Impact Assessment of Building Flood Resilient Community Project

A CSR initiative of Axis Bank Limited

(Project Period: October 2022 – March 2024)

January 2026

Notice to readers

- Our report shall be prepared solely for Axis Bank Limited. KPMG does not accept or assume any liability, responsibility, or duty of care for any use of or reliance on this report by anyone, other than our Client, to the extent agreed in the Agreement.
- Impact assessment is limited to the projects allocated by Axis Bank Limited.
- OECD DAC framework has been used in preparing the report as detailed herein. No professional assurance standards ex. ISAE, SSAE etc. have been applied while preparing this report and accordingly the rigors applicable under such standards are not applicable for the scope covered by our report.
- Procedures, analysis and recommendations, if any, are advisory in nature basis the information collected from various sources both publicly and those provided by the client.
- Our observations represent our understanding and interpretation of the facts based on reporting of beneficiaries and stakeholders.
- Our report, by its very nature, may involve numerous assumptions, inherent risks, and uncertainties, both general and specific. The conclusions drawn shall be based on the information available with us at the time of preparing the report.
- We shall not perform an audit and shall not express an opinion or any other form of assurance. Further, comments in our report are not and shall not be intended, nor should they be interpreted to be legal advice or opinion. Client shall be fully and solely responsible for applying independent judgment, with respect to the findings included in the report, to make appropriate decisions in relation to future course of action, if any. We shall not take responsibility for the consequences resulting from decisions based on information included in the report.
- While information obtained from the public domain or external sources has not been verified for authenticity, accuracy, or completeness, we have obtained information, as far as possible, from sources generally considered to be reliable. However, it must be noted that some of these websites/third party sources may not be updated regularly. We assume no responsibility for the reliability and credibility of such information.
- Our work shall be limited to the specific procedures described in this Engagement Letter and shall be based only on the information and analysis of the data obtained through interviews of beneficiaries supported under the programme, selected as sample respondents and discussions with Axis bank Limited team and stakeholders of the programme. Accordingly, changes in circumstances or information available after the review could affect the findings outlined in our report.
- In no circumstances shall we be liable, for any loss or damage, of whatsoever nature, arising from information material to our work being withheld or concealed from us or misrepresented to us by any person to whom we make information requests.
- In accordance with its policy, KPMG advises that neither it nor any of its partner, director or employee undertakes any responsibility arising in any way whatsoever, to any person other than Client in respect of the matters dealt with in this report, including any errors or omissions therein, arising through negligence or otherwise, howsoever caused.
- In connection with our report or any part thereof, KPMG does not owe duty of care (whether in contract or in tort or under statute or otherwise) to any person or party to whom the report is circulated to and KPMG shall not be liable to any party who uses or relies on this report. KPMG thus disclaims all responsibility or liability for any costs, damages, losses, liabilities, expenses incurred by such third party arising out of or in connection with the report or any part thereof.
- By reading our report, the reader of the report shall be deemed to have accepted the terms mentioned hereinabove.

Table of Contents

Abbreviations

ASDMA	Assam State Disaster Management Authority
CSR	Corporate Social Responsibility
DAHD	Department of Animal Husbandry and Dairying
DDMA	Disaster Risk Reduction
DRR	District Disaster Management Authority
FGD	Focused Group Discussion
IPCC	Intergovernmental Panel on Climate Change
KII	Key Informant Interview
OECD DAC	Organization for Economic Cooperation and Development, Development Assistance Committee
PRI	Panchayati Raj institution
UNDRR	United Nations Office for Disaster Risk Reduction
UN- SDG	United Nation Sustainable Development Goals
WASH	Water, Sanitation and Hygiene

Executive Summary

This impact assessment of Axis Bank Limited's CSR-supported project with Ayang trust on Building Flood Resilient Community in Majuli Island was conducted using the OECD-DAC evaluation framework, covering six criteria; Relevance, Coherence, Effectiveness, Efficiency, Impact, and Sustainability. The study employed a mixed-method approach, including 101 stakeholder interactions (91 community members, 3 PRI members, 2 DRR committee members, 2 DDMA officers, 3 Ayang Trust representatives), supported by thematic analysis and project performance data review.

Below are the key findings basis the impact assessment from the project:*

KEY FINDINGS

01	80%	Households reported reliable daily access to safe drinking water during floods due to raised hand pumps and water filters
02	83%	Respondents reported using community rescue centers for shelter and sanitation during floods.
03	100%	Respondents reported receiving reliable and safe drinking water filter due to water filters and raised handpumps ensuring reliable access during floods.
04	73%	Reported that evacuation time reduced to under 30 minutes with community boats during floods.
05	>90%	Reported lower disease incidence compared to previous flood seasons due to availability of safer drinking water

*Based on the beneficiary consultations, impact analysis.

*Based on the beneficiary consultations, impact analysis.

Executive Summary

OECD-DAC Evaluation

The various components/outcomes of the program were evaluated using the OECD-DAC framework and the findings of the study are categorized as follows:

The project is highly relevant as it addresses critical challenges faced by communities during floods, such as displacement, lack of safe shelter, and inadequate sanitation. Before the intervention, families struggled with unsafe conditions and limited access to basic facilities, increasing health risks and stress. Establishing community rescue shelters equipped with raised platforms, clean water, and separate sanitation has significantly improved safety and dignity, especially for vulnerable groups.

The project proved highly effective in improving disaster preparedness and response. 80% of households reported greatly improved ability to evacuate and access essentials during floods, and 78% noted significant improvement in access to safe shelter and sanitation compared to previous years. Confidence levels also rose substantially, with 100% of respondents expressing confidence in their community's ability to respond to floods, and 82% feeling very confident about the safety of their drinking water.

Approximately 71% of respondents and DRR committee members expressed confidence in the project's ability to sustain beyond its lifecycle. Reflecting a likelihood of continued community ownership and maintenance of assets such as boats, shelters, and hand pumps post-project exit. The active engagement of DRR committees—rated as managing resources "very well" by 80% of respondents—along with regular drills and capacity-building initiatives, suggests that the project has embedded systems and skills conducive to long-term resilience and impact.

The project created positive impacts on response to disaster, health, safety, and livelihoods. Disease incidence reduced significantly, with more than 90% reporting lower instances of illness compared to previous years. Migration during floods significantly reduced post-intervention, and community centers contributed to new livelihood opportunities for more than 90% respondents. Access to safe drinking water improved, with 80% respondents having daily access during floods.

The project demonstrated strong efficiency by ensuring timely and useful interventions. More than 90% of respondents rated DRR committee information as very timely and useful, and 87% participated in multiple mock drills, indicating effective community engagement. The availability of boats reduced evacuation time from 1–2 hours to under 30 minutes for 73% households, showcasing resource optimization.

The project demonstrated alignment with multiple Sustainable Development Goals, including SDG 1, 2, 3, 4, 6, 11, 13 and aligns with some national priorities and local priorities such as the National Disaster Management Plan, State Disaster Risk Reduction strategies- Assam State Disaster Risk Reduction Strategy.

Does not meet expectation | Partially meet expectations | Meet expectations

The program evaluation above on OECD-DAC parameters effectively communicate the program's strengths and areas for improvement, providing a comprehensive overview for stakeholders and decision-makers.

01

Introduction and Background

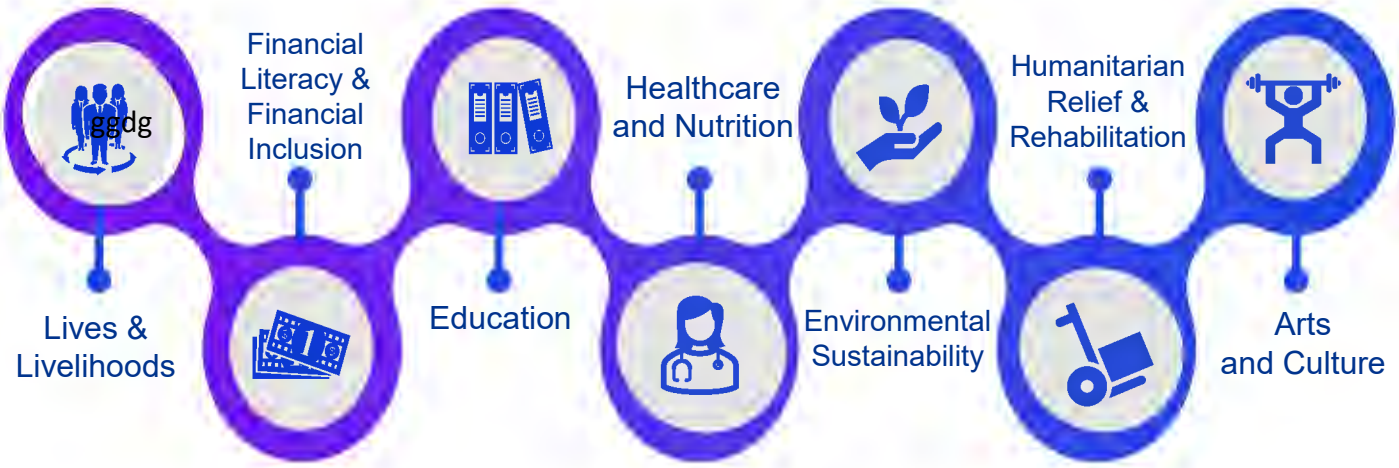
About Axis Bank Limited

This report aims to assess the impact of Axis Bank Limited's Corporate Social Responsibility (CSR) funding for reducing flood risk and building resilient communities in Majuli, Assam. The initial section provides an overview of Axis Bank Limited, the context of recurrent flooding in Majuli, and the urgent need for disaster risk reduction initiatives in India.

Established in 1993, Axis Bank Limited is one of India's leading private sector banks, offering a wide spectrum of financial services across retail, corporate, investment, and digital banking. With a strong presence across the country and a growing international footprint, Axis Bank has consistently demonstrated its commitment to inclusive growth and nation-building. The Bank aspires to contribute meaningfully to India's socio-economic development and aligns its efforts with the United Nations (UN) Sustainable Development Goals (SDGs).[1]

Corporate Social Responsibility (CSR) at Axis Bank Limited

Axis Bank's CSR philosophy is to make measurable contributions to the inclusive, equitable, and sustainable development of India. The Bank focuses on creating opportunities for secure and sustainable livelihoods, improving access to quality education, strengthening financial inclusion and literacy among unbanked and underbanked communities, supporting environmental sustainability, and providing humanitarian relief where needed. These initiatives reflect Axis Bank's vision of fostering holistic development and empowering marginalized communities. Axis Bank Limited undertakes social responsibility initiative with a focus on holistic community development aligning with national priorities and Sustainable development goals (SDGs). The Bank's CSR initiatives are centered around the following thematic areas[1]:



As part of its commitment to environmental sustainability, humanitarian relief and rehabilitation, Axis Bank partnered with Ayang Trust to implement a comprehensive disaster risk reduction program in Majuli, the world's largest inhabited riverine island and one of the most flood-prone regions in India.[2]

Source-
1. CSR Annual Report 2024-25: Connecting, Axis Bank Limited
2. Assam Tourism. (n.d.). Majuli Island.

