% | 34.3% |
| After cleaning baby's bottom | 23.0% | 33.3% |
| Before feeding babies | 1.0% | 24.5% |
| Before preparing foods | 14.0% | 30.5% |
| Before serving foods | 11.0% | 16.5% |
| After coming from outside of the home | 9.0% | 21.0% |

## Place of taking treatment and medicine by the community people

| Place of taking treatment and medicine by the community people | Baseline | Endline |
|---|---|---|
| Village doctor | 71.0% | 64.3% |
| Near pharmacy | 56.0% | 64.5% |
| Community clinic | 35.0% | 44.5% |
| GoB hospital (Upazila/district) | 34.0% | 47.3% |
| Kobiraj | 24.0% | 24.8% |
| Private clinic | 11.0% | 6.5% |
| Local paramedic | 2.0% | 12.0% |
| Upazila/Sadar private clinic | 2.0% | 5.5% |

## Suffering from diseases during last flood

| Suffering from diseases during last flood | Baseline | Endline |
|---|---|---|
| Household members suffered from diseases during last flood | 19.0% | 24.0% |
| Household members did not suffer from diseases during last flood | 81.0% | 76.0% |

## Nutritious foods taken by the pregnant women

| Nutritious foods taken by the pregnant women | Baseline | Endline |
|---|---|---|
| Egg | 79.0% | 81.0% |
| Vegetables | 73.0% | 89.8% |
| Fish | 73.0% | 81.0% |
| Rice | 55.0% | 90.5% |
| Milk | 54.0% | 50.5% |
| Meat | 39.0% | 21.8% |
| Fruits | 34.0% | 28.0% |
| Potato | 30.0% | 58.8% |
| Bread | 27.0% | 44.3% |
| Honey | 2.0% | 2.5% |

## Respondent's knowledge about COVID-19

| Respondent's knowledge about COVID-19 | Baseline | Endline |
|---|---|---|
| Respondents know about COVID-19 | 95.0% | 94.3% |
| Respondents do not know about COVID 19 | 5.0% | 5.8% |

## Sources of having idea about COVID-19

| Sources of having idea about COVID-19 | Baseline | Endline |
|---|---|---|
| Miking | 64.0% | 48.8% |
| Television | 60.0% | 41.9% |
| From household members, friends, relatives, neighbors | 54.0% | 72.4% |
| Online platform (social media, Facebook, YouTube) Online News portal) | 11.0% | 19.6% |
| From health professionals (doctors, health workers, NGO workers) | 8.0% | 24.1% |
| Newspaper (printed) | 7.0% | 16.2% |
| Radio | 7.0% | 6.1% |
| BDRCS | 3.0% | 65.8% |

## Community people's practices to protect form COVID-19

| Community people's practices to protect form COVID-19 | Baseline | Endline |
|---|---|---|
| Wearing a face mask when outside | 79.0% | 76.1% |
| Hand washing with soap frequently | 59.0% | 87.3% |
| Keep 1m/3ft/two hands distance with others | 23.0% | 45.1% |
| Cleaning hands with sanitizer frequently | 18.0% | 22.3% |
| Remain at home most of the time | 14.0% | 58.6% |
| Avoiding people gathering places | 9.0% | 32.1% |
| Sneeze in the inside of the elbow | 6.0% | 15.9% |

## Vaccination status of the respondents

| Vaccination status of the respondents | Baseline | Endline |
|---|---|---|
| Respondents have taken COVID-19 | 95.0% | 97.0% |
| Respondents have not taken COVID-19 vaccine | 5.0% | 3.0% |

## Vaccination status

| Vaccination status | Baseline | Endline |
|---|---|---|
| Have taken one dose vaccine | 85.0% | 2.3% |
| Have taken two doses vaccine | 9.0% | 32.8% |
| Have taken three doses vaccine | 1.0% | 59.0% |
| More than three | 0.0% | 3.0% |
| Not taken any does | 5.0% | 3.0% |