



**ENHANCING CLIMATE-RESILIENT PRIMARY HEALTH
CARE: A MIXED-METHOD IMPLEMENTATION RESEARCH
ON
JAMUNA-SUPPORTED COMMUNITY CLINIC
REHABILITATION IN BOGURA AND SIRAJGANJ DISTRICTS,
BANGLADESH**

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Master of Public Health

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Declaration

I, Tamanna Munmun Emaa, hereby declare that this thesis entitled " Enhancing Climate-Resilient Primary Health Care: A Mixed-Method Implementation Research on JAMUNA-Supported Community Clinic in Bogura and Sirajganj Districts, Bangladesh " is an original work submitted in partial fulfilment of the requirements for the degree of Master of Public Health (MPH) at the James P. Grant School of Public Health (JPGSPH), BRAC University, Dhaka, Bangladesh.

I further declare that this work has not been submitted previously, in whole or in part, for any other degree or examination at this or any other university or institution.

All sources used in this thesis have been duly acknowledged and cited. Any assistance received has been mentioned in the acknowledgements section.

I have also added a separate declaration on GenAI use at the end of this work.

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Approval

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Ethics Statement

This study had ethical and administrative approval from Institutional Review Board (IRB) of the James P. Grant School of Public Health (JPGSPH), BRAC University, Dhaka, Bangladesh and the JAMUNA project management respectively.

Consent procedure, confidentiality and anonymity were strictly maintained, and participation was ensured to be completely voluntary.

Data handling, protection and access were restricted to research team only.

Abstract

Background: Community clinics are the first point of contact for availing primary healthcare in rural Bangladesh. Every year climate stress hampers CC functionality, accessibility and often massive destruction of the CC infrastructure. To address this threat the JAMUNA project aims to make CC climate resilient. Considering the evidence gap on perceptions of implementors and providers, this study aimed to explore the perceived acceptability as well as the contextual factors influencing the implementation process in the climate vulnerable context.

Objectives: This study aimed to assess and explore the acceptability of JAMUNA-supported community clinic rehabilitation among service providers and JAMUNA implementation staff, and to identify contextual barriers and facilitators influencing the implementation.

Methods: This study used a mixed method implementation research design with convergent approach and was conducted in Bogura and Sirajganj, covering seven community clinics. Study participants were service providers at community clinics and JAMUNA implementation staff. Quantitative and qualitative sample size was 25 (census sampling) and 12 Key Informant Interviews using a (purposive sampling). Quantitative and Qualitative data were analyzed separately, using statistical software STATA version 17 and framework analysis method respectively. Quantitative and qualitative findings were integrated at the interpretation stage.

Results: The quantitative findings reveal strong positive perceptions among both categories of stakeholders, with the mean AIM score of 19.48 out of 20. Acceptability remained high across all groups.

The qualitative findings further explained the reasons for shaping this high acceptability across TFA domains. Strong satisfaction regarding the rehabilitation yielded by aesthetically pleasant, structurally improved and functionally beneficial infrastructure; clear understanding of the rehabilitation purpose prior to the initiative inauguration; consistent and nurtured mutual relationships throughout and even post rehabilitation; professionally aligned and exceeding expectations, as well as predicted long sustainability.

While complete rehabilitation was perceived as highly climate responsive, participants from partially rehabilitated clinics reported persistent structural vulnerabilities, particularly flood risk at the low-lying clinic premises; with consistent need for sufficient human resources, logistics and equipment.

The CFIR findings demonstrated that implementation was facilitated by flexible and context-suitable design, strong community ownership, strong commitment of the providers to continue service delivery at any situation, collaborative and well-planned implementation process, involving all stakeholders, strong co-ordination between providers and implementers and highly experienced and contextually adapted implementing staff. However, the findings also highlighted important implementation barriers, such as infrastructure gaps especially in partially rehabilitated design, capacity restriction because of resource constraints and training gaps, challenges to smooth implementation driven by local as well as environmental barriers.

Conclusions: This study reveals that despite high acceptability, implementation outcome can be affected by contextual factors. Without addressing contextual vulnerability, infrastructure upgrade alone cannot be enough for continued and sustained service provision.