Global and Local Context

Flooding is the most frequent and devastating natural disaster worldwide, accounting for 43% of all disaster events globally (UNDRR, 2016)[3]. Climate change has intensified flood risks through erratic rainfall, rising sea levels, and extreme weather events. According to the World Bank report, 2.2 billion people, or 29 percent of the world beneficiaries live in areas that would experience some level of inundation during a 1-in-100 year flood event.[4] Urbanization, deforestation, and poor drainage systems exacerbate flood impacts, leading to loss of life, infrastructure damage, and economic disruption. Globally, average annual losses from floods accounts for about USD 388.4 billion[5,] highlighting huge economic losses and long-term social consequences.

India ranks among the most flood-prone countries in the world. The World beneficiaries overview estimates that 27.7%[6] of India's landmass is vulnerable to flooding, with major river basins like the Ganga, Brahmaputra, and Barak contributing to recurrent disasters. Seasonal monsoons combined with inadequate embankments and silted rivers lead to widespread inundation. Floods in India result in:

- Loss of agricultural productivity (impacting food security and rural incomes).
- Damage to infrastructure (roads, schools, health facilities).
- Public health crises (waterborne diseases, malnutrition).
- Large-scale displacement of populations, leading to temporary or prolonged loss of homes and livelihoods.

- Disruption of essential services such as electricity, communication networks, and transportation.
- Long-term psychological impacts on affected communities, especially vulnerable groups like children, women, and the elderly
- Increased pressure on government resources for relief, rehabilitation, and reconstruction efforts.
- Environmental degradation, including soil erosion, contamination of water bodies, and destruction of wildlife habitats.

Source:

3. Economic Forum. (2016). Which natural disasters hit most frequently?

4. Rentschler, J., & Salhab, M. (2020). People in harm's way: Flood exposure and poverty in 189 countries, World Bank.

5. United Nations Office for Disaster Risk Reduction. (2026). Floods. In Global Assessment Report on Disaster Risk Reduction 2026: Hazard exploration.

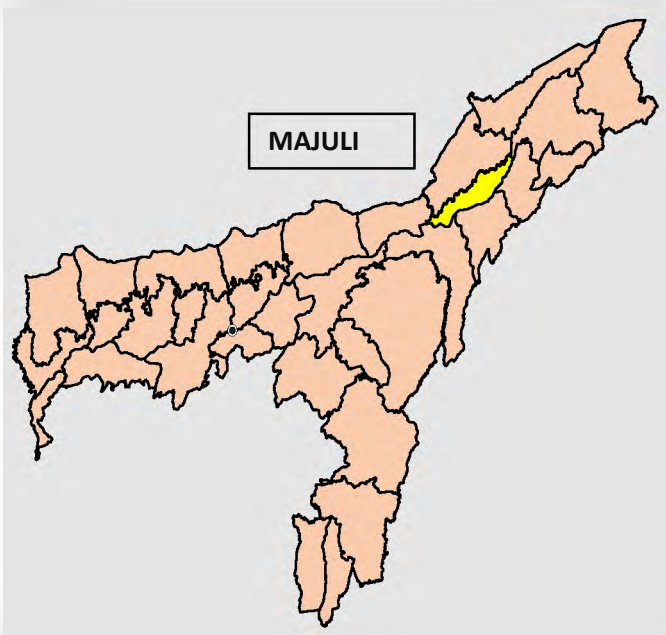
6.World beneficiaries Review. (2026). Flooding by country.

Assam and Majuli: A Unique Flood Profile

Assam, in India's northeast, is one of the most flood-prone states in the country. Each year, monsoon rains combined with the overflow of the Brahmaputra and its tributaries inundate vast areas, causing widespread displacement, crop loss, and infrastructure damage. According to the Assam State Disaster Management Authority (ASDMA), floods affect 25–88 lakh people annually in Assam from 2010-2024, with thousands of villages submerged.[7] In 2022 alone, over 88 lakh people across 31 districts were impacted, highlighting the scale and frequency of this disaster.[7]

Majuli, the world's largest inhabited riverine island is at the epicenter of this crisis. Surrounded by the Brahmaputra, Majuli's geography makes it highly vulnerable to flooding and severe riverbank erosion. The floodplains that are situated in Assam's Brahmaputra valley are extremely flood-prone estimating an annual loss of about 3521 million properties, including crops, housing, and public facilities between 1953 and 2011 as per reported by Central Water Commission.[8] Historical data shows Majuli's area has declined from 1,256 sq. km in 1891 to about 523 sq. km in 2013.[9] This erosion has forced thousands of families to relocate to government-allotted lands, disrupting livelihoods and cultural heritage.

Flood impacts in Majuli are devastating. In 2021, flash floods affected 47,752 people, including 10,679 children, across 64 villages, submerging 3,943 hectares of cropped land and impacting 45,228 livestock.[10] Roads and bridges were damaged, isolating communities and hampering relief efforts. In 2024, Majuli experienced severe flooding, with a total inundated area of approximately 3,427.23 hectares. Of this, 3,297.83 hectares were agricultural land, 23.34 hectares were built-up areas, and 103.35 hectares.[11] These floods are becoming more frequent and intense, catching communities off-guard and overwhelming traditional coping mechanisms.



Map indicative only

7. Government of Assam. (2024). Flood memorandum to the Ministry of Home Affairs, Government of India on Assam floods – 2024. Guwahati: Government of Assam.

8. Mahanta, P., & Mili, N. (n.d.). Vulnerability to flood and erosion hazards: Insights among the inhabitants of Majuli Island, Assam, India. Department of Geography, Cotton University, Guwahati, Assam, India.

9. Pathak, B. (2023). Causes and impacts of flood and riverbank erosion in Majuli, Assam: A study. Department of Geography, Bhattadev University, Bajali, Assam, India.

10. Central Water Commission. (2023). Annual report on riverbank erosion and flood management in Brahmaputra basin. Government of India.

11.Flood scenario of Assam as on 08 July 2024. [Situation Report]. Assam State Disaster Management Authority.

Climate change is amplifying the vulnerabilities related to flash floods in regions like Majuli Islands. The IPCC AR6[11] report warns of increased flood intensity in the Brahmaputra basin due to rising temperatures and erratic rainfall patterns. Land-use studies between 1991 and 2022 show a steady decline in agricultural land and expansion of river area, forcing settlements to shift north and east toward less vulnerable zones. This trend underscores the urgent need for adaptive strategies that go beyond short-term relief.

Figure 1: Flooded areas in Majuli

For Majuli's 2.18 lakh residents,[12] floods are not seasonal inconveniences, they are existential threats. Loss of agricultural land means loss of primary livelihoods, pushing families into poverty and dependence on wage labor. Access to clean water and sanitation becomes critical during floods, as contamination leads to outbreaks of waterborne diseases. Safe shelter is scarce, exposing families to health and safety risks.

Need for creating disaster resilience

Floods are not isolated events, they are cyclical and becoming more severe due to climate change. Rising temperatures, erratic rainfall patterns, and riverbank erosion have amplified the frequency and intensity of floods, especially in vulnerable regions like Majuli. Without proactive resilience measures, communities remain trapped in a cycle of loss and recovery, where each flood erodes livelihoods, health, and dignity. The absence of disaster preparedness leads to cascading impacts. Families lose homes, crops, and livestock repeatedly, pushing them deeper into poverty. Public health crises escalate as contaminated water and poor sanitation during floods trigger outbreaks of waterborne diseases. Education suffers as children are unable to attend school for extended periods, widening learning gaps. Economically, the cost of recurrent relief operations drains government and donor resources without creating sustainable solutions.

Disaster resilience changes this narrative. By investing in elevated infrastructure, safe water access, mobility solutions, and community preparedness, resilience programs shift the focus from reactive relief to proactive risk reduction. Initiatives like Axis Bank's CSR project in Majuli by building elevated rescue shelters, installing raised handpumps, distributing water filters, and forming community-led DRR committees aligns with global frameworks such as the Sendai Framework for Disaster Risk Reduction and the UN Sustainable Development Goals ensuring safety, dignity, and long-term sustainability for flood-prone communities by empowering communities to respond collectively, reduce dependency on external aid, and create a foundation for long-term resilience.

11. *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the IPCC.*
12. *District Disaster Management Authority, Majuli. (2023). Flood contingency plan for Majuli district (2023–24). Majuli, Assam: DDMA.*

About the Project

As part of their Humanitarian Relief and Rehabilitation theme, Axis Bank Limited has implemented a programme on building flood resilient community in Majuli Island, Assam. The *Building Resilient Flood Communities* program focuses on reducing the risk of floods and empowering vulnerable communities in Majuli. The region faces recurring floods and severe riverbank erosion, threatening lives, livelihoods, and access to basic amenities. This initiative works in alignment with sustainable development goals to ensure resilient infrastructure, clean water and sanitation, and health and well-being, thereby enabling communities to live with safety and dignity.

The project aims to strengthen disaster preparedness and response by creating flood-resilient infrastructure, promoting hygiene and health awareness, and building community capacity for collective action during emergencies. It emphasizes sustainable practices and community participation to foster resilience and reduce vulnerability to natural disasters.

Project Objectives

The project, Reducing Flood Risk and Building Resilient Communities in Majuli, was designed to address the recurring challenges posed by seasonal floods and riverbank erosion in Assam. Its objectives are:

These details are based on the project-related documents shared by Axis Bank and Ayang Trust

About Building Flood Resilient Community Project:

Project Components

Formation of DRR Committees

10 Disaster Risk Reduction cum village development committees were formed, including women's self-help groups, youth, and elders, to lead preparedness and response.

Raised Handpumps for Clean Water

20 Raised Handpumps were installed on 5–6 ft elevated platforms to provide uninterrupted access to clean drinking water during inundation.

Distribution of Water Filters

1441 Candle-based steel water filters distributed to flood-affected households, ensuring safe drinking water.

Elevated Community Rescue Centers

10 Flood rescue shelters were built with toilets, bathing spaces, and separate areas for men and women, ensuring safe refuge during floods.

Country Boats for Mobility

14 Country boats were provided to facilitate transport and emergency evacuation during floods, managed by DRR committees.

Capacity Building & Training

Workshops on WASH, search and rescue, and livestock upkeep were conducted in collaboration with DDMA and veterinary departments to strengthen community resilience.

These details are based on the project-related documents shared by Axis Bank and Ayang Trust

About Building Flood Resilient Community Project

Expected Outcomes

The project is designed to create transformative improvements in disaster resilience and community well-being. Its impact goes beyond physical infrastructure it strengthens social systems, empowers communities, and builds long-term capacity to cope with climate risks. By fostering collective action, enhancing preparedness, and ensuring access to essential services during and after floods, the initiative safeguards lives, protects livelihoods, and promotes dignity and security for vulnerable beneficiaries. Some of the expected outcomes are as follows:

Continuous Access to Safe Drinking Water

Raised handpumps and water filters will ensure potable water even during peak flood levels, reducing waterborne diseases.

Safe and Dignified Shelter for Communities

Elevated rescue centers will provide secure spaces with sanitation facilities, reducing health risks and protecting vulnerable groups.

Enhanced Community Resilience and Ownership

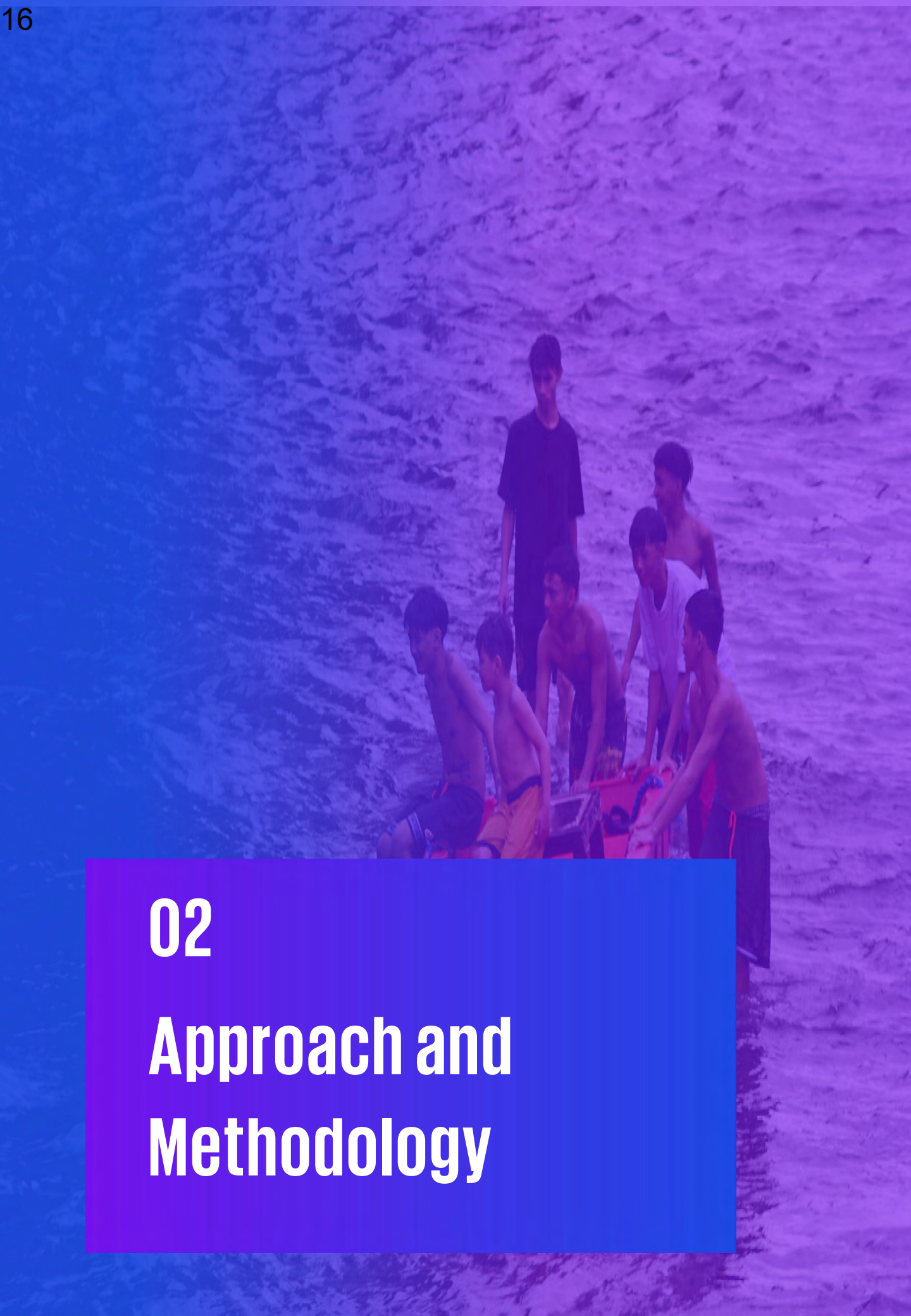
DRR committees will lead preparedness efforts, manage infrastructure, and coordinate emergency response, fostering local governance.

Improved Mobility During Floods

Boats will enable timely evacuation, access to healthcare, and delivery of essential goods, minimizing isolation during disasters.

Reduced Livelihood and Health Losses

Veterinary and WASH trainings will protect livestock and human health, mitigating economic shocks and disease outbreaks..

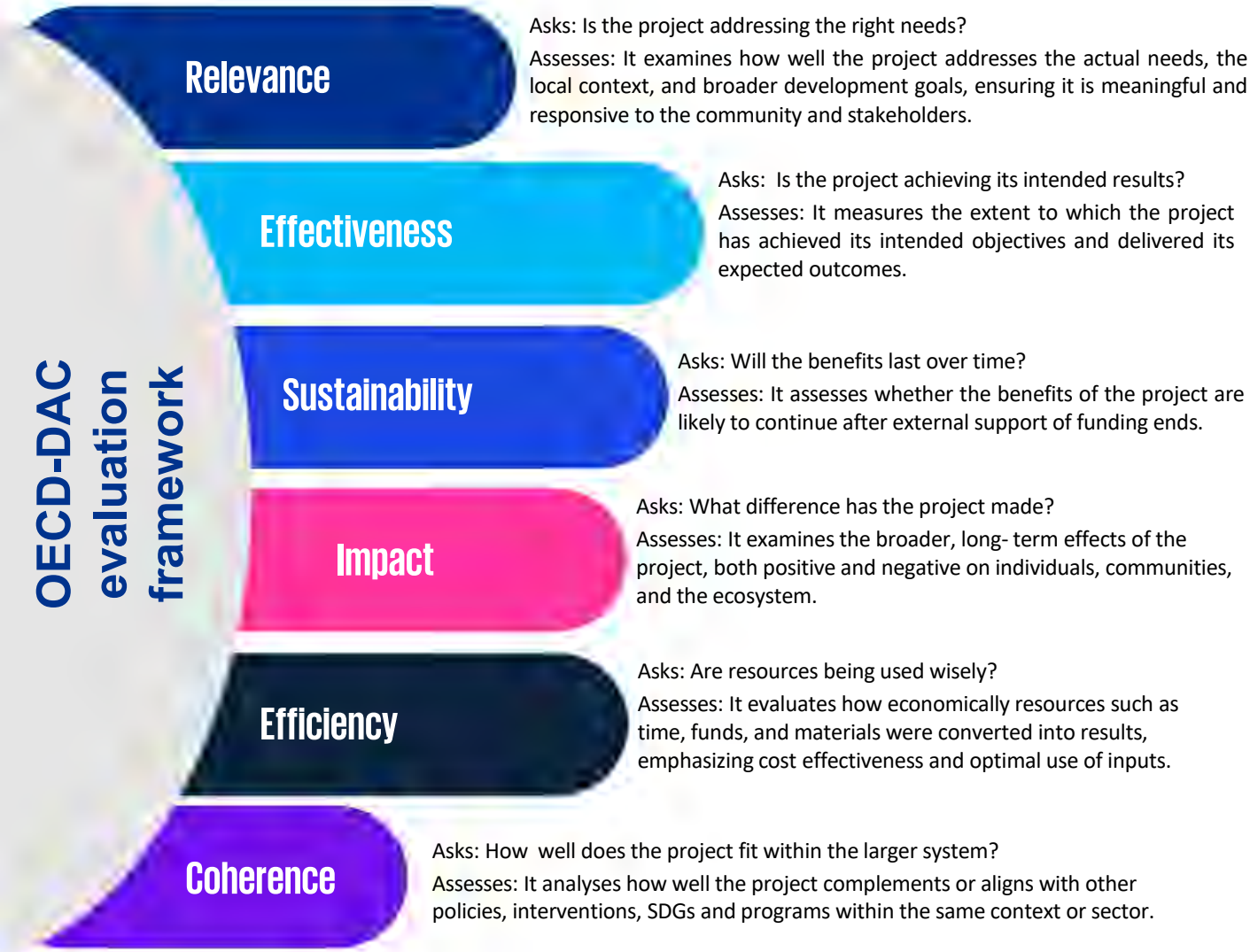


02

Approach and Methodology

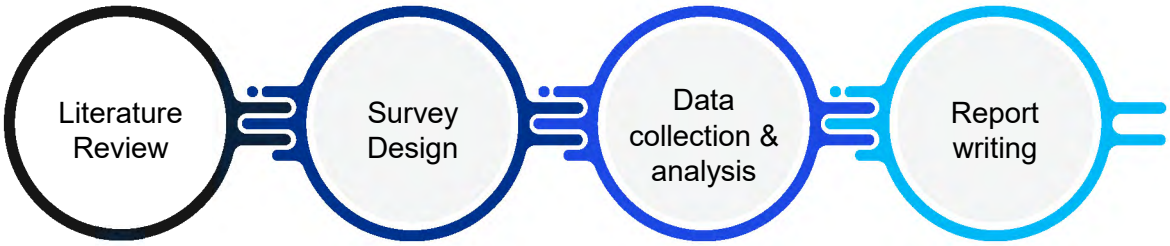
Objective of the assessment

This impact assessment study utilized the OECD-DAC evaluation framework, a globally recognized tool for assessing social impact initiatives. The framework provides a qualitative understanding of the development interventions. The evaluation was conducted with a focus on six key criteria: relevance, coherence, effectiveness, efficiency, impact, and sustainability. Below is an overview of how each criterion was applied in the context of the building flood resilient community in Majuli Island:



The program evaluation above on OECD-DAC parameters effectively communicate the program's strengths and areas for improvement, providing a comprehensive overview for stakeholders and decision-makers.

Project Approach



This section details the approach, methodology, and sampling techniques employed to conduct an in-depth evaluation of the Building Flood Resilient Community in Majuli Island Project. The study was designed to capture both qualitative and quantitative insights ensuring a comprehensive assessment of the project's impact and effectiveness.