Keywords: Community clinic (97), Rehabilitation (218), Acceptability (108), Facilitator (13), Barrier (25), Providers (103), Implementors (13), Implementation (175).

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Table of Contents

Declaration.....	2
Approval	3
Ethics Statement.....	4
Abstract	5
Acknowledgements.....	7
List of Tables	11
List of Figures	11
List of Acronyms	12
Chapter 1: Introduction	13
1.1 Background and Rationale.....	13
1.1.1Background	13
1.1.2 Rationale	14
1.2 Problem Statement.....	15
1.3 Research Question	16
1.4 Study Objectives	16
1.4.1 Overall Objective	16
1.4.2 Specific Objectives	16
1.5 Structure of the Thesis	17
Chapter 2: Literature Review.....	17
2.1 Global Evidence: Climate Vulnerability and Health Infrastructure	17
2.1.1 International Overview	17
2.1.2 South Asian Evidence.....	18
2.1.3 Bangladesh Scenario.....	19
2.2 Community Clinics and Primary Health Care in Bangladesh	19
2.2.1 Evolution of Community Clinics	19
2.2.2 Challenges to Community Clinic Functionality	20
2.2.3 The JAMUNA Project and Community Clinic Rehabilitation.....	20
2.3 Theoretical Framework.....	21
2.3.1 The Theoretical Framework of Acceptability (TFA).....	21
2.3.2 The Updated Consolidated Framework for Implementation Research (CFIR)	22
Chapter 3: Methods.....	24
3.1 Study Design.....	24
3.2 Study Area and Setting	24

3.3 Study Period.....	25
3.4 Study Population.....	25
3.4.1 Study Population.....	25
3.4.2 Inclusion and Exclusion Criteria.....	25
3.5 Sample Size Calculation	26
3.5.1 Quantitative component	26
3.5.2 Qualitative component	26
3.6 Sampling Technique	27
3.6.1 Quantitative component	27
3.6.2 Qualitative component	27
3.7 Variables	27
3.7.1 Dependent Variables	27
3.7.2 Independent Variables	27
3.7.3 Operational Definitions.....	28
3.8 Data Collection	29
3.8.1 Data Collection Tools	29
3.8.2 Pretesting.....	30
3.8.3 Data Collection Procedure	30
3.9 Data Management and Quality Assurance.....	31
3.9.1 Quantitative data	31
3.9.2 Qualitative data	31
3.10 Data Analysis	32
3.10.1 Quantitative Analysis.....	32
3.10.2 Qualitative Analysis.....	32
3.10.3 Integration of Findings.....	33
3.11 Ethical Considerations	33
Chapter 4: Results	35
4 .1 Quantitative Findings.....	35
4.1.1 Participant Profiles.....	35
4.1.2 Overall Acceptability of JAMUNA-Supported Community Clinic Rehabilitation.....	36
4.1.3 Descriptive Comparison of AIM Scores.....	37
4.2: Qualitative Findings.....	41
4.2.1 Theoretical Framework of Acceptability (TFA).....	41
4.2.2 Consolidated Framework for Implementation Research (CFIR).....	47

Chapter 5: Discussion	52
5.1 Summary of Key Findings	52
5.2 Discussion of Findings.....	54
5.3 Strengths of the Study	58
5.4 Limitations of the study	59
5.5 Implications for Public Health Policy and Practice	59
5.5.1 For Program design and scale up	59
5.5.2 For Health Workforce Development	60
5.5.3 For Implementation Science	60
Chapter 6: Conclusion and Recommendations	60
6.1 Conclusion	60
6.2 Recommendations.....	61
6.2.1 For JAMUNA Project and Implementing Partners.....	61
6.2.2 For Government of Bangladesh and Policy Stakeholders	61
6.2.3 For Future Research.....	61
Declaration of GenAI Use	62
References.....	63
Appendices (Optional).....	70
Appendix A: Data Collection Instrument	70
A 1 AIM based questionnaire (Bangla)	70
A 2 AIM based questionnaire (English)	72
A 3 KII guidelines: service providers (Bangla)	74
A 4 KII guidelines: service providers (English)	83
A 5 KII guidelines: Implementers (Bangla).....	88
A 6 KII guidelines: Implementers (English).....	97
Appendix B: Informed Consent Form	102
B 1 Information Sheet (Bangla).....	102
B 2 Information Sheet (English).....	105
B 3 Consent Form (Bangla)	107
B 4 Consent Form (English)	108