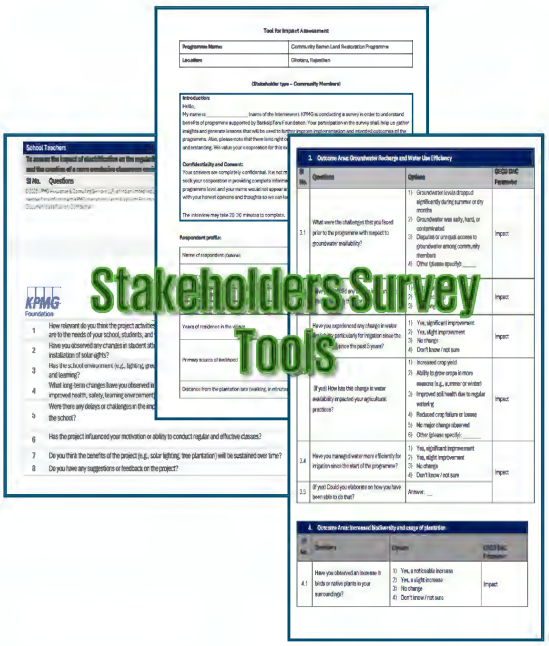
- **Literature review:** A thorough review of existing literature was conducted, utilizing academic and industry sources. This involved a systematic search across relevant databases, publications, and publicly available industry documents to establish a foundational understanding of the research context and identify gaps addressed by the project.
- **Survey Design:** A survey tool was developed, grounded in the research questions and objectives of the study. It was designed to capture qualitative data and complemented by a detailed technical analysis plan to evaluate the impact of the environmental conservation and restoration activities.
- **Survey Distribution:** KPMG India resource personnel conducted the surveys in person by visiting the project location. Data collection was facilitated through a survey tool for efficiency and accuracy. A robust sampling method was employed to ensure a structured, representative sample reflective of the target beneficiaries.
- **Interviews:** Structured, semi-structured interviews and Focus Group Discussions (FGDs) were conducted with key stakeholders, offering rich quantitative and qualitative insights. These stakeholders included- DRR committee, DDMA Officer, community members, PRI member . The interviews served to explore the conditions, challenges, and changes seen after the project implementation, which were further analyzed thematically.
- **Data Analysis:** Thematic analysis was applied to data gathered through interviews and surveys, identifying recurring patterns and overarching themes.
- **Synthesis and Reporting:** The findings from the literature review and interviews were synthesized to develop a comprehensive understanding of the project’s impact. The synthesis process identified key themes, trends, and potential gaps, providing actionable insights for enhancing the project outcomes. The results of the study are compiled in this report, encompassing key findings and actionable recommendations for improving future study and practices.

Project Approach

Tools for the study:

A combination of tools was utilized to ensure accurate and reliable data collection during the study:

- **In depth Interviews:** In depth interviews were conducted with community members, PRI Members, DRR Committee for the understanding of the project outcomes and broader impact.
- **Focused Group Discussions (FGDs):** Conducted with to Community members, DRR committee member capture collective perceptions and the broader impact of the Project.
- **Key Informant Interviews (KIIs):** Conducted with the DDMA Officer and Ayang Trust Team, to gain insights into the Project implemented by Ayang Trust team. These interviews aimed to understand the broader impact of the project from the perspective of observers rather than direct beneficiaries.



Sampling methodology and sample size:

The sample size for the study was determined using purposive random sampling, ensuring a structured and representative sample beneficiaries to engage stakeholders such as community members, DRR Committee members, PRI members, DDMA-DAHD officers, and the Ayang trust Team, for their relevance and ability to provide informed insights.

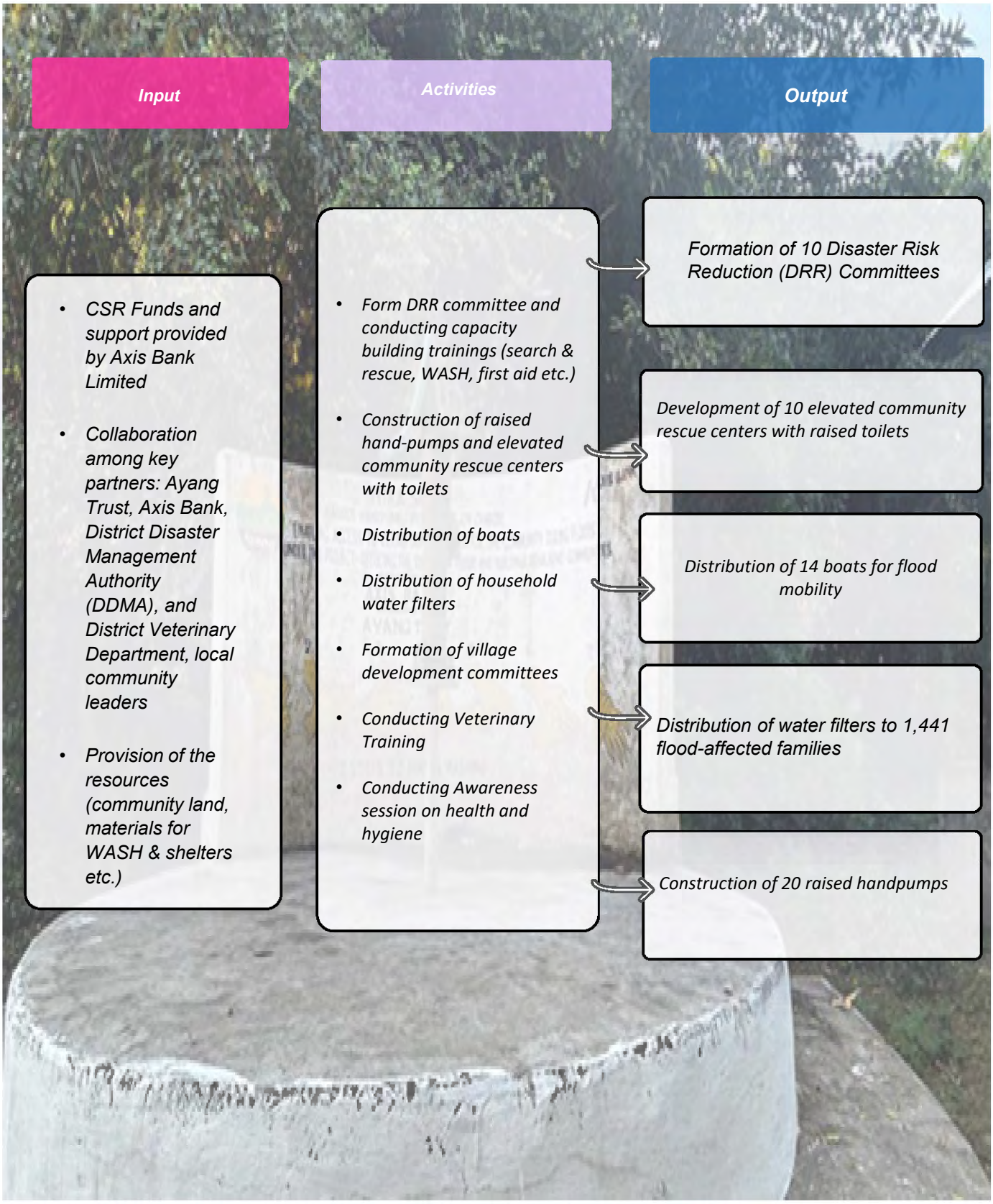
A total of 101 interviews were conducted, capturing diverse stakeholder perspectives. This includes:

- 45 in-depth interviews and 5 Focused Group Discussions with the 46 beneficiaries.
- In-depth interviews with 2 DRR Committee members and 3 PRI members.
- Key informant interviews with 1 officer from DDMA, 1 veterinary officer from DAHD, and 3 members of the Ayang Trust team.

Figure 2: Interaction with In-charge District Animal Husbandry Department

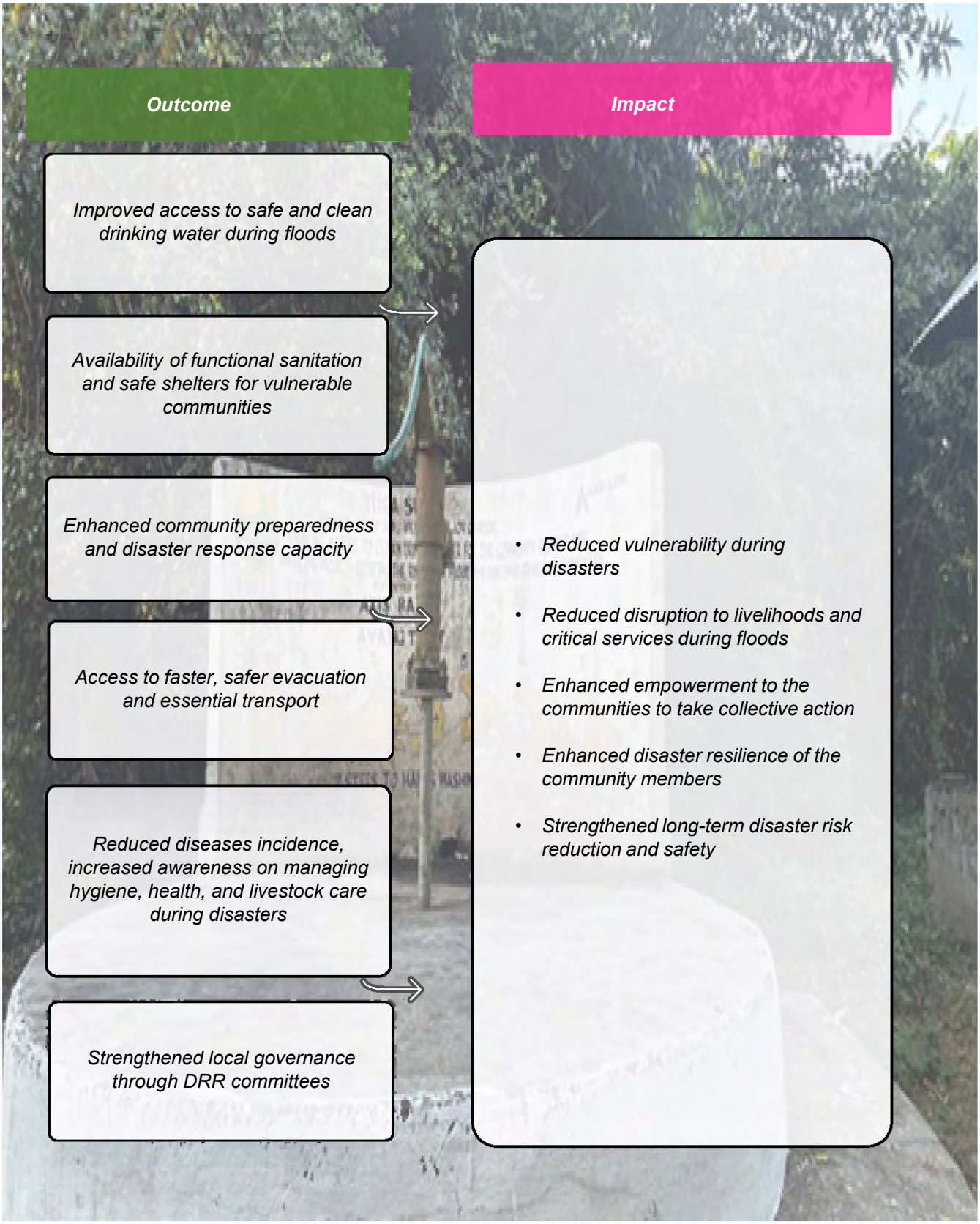
SI NO.	Stakeholders	Sample	Rationale
1.	Community Members	91	To understand the effectiveness of interventions and assess changes in disaster preparedness, health, and hygiene practices.
2.	PRI Members	3	To understand the role of local governance in supporting DRR activities and explore ways to strengthen community-led disaster preparedness and response mechanisms.
3.	DRR Committee member	2	To evaluate the capacity-building efforts, functionality of DRR committees during floods, and identify gaps in knowledge or resources for effective disaster response.
4.	Government Official(DDMA/ Veterinary Officer)	2	To assess alignment of the project with district disaster management strategies and identify opportunities for institutional collaboration and scalability.
5.	Ayang Trust Team	3	To evaluate implementation challenges, coordination efforts, and lessons learned for improving future disaster risk reduction (DRR) initiatives.
	Total	**101**	

Theory of Change- Building Flood Resilient Community



Input	Activities	Output
• CSR Funds and support provided by Axis Bank Limited • Collaboration among key partners: Ayang Trust, Axis Bank, District Disaster Management Authority (DDMA), and District Veterinary Department, local community leaders • Provision of the resources (community land, materials for WASH & shelters etc.)	• Form DRR committee and conducting capacity building trainings (search & rescue, WASH, first aid etc.) • Construction of raised hand-pumps and elevated community rescue centers with toilets • Distribution of boats • Distribution of household water filters • Formation of village development committees • Conducting Veterinary Training • Conducting Awareness session on health and hygiene	Formation of 10 Disaster Risk Reduction (DRR) Committees Development of 10 elevated community rescue centers with raised toilets Distribution of 14 boats for flood mobility Distribution of water filters to 1,441 flood-affected families Construction of 20 raised handpumps

Theory of Change- Building Flood Resilient Community

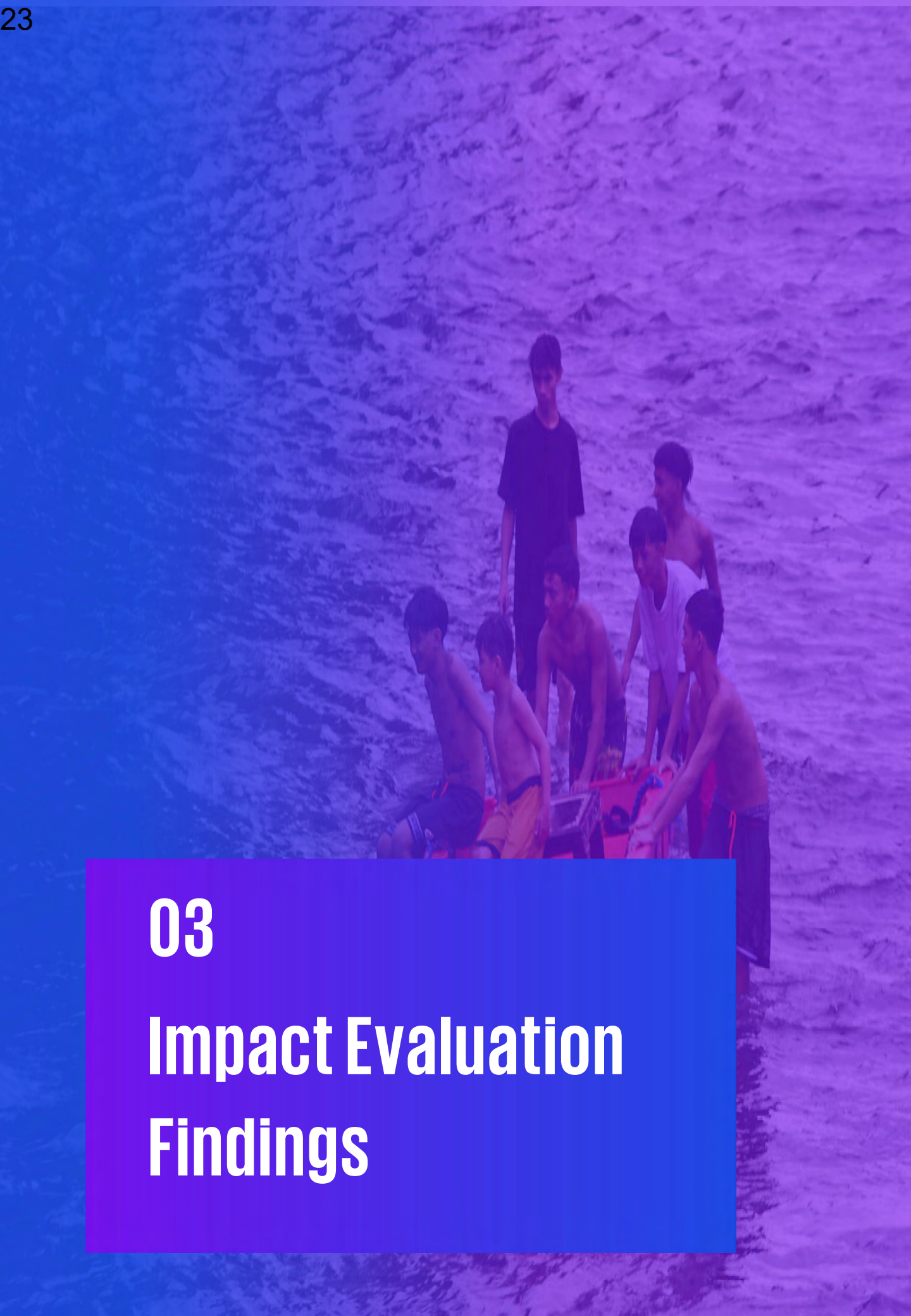


Outcome

- *Improved access to safe and clean drinking water during floods*
- *Availability of functional sanitation and safe shelters for vulnerable communities*
- *Enhanced community preparedness and disaster response capacity*
- *Access to faster, safer evacuation and essential transport*
- *Reduced diseases incidence, increased awareness on managing hygiene, health, and livestock care during disasters*
- *Strengthened local governance through DRR committees*

Impact

- *Reduced vulnerability during disasters*
- *Reduced disruption to livelihoods and critical services during floods*
- *Enhanced empowerment to the communities to take collective action*
- *Enhanced disaster resilience of the community members*
- *Strengthened long-term disaster risk reduction and safety*



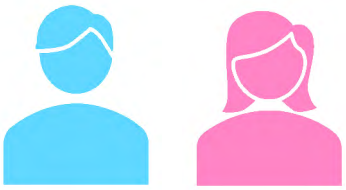
03

Impact Evaluation Findings

This chapter presents the findings of the study evaluating the impact of the Disaster Risk Reduction and Community Resilience Project implemented in Majuli, Assam. It provides a detailed analysis of interventions such as construction of elevated rescue centers, installation of raised handpumps, distribution of boats and water filters, and capacity-building of Disaster Risk Reduction (DRR) committees. The assessment aims to understand the broader social and economic impacts of these measures on flood-prone communities. The findings are mapped against project-specific impact indicators and further aligned with the OECD-DAC evaluation criteria to examine the project's relevance, effectiveness, sustainability, and its potential to enhance community resilience and climate adaptation.

Demographic Profile

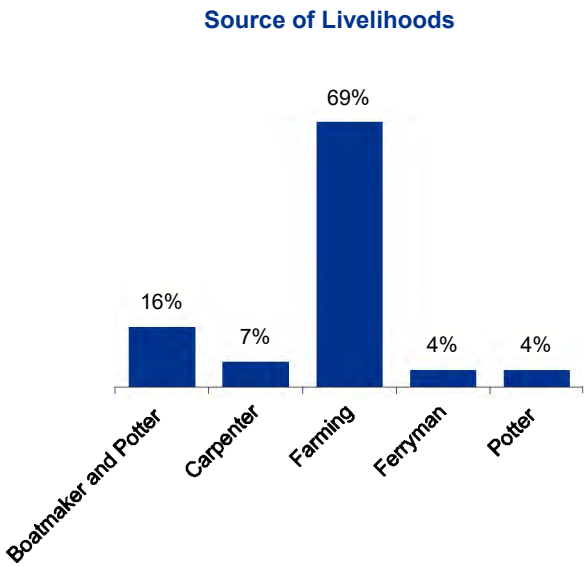
Gender profile of participants



49% 51%

The gender distribution data for the surveyed beneficiaries indicates that females constitute 51% of the total, while males account for 49%. This near-equal representation reflects a balanced demographic profile, which is significant for ensuring inclusive participation in project activities. This also underscores the importance of integrating gender-sensitive strategies in disaster preparedness and resilience-building activities to enhance community engagement and impact.

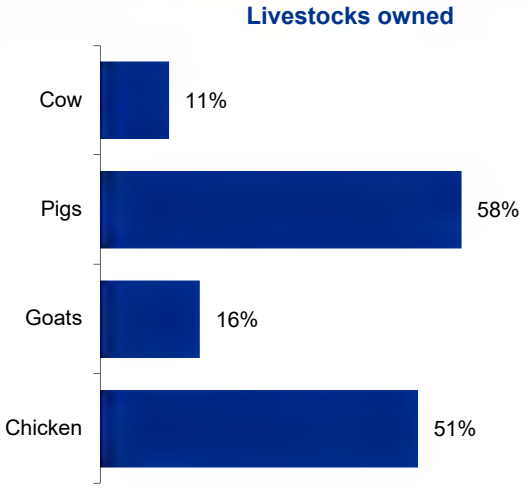
Source of Livelihoods



The data indicates that farming is the predominant source of livelihood, accounting for 69% of the surveyed beneficiaries. This heavy reliance on agriculture underscores the community's vulnerability to floods, as crop loss directly impacts income and food security. Other major occupations include boat-making and pottery (16%), which are traditional skills and play an important role in sustaining local economies, especially in riverine regions like Majuli. Carpentry (7%) represents a smaller segment, while ferrymen (4%) and potters (4%) form niche livelihood groups that are essential for transportation and cultural heritage. The distribution highlights the need for livelihood diversification and resilience-building measures, as the dominance of farming and traditional crafts makes these communities highly susceptible to climate shocks and erosion-related displacement.

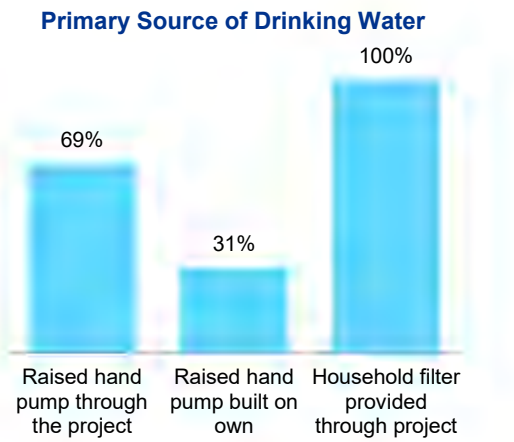
Livestock Ownership

The livestock ownership profile indicates that pigs (58%) and chickens (51%) are the most commonly reared animals among households, followed by goats (16%) and cows (11%). This pattern highlights the community's dependence on small livestock and pigs for income and nutrition, which are highly vulnerable during floods due to fodder scarcity, disease outbreaks, and lack of safe shelters. These findings highlight the need for targeted measures such as flood-resilient animal shelters, emergency fodder support, and veterinary care to protect livelihoods and reduce economic shocks during disaster events.