List of Tables

Table 3.1: Summary of study variables.....	Page 28
Table 3.2: AIM items used in the quantitative survey.....	Page 29
Table 3.3: AIM response scale.....	Page 30
Table 4.1: Socio-demographic and contextual characteristics of participants (n=25)	Page 35
Table 4.2: Item-wise and overall AIM scores by participant type.....	Page 37
Table 4.3: Item-wise and overall AIM scores by community clinic and rehabilitation status.....	Page 38
Table 4.4: Item-wise and overall AIM scores by years of experience.....	Page 39
Table 4.5: Item-wise and overall AIM scores by participant type and rehabilitation exposure.....	Page 40

List of Figures

Figure 1: Theoretical Frameworks	Page 24
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List of Acronyms

Acronyms	Full Form
JAMUNA	Joint Actions for Mitigating Climate Uncertainties and Natural Adversities
SRC	Swiss Red Cross
BDRCS	Bangladesh Red Crescent Society
CC	Community Clinic
PHC	Primary health care
LMIC	Low- and Middle-Income Countries
AIM	Acceptability of Intervention Measure
TFA	Theoretical Framework of Acceptability
CFIR	Consolidated Framework for Implementation Research

Chapter 1: Introduction

1.1 Background and Rationale

1.1.1 Background

Bangladesh constitutes a pluralistic health system in a resource-constrained setting, with decreasing health budget allocation every fiscal year (Islam, 2014). Primary health care (PHC) acts as the backbone of service delivery, aiming to address essential preventive, promotive and curative care, covering a large segment of population. In 1998 Government of Bangladesh launched the idea of Community clinic (CC) as the lowest tier of service delivery, designed to serve nearly 6000 people under each clinic (MOHWA, 2015). Over time, CCs have brought services closer to households, improving access and continuity of care, particularly for vulnerable and hard-to-reach communities (Uddin et al., 2021). A study by Rahman, 2023 states that despite its utmost importance as a first point of contact with the formal health system for the rural communities, in most areas functionality of CCs is disrupted because of poor infrastructure, lack of supervision and, last but not the least, exposure to extreme climate events.

Global Climate Risk Index 2026 by German watch ranks Bangladesh on 13th with vulnerability to impacts of climate hazards like recurrent flooding, riverbank erosion, waterlogging, and extreme weather events (MOEFCC, 2023). From infrastructure damage to restricting physical access, root-level health care is often disrupted by climate stress. Especially in floodplain and erosion-prone areas, every year routine service delivery is interrupted when people are in need of health care the most (Abebe et al., 2025). As climate change is being considered as an emerging threat to the health system, the World Health Organization emphasizes making the health system climate resilient, highlighting the resilient infrastructure upgradation, thus, to ensure sustained PHC in climate-stressed settings (Golden et al., 2025).

Road to resilience: the JAMUNA project (Joint Actions for Mitigating Climate Uncertainties and Natural Adversities) is a step up in response to climate-related vulnerabilities. This is a humanitarian project implemented by the Bangladesh Red Crescent Society (BDRCS) and Swiss Red Cross (SRC). Representing a public-private partnership, this project aims to mitigate climate uncertainties and strengthen community resilience in vulnerable areas. JAMUNA baseline study

states that a core component of the project is rehabilitation of CCs in terms of infrastructure upgrade. These interventions include strengthening building structures to withstand flooding and erosion (plinth raising, fencing etc.), upgrading water, sanitation and hygiene (WASH) facilities (gender separate toilet, disaster resilient tubewell etc.), and incorporating context-specific design features (road-connectivity, ramp, lighting, ventilation, waiting space, breast-feeding corner etc.) which are crucial for continuous service delivery, even during extreme weather conditions. The implementation strategy involves coordination between JAMUNA implementation staff, local health authorities, and frontline service providers to plan, execute, and supervise rehabilitation activities within existing health system structures.

However, rehabilitation interventions do not solely depend on technicality, the effectiveness also focuses on how the stakeholders perceive about the intervention and whether its functional within organizational and local contexts (Lokotola 2023). These considerations underscore the need to assess how the implementation process is in practice, including perceived acceptability of the intervention and contextual influences shaping implementation, to understand how climate-resilient community clinic rehabilitation operates in real-world settings.

1.1.2 Rationale

CC rehabilitation is being emphasized as the foremost strategy to strengthen climate resilient primary health care in Bangladesh (Rahaman et al.,2019), but there is limited empirical evidence on acceptability as an implementation outcome of climate-resilient PHC infrastructure in low-resource, climate-vulnerable settings.

The JAMUNA project's interventions regarding CC rehabilitation emerged as a unique opportunity to generate evidence on climate resilient PHC infrastructure, focusing on implementation outcomes. While the project focuses on infrastructure upgradation, it is necessary to understand whether the rehabilitated clinics are perceived as acceptable, appropriate, and satisfactory for routine service delivery, and which contextual factors enable or hinder their implementation.

Implementation Research (IR) provides a suitable approach to address these gaps by shifting the focus from what is implemented to how and under what conditions implementation occurs. A

study by de Boer et al., 2025 states that implementation outcomes, including acceptability, are better measured while combining both quantitative and qualitative components. Therefore, combining a quantitative assessment of acceptability with qualitative exploration of acceptability perceptions among service providers and JAMUNA implementation staff will generate comprehensive, implementation-relevant insight.

Additionally, identifying barriers and facilitators influencing implementation using an established framework such as the Updated Consolidated Framework for Implementation Research (CFIR) by [Damschroder et al.2022](#) will support a systematic understanding of multilevel factors affecting rehabilitation outcomes. Such evidence is crucial for informing adaptive implementation under the JAMUNA project, strengthening public-private partnership approaches to PHC infrastructure, and guiding future scale-up of climate-resilient CC rehabilitation in Bangladesh.

By applying mixed method implementation research design, this study will generate practical, context-specific insights that can support program improvement, enhance sustainability of infrastructure investments, and contribute to the limited empirical literature on climate-resilient PHC systems in low- and middle-income countries. Furthermore, at the organizational level, this study will generate practical evidence to support JAMUNA implementers and partner organizations in refining implementation strategies, improving coordination with service providers, and strengthening the sustainability of CC rehabilitation. At the policy level, the findings will provide implementation-relevant insights on the acceptability of climate-resilient primary health care infrastructure, informing stakeholders on decisions related to planning, resource allocation, and potential scale-up in climate-vulnerable settings.

1.2 Problem Statement

Community clinics are crucial to ensure essential primary health in rural areas of Bangladesh, especially for the marginalized people. Ironically, in climate-stress prone areas, the functionality of these already fragile community clinics is often hampered by various extreme climate events, leading to major disruption to routine service delivery, reduced accessibility to essential healthcare and thus increased vulnerability among the underserved population.

To address this climate driven threat, the JAMUNA project aims to strengthen the climate-resilient primary healthcare infrastructure through community clinic rehabilitation. Although the intervention constitutes fundamental structural and service-supporting upgrades, there is limited evidence on the acceptability of this intervention among different stakeholders, as well as on the understanding of the contextual factors influencing the implementation process in the climate vulnerable context.

While the perspective of the community or the beneficiary side is often emphasized, the importance of considering the outlook of the implementors' and providers' side is merely highlighted. Without understanding the stakeholder acceptability and determining factors, the intervention investments may encounter challenges related to co-ordination, maintenance, sustainability and scale-up. Therefore, this study aims to address this important evidence gap by examining the acceptability of JAMUNA-supported Community Clinic rehabilitation and identifying the contextual factors that influence its implementation.

1.3 Research Question

What is the acceptability of JAMUNA-supported community clinic rehabilitation among service providers and implementation staff and the factors influencing implementation?

1.4 Study Objectives

1.4.1 Overall Objective

This study aimed to assess and explore the acceptability of JAMUNA-supported community clinic rehabilitation among service providers and JAMUNA implementation staff, and to identify contextual barriers and facilitators influencing the implementation

1.4.2 Specific Objectives

The specific objectives of this study were:

1. To assess and explore the acceptability of JAMUNA-supported community clinic rehabilitation among service providers and JAMUNA implementation staff.