Improved access to safe and clean drinking water during floods

Safe drinking water is one of the most critical needs during floods, yet it becomes extremely scarce in such conditions. Floodwaters often contaminate traditional water sources like wells and handpumps with silt, sewage, and pathogens, leading to outbreaks of waterborne diseases. Communities in Majuli, being riverine and highly flood-prone, face prolonged inundation that disrupts access to clean water for weeks. In previous flood seasons, households used to rely on unsafe sources or travel long distances to fetch water, increasing health risks and physical hardship. Addressing this challenge is essential not only for survival but also for maintaining dignity and reducing disease burden during disasters.



Basis the sampled interaction it was observed that the project has significantly improved water security during floods through raised handpumps and household filters. Currently, 69% of households depend on raised handpumps installed under the project, while 31% use handpumps constructed on their own initiative. Importantly, 100% of households reported using the household water filters provided by the project, indicating universal adoption and trust in this intervention.

Based on the sampled beneficiaries interaction it was reported that now 80% of households now have reliable access to safe drinking water which is free of contamination due to raised handpumps and water filters every day during floods, and 20% report improved access because of raised handpumps and water filters for more than half of the flood days which highlights a major shift from earlier conditions of scarcity and contamination.

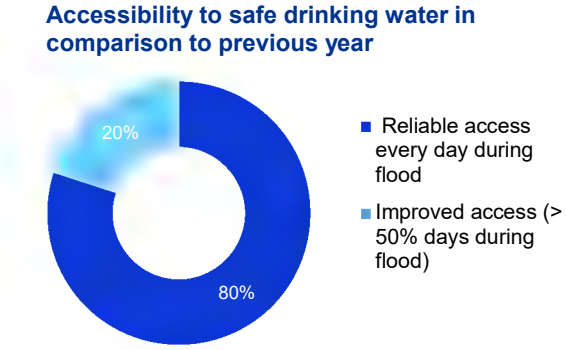


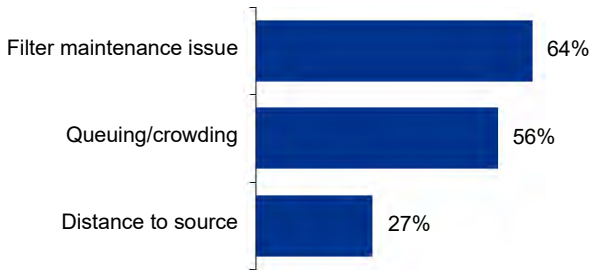
Figure 4: Raised Handpump

Access to safe drinking water during floods is often compromised due to contamination from floodwaters, making households highly vulnerable to waterborne diseases. Traditionally, communities in Majuli faced severe challenges in ensuring water safety during prolonged inundation which post intervention is seen basis the interaction with the sampled beneficiaries that status has changed significantly as 82% of respondents reported feeling "very confident" about the safety of their drinking water during floods, while 18% stated they were "mostly confident" where "safe" refers to water being free from contamination, meets health standards, and poses no risk of waterborne illnesses. This shift reflects the effectiveness of the combined approach of installing raised handpumps and providing household water filters, which together have ensured reliable and safe water access even during peak flood conditions.

18% **Respondents reported they are mostly confident with safety of the drinking water during floods**

82% **Respondents reported they are very confident with the safety of the drinking water during floods**

Problems with accessing the sage drinking water



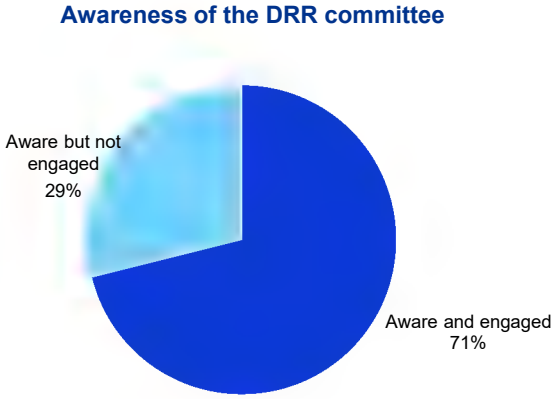
Although the intervention has significantly improved access to safe drinking water during floods, some challenges still persist, indicating areas where additional measures are required. The most common issue reported was filter maintenance, affecting 64% of households. This suggests the need for regular technical support and community training on upkeep to ensure sustained functionality. Queuing and crowding at shared water sources (56%) remain a concern, particularly during peak flood periods, highlighting the importance of increasing the number of raised handpumps or decentralizing access points. Additionally, 27% of households cited distance to water sources as a barrier, which calls for strategic placement of infrastructure closer to habitations. These findings emphasize that while the project has made remarkable progress, strengthening maintenance systems, expanding infrastructure, and promoting community-led management will be critical for achieving long-term resilience.

> "Previously, we relied on river water and handpumps, which became unsafe during floods as the handpumps were submerged and the river water was contaminated with pollutants and waste. This often made our children sick. Now, with raised handpumps and water filters, we have access to clean drinking water even during floods. It has truly transformed our lives."
>
> – Community Member (beneficiary)

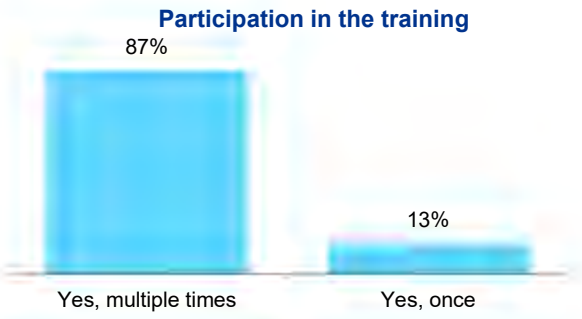
Enhanced community preparedness and disaster response capacity

Building community-level preparedness is critical for reducing disaster risks and ensuring timely response during floods. The project aimed to strengthen resilience through the formation of Disaster Risk Reduction (DRR) committees, capacity-building activities, and improved communication systems.

On the basis of the sampled beneficiaries, it was observed that a significant majority of respondents (71%) reported being aware and actively engaged with the DRR committee in their village, while 29% were aware but not engaged. This indicates strong outreach but also suggests the need for strategies to involve the remaining households more actively.



Community preparedness is a cornerstone of disaster resilience, as it ensures that households are equipped with the knowledge and skills to respond effectively during emergencies and these are also important t0 foster the confidence in disaster response, as shown in the following analysis.



Based on the sampled interactions it was seen that participation in mock drills has been exceptionally high, with 87% of households attending multiple drills and 13% participating at least once. This strong engagement reflects the success of the project's capacity-building efforts and the community's willingness to adopt preventive measures.

This preparedness also translates into confidence as 69% of respondents reported feeling confident, while 31% expressed being very confident in their community's ability to respond to floods which underscores the importance of sustained training and drills in building trust and readiness of the community to act collectively during emergencies, reducing risks and improving resilience.

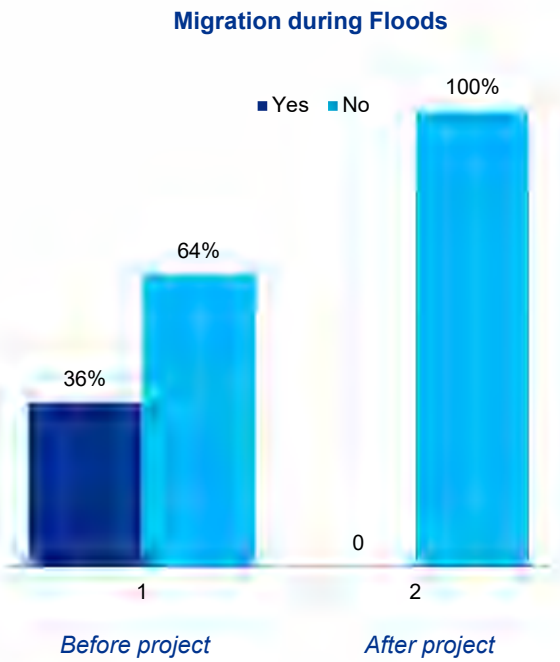
Information dissemination by DRR committees was rated highly effective, with 100% of respondents stating that updates were very timely and useful which highlights the effectiveness of communication systems in enabling preventive and responsive actions.

100%

Reported that they find useful the information shared by the DRR Committee

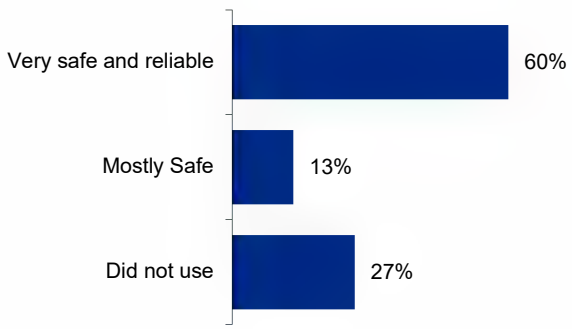
> "The safety drills taught us what to do when the water rises. We now understand early warnings and evacuation steps. Everyone in the village feels more confident during floods."
>
> – DRR Committee Member

Migration during floods typically occurs due to safety concerns, loss of homes, and disruption of livelihoods, forcing people to seek shelter and resources elsewhere. This displacement often brings challenges such as inadequate housing, health risks, and economic instability, which can deeply impact mental well-being and community cohesion. Before intervention, 36% of respondents reported migrating during the flood season, highlighting the severity of these issues. However, post-intervention, the situation improved significantly, with 100% of respondents no longer migrating due to the availability of safer community centres, drinking water availability, better health and hygiene availability which is a positive outcome that reflects effective relief measures, restored stability, and resilience within affected communities.



Access to faster, safer evacuation and essential transport

For years, isolation during floods was a harsh reality for Majuli's residents, with journeys to shelters or health facilities taking 1-2 hours or more, often in unsafe conditions. The introduction of community boats has been a game-changer. 73% of respondents shared that they now reach safe locations or health facilities in under 30 minutes, and 60% rate the service as very safe and reliable, citing trained boatmen and life jackets availability.



How would you rate the safety and reliability of the community boat service?

73%

Respondents shared that they now reach safe locations or health facilities in under 30 minutes

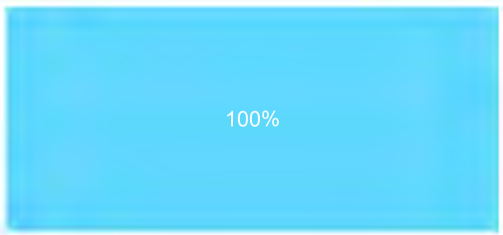
During the last flood season, boats were used strategically, with 29% of the respondents reporting using the boats for supplies, 27% for health emergencies, and 18% for evacuation, reducing dependency on private boats and mitigating delays. The result is clear: faster, safer mobility has replaced isolation, enabled timely availability of faster and safer evacuation options, and reduced anxiety for the respondents during disasters.