2. To identify contextual barriers and facilitators influencing the implementation of JAMUNA-supported community clinic rehabilitation.

1.5 Structure of the Thesis

This thesis is organized into six chapters.

Chapter 1 presents the introduction which comprises of the background, rationale, problem statement, research question, study objectives and layout of the thesis.

Chapter 2 provides a comprehensive overview of existing literature, expanding from global evidence to Asian scenario and finally concluding with Bangladesh context.

Chapter 3 illustrates the methodology section of this study including ethical considerations.

Chapter 4 outlines the findings of this study categorized into quantitative and qualitative subsections.

Chapter 5 details the discussion and interpretation of the results comparing the existing evidence, strengths and limitations of the study; and implications.

Chapter 6 wraps up the thesis with key conclusions and recommendations.

Chapter 2: Literature Review

2.1 Global Evidence: Climate Vulnerability and Health Infrastructure

2.1.1 International Overview

Adverse effects of climate change pose the greatest threats to this 21st century. The World Health Organization 2023 reports that climate change effects are estimated to cause approximately 0.25 million more deaths every year between 2030 and 2050, directly or indirectly, which can lead to 2-4 billion USD additional direct health costs per year. The most affected by this situation would be

the LMICs where budget allocation for health is low and existing health infrastructure is fragile, which will make those countries least able to cope and prepare to address climate vulnerability.

Naser et al. (2024) reveals systematic review which carries evidence of impact of climate change on health sector in LIMCs expanding over Latin America, Sub-Saharan Africa and South Asia, that frequent occurrence of extreme weather events damage health care infrastructure, disrupt the routine service delivery, displace the healthcare providers and reduce accessibility to healthcare. According to Salam et al. 2023, floods are seen to be most damaging to health infrastructure at root-level globally but very consistent and predominant across LIMCs. The World Bank 2025 report carries the alarming estimation of excess health costs of 21 trillion USD by 2050 in LIMCs which is approximately 1.3% of their projected GDP, which deliberately underscores the importance of climate-resilient health infrastructure.

2.1.2 South Asian Evidence

The World Meteorological Organization's State of Climate in Asia 2024 report has marked South Asia as one of the most climate-exposed regions worldwide, with an alarming increased warming trend which almost doubled from 1991 to 2024. The South Asian countries face 20-80% increased frequency of droughts in recent years and constant massive rise in sea level in the Bay of Bengal brings devastating threat for coastal and riverine countries (Ravindra, 2025)

Akthar and Reid, 2024 shows the scenario of Pakistan how climate stress has shaken the community level health system by 2022 catastrophic flood, responsible for destruction for 13% of overall health facilities, leading to severe toll on health. Nepal has experienced disruption of emergency care, maternal and child health, immunization etc. by frequent floods, drastic monsoon rainfall and landslides which damaged health facilities and hindered accessibility (Simkhada et al., 2025). Kumar et al. 2024 illustrates similar public health consequences in India, which diverted to a plan for building climate-sensitive health infrastructure, mentioned in India's National Action Plan on Climate Change and Human Health.

2.1.3 Bangladesh Scenario

Bangladesh marks as the most acutely affected country in South Asia by the combined effect of climate vulnerability and health system fragility. Alam et al., 2025 documented the geographical vulnerability of riverine Bangladesh with approximately 80% of landmass comprising river deltas, flood and erosion prone areas, which makes it vulnerable to frequent flooding, cyclones and riverbank erosion. These recurrent extreme weather events caused by climate adversity affect the poorest and hard to reach communities the most (Communityengagementhub, 2024).

Rupa & Hossain, 2024 illustrates the most recent devastating flood of August 2024 which affected over 5.8 million people and triggered a major public health catastrophe. Araf (2024) suggests upgradation of health facilities to make them climate sensitive along with the integration of climate adaptation into health policies at national level.

2.2 Community Clinics and Primary Health Care in Bangladesh

2.2.1 Evolution of Community Clinics

Bangladesh has made a great remark on expanding primary health care through launching the idea of community clinics in 1998 by the Government of Bangladesh under the Ministry of Health and Family Welfare (MOHFW), which has led to more than 13,000 CCs across the country (Islam, 2014). The community clinic is structured to be staffed by primarily a Community Health Care Provider (CHCP), acting as a frontline healthcare provider, delivering comprehensive primary health care, comprising curative, preventive and promoting services. One Health Assistant (HA) and one Family Welfare Assistant (FWA) are also part of the CC, who are from the health and family planning arms of the government, working for 2 days per week in each CC, providing services related to immunization, maternal and child health, nutrition, and family planning etc. Uddin et al., 2021 demonstrates a real picture of how this multi-cadre staffing model is operating and continuing to provide primary health care to underserved population, despite resource constraints and in a climate vulnerable setting.

2.2.2 Challenges to Community Clinic Functionality

Although the community clinic system has recognized worldwide appreciation as a model design for comprehensive primary health care, in real setting the functionality of these CCs is often threatened by operational and structural challenges. Rahman, 2023 describes several key barriers that lead to limited functionality. For example, inadequate medicine supply and scarcity of essential equipment is a major challenge. With increasing disease burden and emergence of new diseases, both communicable and non-communicable, sufficient medicine availability needed by the community is crucial. Insufficient staffing also creates a burden to manage a huge patient load in a certain CC to serve the people of a catchment area, considering the population density of this country. Last but not the least, poor infrastructure is a critical concern as the dilapidated building creates safety hazards for both providers and patients. It also undermines patient dignity and privacy and ultimately makes them reluctant to seek care. Abebe et al., 2025 raises a crucial concern of damaging already fragile infrastructure, leading to either complete disruption of the service or reduction of accessibility and utility.

2.2.3 The JAMUNA Project and Community Clinic Rehabilitation

Joint Actions for Mitigating Climate Uncertainties and Natural Adversities (JAMUNA) project is a humanitarian initiative implemented by the Bangladesh Red Crescent Society (BDRCS) with support from the Swiss Red Cross (SRC). This project targets climate-vulnerable char areas where extreme weather events and severe climate stress have consistently disrupted health service delivery. The JAMUNA project comprises several components to make the community climate resilient, of which the health component is community clinic rehabilitation. Starting from January 2024, the project has successfully rehabilitated CCs, involving both structural and WASH upgrades. This innovative approach constitutes complete rehabilitation: construction of portable and relocatable CC structures at sites where the previous facilities were completely washed away by floods or destroyed by weather events; and partial rehabilitation: upgrading the dilapidated infrastructure to restore functionality. Complete rehabilitation comprises installment of easily dismountable, portable and relocatable infrastructure with plinth raising while partial one included repairing the plaster and painting the walls, fencing etc. Both the design included installation of gender-specific washrooms, designated breast-feeding corner, spacious waiting area, disaster

resilient installing, making ramp for disability access, and boundary wall, road connectivity etc. to different scales. The project also focuses on Community group reformation and capacity building. They also aim to make the CC management committee functional so that logistic supply, staff presence, patient flow and community outreach program keeps on going smoothly. The goal is not only to make the CC climate resilient, but also to make the community climate smart to embark upon climate vulnerability.

2.3 Theoretical Framework

This study is guided by an integrated conceptual framework that combines two complementary implementation science models:

- Theoretical Framework of Acceptability (TFA) by Sekhon et al., 2017.
- Updated Consolidated Framework for Implementation Research (CFIR) by Damschroder et al., 2022.

The integration of TFA and CFIR was considered appropriate because the study aimed to examine both acceptability and the contextual determinants influencing implementation. TFA was used to assess stakeholder acceptability of the intervention, while CFIR was used to examine contextual and organizational factors influencing implementation. Furthermore, these frameworks have guided tool development and analysis of findings.

2.3.1 The Theoretical Framework of Acceptability (TFA)

TFA comprises seven domains, which were used to collectively capture stakeholders' perceptions of the JAMUNA-supported community clinic rehabilitation:

Affective Attitude: How service providers and implementation staff feel about the rehabilitated community clinics (e.g., whether they like or welcome the upgraded infrastructure).

Burden: Stakeholders' perception on efforts required to use, maintain, or work within the rehabilitated clinics (e.g., additional workload or maintenance challenges).