DID YOUR HOUSEHOLD USE THE COMMUNITY BOAT DURING THE LAST FLOOD SEASON?

Safety gears for the boat

Reduced diseases incidence, increased awareness on managing hygiene, health, and livestock care during disasters

Floods previously led to widespread health challenges, often resulting in outbreaks of diarrhea, skin infections, and mosquito-borne illnesses. Today, 100% of the respondents report lower disease incidence compared to previous seasons, attributing this to safe water access and hygiene awareness.

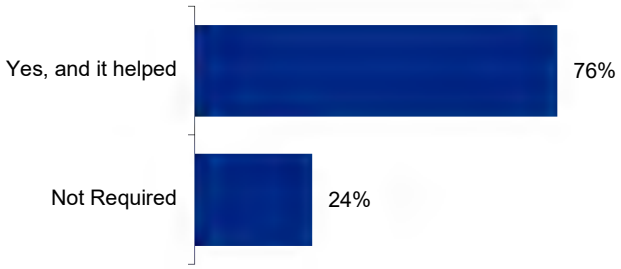


LOWER INSTANCES OF FALLING ILL

100%

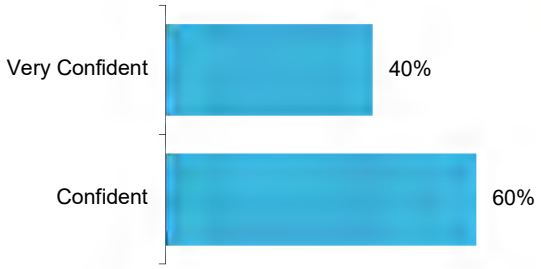
Respondents received health or hygiene-related guidance through the project

Despite 44% of respondents reporting cases of diarrhea and 40% malaria/pneumonia in their household during the last floods, respondents emphasized that cases were fewer compared to previous seasons and managed promptly with ORS and awareness on treating the symptoms efficiently. 76% benefited from veterinary support, including vaccinations and fodder planning, reducing livestock losses.



Did you receive any veterinary support or guidance for livestock during floods?

During FGDs, female respondents revealed improved menstrual hygiene practices and confidence in managing health risks. 40% of the respondents feel very confident, and 60% confident on managing future floods.



How confident are you in managing health and hygiene during future floods

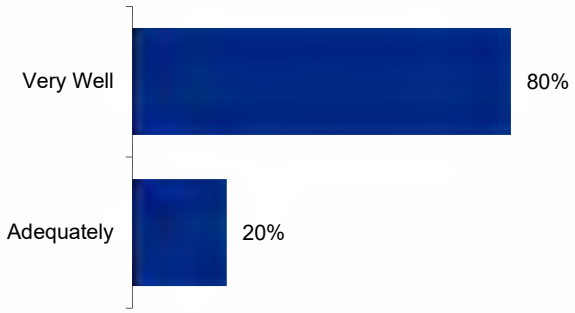
> *Earlier, sickness came with the water. Now, we know what to do.*

This shift reflects not just infrastructure gains but behavioral change, reinforced through repeated training and community-led messaging

Community Center converted into a makeshift health sub-center at Salmora village

Strengthened local governance through DRR committees

According to the majority of the respondents from the sampled beneficiaries, local governance in Majuli has moved from fragmented efforts to structured, accountable systems. The formation of Disaster Risk Reduction (DRR) committees has been instrumental in fostering community ownership and mobilizing volunteers to ensure project sustainability.

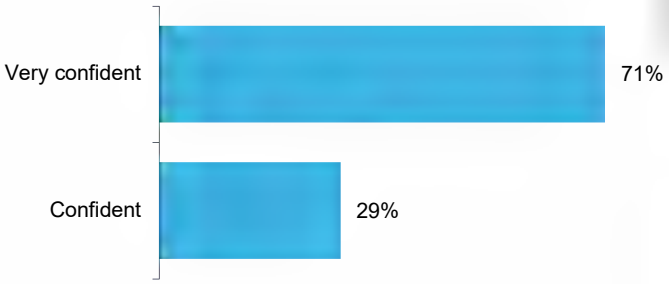


How well does the DRR committee manage project assets (boats, shelters, handpumps)?

>90%

Respondents reported the information shared by the DRR committee to be timely and useful

The committee now manages project assets like boats, shelters, and handpumps, with 80% of respondents from the sampled beneficiaries rating their performance as very good. 71% of respondents from the sampled beneficiaries are very confident in the committees' ability to coordinate with government agencies, a leap from earlier informal arrangements. Integration with Panchayat plans, scheduled inspections, and maintenance funds signals institutionalization.



How confident are you in the DRR committee's ability to coordinate with government departments (DDMA, Health, Vet)?

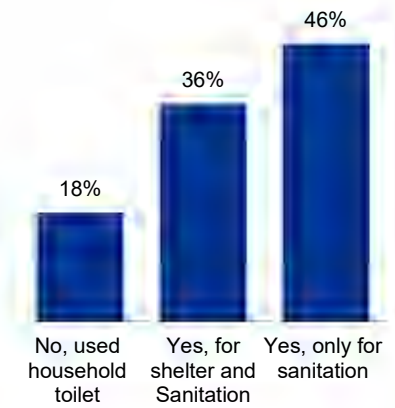
> **"The DRR committee has made a big difference. They manage shelters and boats, and coordinate with the government. We feel the village is more organized and ready for floods now."**
>
> **– PRI Member**

Shelters double as venues for SHG meetings, skill classes, health subcenters, and even libraries, embedding resilience infrastructure into everyday community life. While 31% of committees are very active and 69% are active occasionally, as reported by the sampled respondents, scaling engagement and formalizing O&M will further improve sustainability efforts. The program has effectively transformed disaster response from a reactive approach into a governance-led, community-owned system.

Availability of functional sanitation and safe shelters for vulnerable communities

Access to functional sanitation and safe shelters plays a critical role in protecting vulnerable communities during floods, as these facilities ensure dignity, health, and safety during times of crisis. Floods often displace families, leaving them exposed to harsh conditions, waterborne diseases, and lack of privacy. Community rescue centers become lifelines, offering shelter and sanitation when household facilities are inaccessible.

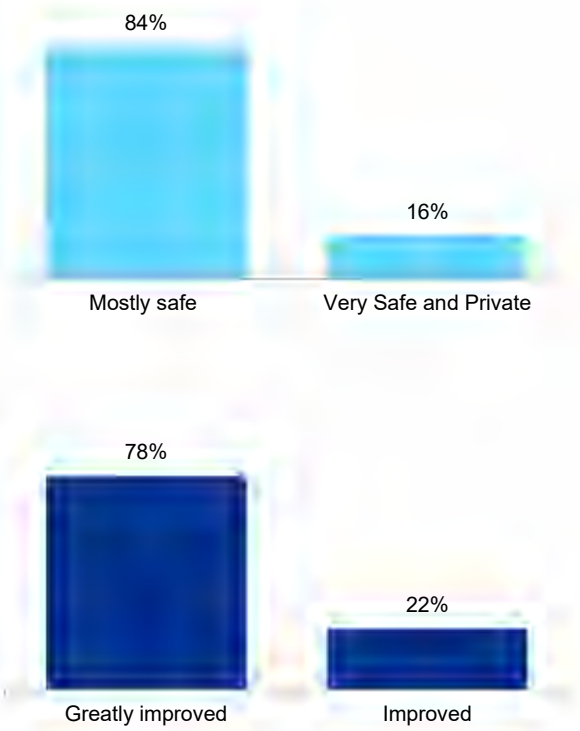
Use of Community Rescue Centres



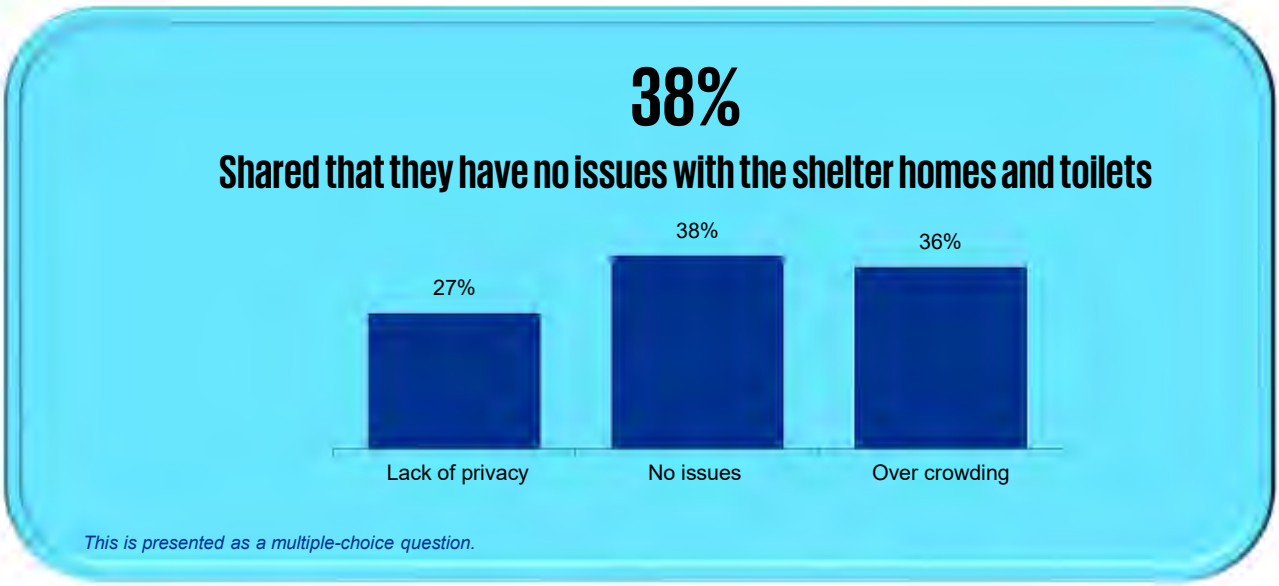
Basis the sampled interaction with the beneficiaries it was observed that a majority of respondents depended on these centers for essential services: 46% used them only for sanitation, while 36% utilized them for both shelter and sanitation, indicating that these facilities were critical for maintaining hygiene and providing temporary refuge. Interestingly, 18% managed with household toilets and did not use the centers, which highlights the significant reliance on community infrastructure during emergencies, emphasizing the need for continued investment in safe, accessible, and well-equipped rescue centers to support vulnerable beneficiaries during floods.

Further, based on the interaction with the sampled beneficiaries it was seen that the safety and privacy of community center sanitation facilities during floods were largely rated positively, with 84% of respondents considering them mostly safe and 16% describing them as very safe and private. This indicates that the centers provided a secure environment for most users. Furthermore, when compared to previous years, access to safe shelter and sanitation has shown significant progress, with 78% of respondents reporting that it has greatly improved and 22% noting improvement. These findings highlight the effectiveness of recent interventions in enhancing disaster preparedness and ensuring that vulnerable communities have better access to dignified and safe facilities during emergencies.

Safety and privacy of toilets



Despite these notable improvements in safety and access, certain challenges continue to affect the overall experience of using community shelters and sanitation facilities during floods. Privacy concerns were reported by 27% of respondents, indicating that while facilities are functional, they may lack adequate partitions or gender-sensitive arrangements to ensure comfort and dignity. Additionally, 36% of respondents faced overcrowding, which not only compromises personal space but can also lead to hygiene issues and increased health risks during prolonged stays. On a positive note, 38% of respondents reported no issues, suggesting that interventions have significantly reduced barriers compared to previous years. Moving forward, addressing these gaps particularly by improving privacy measures and implementing better crowd management strategies will be critical to strengthening disaster preparedness and ensuring equitable, safe, and dignified access for all vulnerable communities.



Gender-segregated sanitation facility in the community shelter

Raised handpump and community shelter

Stories from Ground

Moumi Kuli

Resident of a Majuli Island

Moumi's background

When floods swept across Majuli Island, Moumi faced unimaginable challenges. Pregnant and recovering from a fractured hand, she had no safe place to go after her home was completely submerged. Before the intervention, reaching higher ground or accessing basic necessities would have been dangerous and exhausting. The community rescue shelter changed everything. Equipped with raised platforms, separate sanitation facilities, and adequate lighting, it offered security and comfort for an entire month. Health support through the DRR committee further ensured her safety and peace of mind.

Impact

The intervention by Ayang Trust, supported by Axis Bank, brought a life-changing impact for Moumi and her family during the devastating floods. The newly established community rescue shelter provided safety, dignity, and essential services at a time when her home was submerged and mobility was nearly impossible due to pregnancy and a fractured hand. For Moumi, the shelter was not just a temporary refuge—it was a lifeline that ensured access to clean water, sanitation, and health services, allowing her to focus on her well-being during the most critical days.

The Turning Point

The most significant change came when the community rescue shelter, set up by Ayang Trust with support from Axis Bank, opened its doors during the floods. For Moumi, who was pregnant and recovering from a fractured hand, this shelter became a lifeline. Equipped with raised platforms, clean drinking water, separate sanitation facilities, and adequate lighting, it offered security and dignity at a time when her home was submerged. Access to health services through the DRR committee further ensured her well-being. This intervention transformed a life-threatening situation into a manageable one for Moumi.

> **"Without this shelter, I don't know how we would have survived. With my fractured hand and pregnancy, moving around was impossible. The shelter gave us safety, water, and peace of mind during the worst days."**
>
> ***- Moumi Kuli***

Infrastructure Assessment

This assessment reviews the physical condition, accessibility, safety, and maintenance of critical resilience assets established under the program, which are raised handpumps, raised toilets, community rescue centers, and boats.

S.No.	Infrastructure Components	Score
1	Raised Handpumps	Meets Expectations
2	Sanitation Facilities	Meets Expectations
3	Community Shelters	Meets Expectations
4	Boats	Partially Meets Expectations

- *Scoring:* *80-100%* *60-79%* *0-59%*

This assessment is based on physical observations of infrastructure and interactions with beneficiaries and stakeholders; it does not include any technical evaluations or physical testing.

Raised Handpumps

Field observations indicate that the raised handpumps consistently deliver clean and safe water, helping the beneficiaries during the flood season and beyond. Platforms are appropriately elevated to prevent contamination, and units are operational with regular cleaning. The main gap is inclusive access: ramps or graded pathways are not yet available, limiting ease of use for the elderly and persons with disabilities.

Raised handpumps at the community shelters

Sanitation Facilities

Sanitation facilities located within shelter premises are functional and strategically sited in flood-resilient areas. They maintain privacy through doors and locks and provide gender-segregated facilities, which is a significant improvement over pre-intervention conditions, as cited by respondents. Water for cleaning and handwashing is available, and waste disposal systems are operational, supporting hygiene during emergencies. However, minor leakage in one unit and occasional lapses in cleaning frequency indicate the need for stronger preventive maintenance practices.

Sanitation facility in the community shelter with handwashing and shower facility

Community Shelters

Community rescue centers demonstrate robust structural integrity and are well-equipped with ventilation, lighting, and drinking water facilities. These shelters provide safe spaces for vulnerable groups and maintain gender-segregated areas, ensuring dignity during prolonged stays.

The community rescue shelters serve as critical resilience hubs and are well-equipped with ventilation, lighting, and drinking water facilities. These shelters are strategically located on elevated platforms, ensuring flood-proof siting, providing safe spaces for vulnerable groups, and maintaining gender-segregated areas, ensuring privacy during prolonged stays. Beyond emergencies, these centers double as community hubs for SHG meetings, skill training, and local governance activities, and some of these shelters were transformed into makeshift sub-centers and libraries reinforcing sustainability and ownership.

Overall, the shelters are in good physical condition and provide safety and accessibility for vulnerable groups. However, capacity constraints during peak flood season were highlighted by the respondents, leading to crowding when multiple family takes refuge.

Pictures of Community Shelters

Boats

Boats are in good physical condition and equipped with essential safety features such as lifejackets, making them a vital resource for evacuation and supply delivery during floods. To further enhance operational readiness, steps may be taken to strengthen accessory availability and storage arrangements. Introducing a standardized readiness protocol, supported by regular inventory checks and improved storage near launch points, can help ensure quick and efficient deployment when needed.

Boats stationed at a riverbank

38

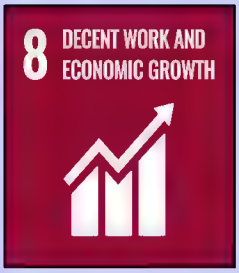
Project alignment to UNSDGs

The Axis Bank-supported initiative in Majuli demonstrates strong alignment with multiple United Nations Sustainable Development Goals (UN SDGs), contributing to global and national priorities through climate resilience, inclusive development, and sustainability. By focusing on flood-resilient infrastructure, safe water access, and community preparedness, the project addresses systemic gaps in India's disaster risk reduction ecosystem while advancing health, education, and livelihood security.

Key SDGs supported:

SDGs	Target/ Subsection	How it aligns
	**3.3:** " By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases " **3.8:** "Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all "	By conducting hygiene workshops and first-aid training, the project equips communities to prevent waterborne and vector-borne diseases during floods, reducing health risks and ensuring timely care in emergencies.
	**6.1: "**By 2030, achieve universal and equitable access to safe and affordable drinking water for all" **6.1: "**By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations" **6.b: "**Support and strengthen the participation of local communities in improving water and sanitation management"	By constructing raised handpumps and distributing water filters, the project guarantees uninterrupted access to clean drinking water during floods. By building elevated toilets and promoting menstrual hygiene, it ensures safe sanitation practices. By engaging DRR committees in managing these facilities, it fosters community ownership and sustainability.

39

SDGs	Target/ Subsection	How it aligns
	**8.3:** "Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services" **8.5:** "By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value"	By promoting skill-building workshops and repurposing DRR centers as community hubs, the project creates opportunities for dignified livelihoods, reducing migration and supporting local economic resilience.
	**11.5:** "By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations" **11.b:** "By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels"	By establishing disaster risk reduction committees and elevated rescue shelters, the project strengthens community resilience against floods, providing safe spaces during disasters and reducing displacement risks.
	**13.1:** "Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries" **13.3:** "Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning"	By training communities in search and rescue, livestock management, and disaster preparedness, the project builds adaptive capacity to respond effectively to climate-induced floods, minimizing losses and safeguarding livelihoods.

40

SDGs	Target/ Subsection	How it aligns
	**17.17:** "Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships"	By fostering partnerships between civil society, local governance institutions, and private sector actors, the project advances SDG 17 by leveraging shared resources and expertise to strengthen disaster resilience and community empowerment.

04

Way Forward

Way Forward

The flood resilience initiative has delivered significant improvements across multiple dimensions, including access to safe drinking water, enhanced disaster preparedness, improved evacuation efficiency, and better health outcomes. Communities have reported increased confidence in managing floods and greater engagement with disaster risk reduction (DRR) systems. However, interviews with participants have highlighted certain persistent challenges, thus some of the corresponding recommendations, are outlined below.

Managing Over-crowding

To enhance the functionality of community rescue shelters during peak flood periods, it is recommended to explore flexible shelter designs or temporary extensions that can be activated when required. This approach will help reduce overcrowding, ensure adequate space for families, and maintain privacy and comfort for vulnerable groups. Incorporating modular layouts and pre-identified overflow areas can further strengthen preparedness and user experience.

Replicating the Model in Other Villages

The successful Majuli community rescue shelter model offers a scalable blueprint for other flood-prone regions. Replication should focus on core resilience features such as raised platforms, separate sanitation facilities, reliable access to clean water, and adequate lighting. Adaptations can be made to suit local geography and cultural needs. Community participation and partnerships with local governance bodies will be critical to ensure ownership and long-term sustainability.

Promote adherence to Standard Operating Procedures for Infrastructure Maintenance

While SOPs for infrastructure maintenance already exist, greater emphasis should be placed on strict adherence and proactive management to ensure safety and longevity of community assets. This includes regular monitoring and proper usage of boats, raised handpumps, shelters, and sanitation facilities. Strengthening accountability and training local disaster response committees to enforce these protocols will help maintain functionality, reduce risks, and enhance community resilience during floods.

Thank you

home.kpmg/in/socialmedia

KPMG Assurance and Consulting Services LLP, Lodha, Apollo Mills Compound, NM Joshi Marg, Mahalaxmi, Mumbai - 400 011 Phone: +91 22 3989 6000.

Document Classification: Confidential

Annexure

Infra-observation checklist

Infrastructure	*(Rating on a scale of 1 - 5)*		
	Criteria Observed	Physical Condition	Maintenance
Raised Handpumps	Located in a flood-safe elevated area	5	4
	Easily accessible for all (including elderly & disabled)	3	3
	Operational and provides safe and clean drinking water	5	5
	Platform height prevents flood contamination	5	5
	Regular cleaning and upkeep of the handpump	4	4
Raised Toilets	Located in safe, flood-resilient area	5	5
	Accessible (ramps/steps for elderly/disabled)	4	4
	Separate toilets for men and women	4	4
	Privacy ensured (doors, locks functional)	4	3
	Clean and functional	4	4
	Water available for cleaning and handwashing	4	4
	Waste disposal system in place	4	4
Community Centers	Located in elevated, flood-safe area	5	5
	Accessible for vulnerable groups	5	5
	Adequate capacity for expected population	3	3
	Separate spaces for men and women	5	5
	Drinking water available	5	5
	Proper ventilation provided	5	5
	Lighting and safety measures in place during nights	5	5
Boats	Boats in overall good condition and safe for use	4	4
	Boats stored in safe, accessible locations	4	3
	Boats in good physical condition (no leaks, cracks or damage)	4	4
	Oars/paddles available and functional	4	4

Scoring guide:

1 – Poor (Not functional / unsafe)

2 – Needs major improvement

3 – Functional but needs minor repairs

4 – Good condition

5 – Excellent condition