Ethicality: How closely the rehabilitation aligns with stakeholders' professional values, norms, and responsibilities (e.g., whether the intervention supports equitable and dignified service delivery).

Intervention Coherence: Stakeholders' understanding of the purpose and components of the rehabilitation and how it supports climate-resilient service delivery. (e.g., understanding why plinth raising or fencing was implemented).

Opportunity Costs: What stakeholders perceive they may have to give up engaging in the rehabilitated clinics (e.g., time, alternative resource use).

Perceived Effectiveness: Stakeholders' perception about the rehabilitation achieving its intended objectives, such as improved service continuity during climate events. (e.g., improved service continuity and patient access during climate-related disruptions).

Self-Efficacy: Stakeholders' confidence in their ability to effectively use and operate within the rehabilitated facilities, particularly during extreme weather conditions.

In the context of this study, these domains were used to explore how service providers and JAMUNA implementation staff perceive and interpret the purpose and value of the infrastructure upgrades, and what challenges or concerns influence their acceptance of the intervention. This framework was used to guide the development of qualitative tools to explore acceptability

2.3.2 The Updated Consolidated Framework for Implementation Research (CFIR)

CFIR will be used to understand and explore the factors that influence the implementation and affect the success of the intervention in future.

Innovation: Stakeholders' perceptions of the design, complexity, quality, adaptability, and relative advantage of the JAMUNA-supported CC rehabilitation interventions. (e.g., Implementation staff discussing whether infrastructure upgrades are technically appropriate for contextual settings.)

Outer setting: External contextual factors influencing implementation, including community needs, climate risks, policies, donor requirements, and inter-organizational relationships. (e.g., Providers describing how climate hazard affects clinic access and service continuity).

Inner setting: Organizational characteristics of the CCs and implementing organizations that influence implementation, including infrastructure readiness, leadership support, communication, and available resources. (e.g., Providers explaining whether supervision and coordination with JAMUNA staff supported smooth rehabilitation and post-rehabilitation functioning.)

Individual characteristics: Knowledge, beliefs, skills, and motivation of individuals involved in or affected by implementation, including service providers and JAMUNA implementation staff (e.g., Providers describing confidence in using and maintaining rehabilitated facilities during extreme weather events.

Implementation process: The activities, strategies, and actions undertaken to plan, engage stakeholders, execute, and reflect on the community clinic rehabilitation process. (e.g., Implementation staff describing coordination meetings, site supervision, and adjustments made during rehabilitation.)

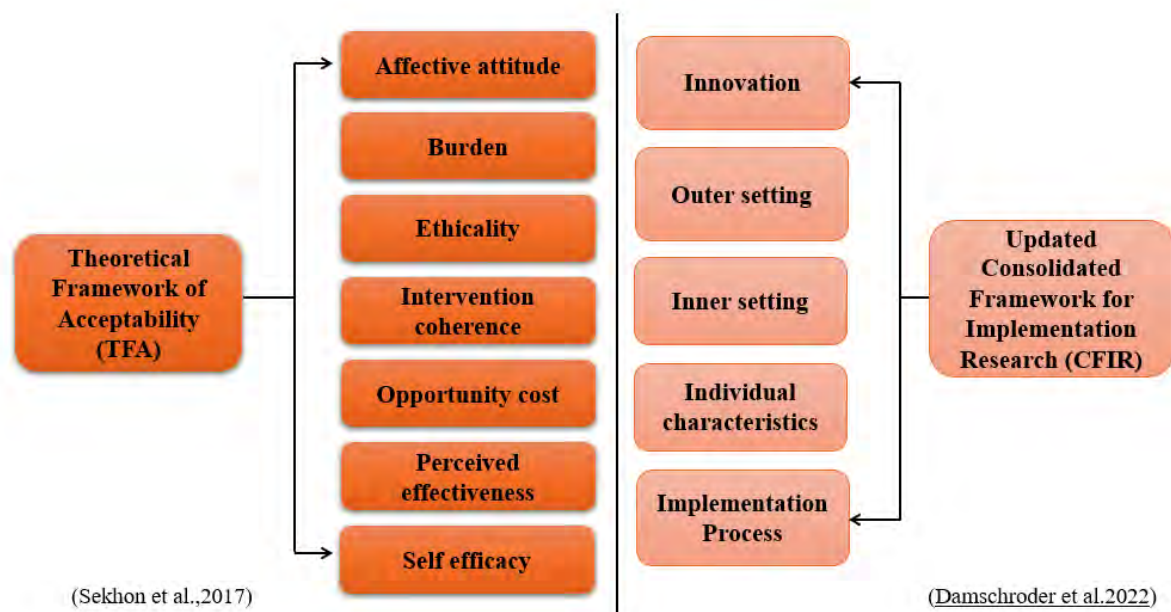


Figure 1: Theoretical Frameworks

Chapter 3: Methods

3.1 Study Design

This study used a mixed-method implementation research design with a convergent approach. Quantitative and Qualitative data have been collected at the same time and analysis was conducted separately and finally were integrated during interpretation.

Quantitative component: Structured assessment of perceived acceptability using AIM (Acceptability of Intervention Measure) through a survey.

Qualitative component: In-depth exploration of acceptability perceptions (across 7 domains) and implementation barriers and facilitators using domains of CFIR (across 5 domains) through in-depth key informant interviews.

Integration of findings was done during interpretation. Quantitative acceptability results were triangulated with qualitative acceptability perceptions to provide a comprehensive understanding of how acceptable the intervention is for service providers and implementation staff in climate-vulnerable settings.

3.2 Study Area and Setting

The study was conducted in Bogura and Sirajganj, two climate-vulnerable areas where the JAMUNA project is being implemented. A total of seven rehabilitated CCs (two in Bogura and five in Sirajganj) under the JAMUNA project were selected for the study, considering variation in climate vulnerability, extent of rehabilitation, population served, and feasibility of data collection.

This small sample was ample for in-depth qualitative and quantitative assessment of implementation outcome that prioritizes rich, context-specific insights over large-scale generalizability (Eldridge et al., 2016)

3.3 Study Period

The study was conducted during the assigned thesis period (January - June 2026)

- January - February 2026: The initial phase consisted of development of concept note, literature review, study tool development, ethical approval.
- March 2026: Budget submission, data collection (both quantitative and qualitative)
- April - May 2026: Data cleaning, transcription, coding and analysis, thesis draft writing.
- June 2026: Final thesis submission.

3.4 Study Population

3.4.1 Study Population

Study participants included:

- Service providers: Community Health Care Providers (CHCPs), Health Assistants (HAs), Family Welfare Assistants (FWAs), Health Inspectors (HIs), Assistant Health Inspectors (AHIs) working in the selected CCs
- JAMUNA implementation staff: Personnels involved in planning, execution, and supervision of rehabilitation activities. For example, Project co-ordinator, Program officer, Field officer etc.

3.4.2 Inclusion and Exclusion Criteria

Inclusion criteria:

- Direct involvement in service delivery or implementation of JAMUNA rehabilitation activities
- Provided informed consent

Exclusion criteria:

- Temporary or newly appointed staff (within the past three months) and who was not directly involved in service delivery or rehabilitation activities. (The three-month cutoff was selected to ensure participants have sufficient exposure to the rehabilitation process to provide meaningful insights into acceptability and implementation experience.)

3.5 Sample Size Calculation

3.5.1 Quantitative component

Census sampling was applied to include all eligible participants across the seven selected community clinics. The anticipated total sample size was 26–35, comprising approximately 21–28 service providers (typically three to four per clinic) and five to seven JAMUNA implementation staff.

Census sampling was considered appropriate because the total eligible population was small and bounded within the selected sites. Inclusion of all participants minimized selection bias and ensured the capture of the full range of implementation experiences. In early-stage implementation research, smaller samples are methodologically acceptable when the emphasis is on contextual understanding rather than population-level inference (Eldridge et al., 2016).

3.5.2 Qualitative component

An initial target of 10–14 Key Informant Interviews (KIIs) was set, with provision to extend data collection if required to reach thematic saturation within the predefined framework domains. This approach is consistent with the “information power” concept mentioned by Malterud et al. (2016), which emphasizes that the number of required participants depends on the specificity of the study aim, the richness of the data, and the depth of analysis rather than a fixed sample size threshold.

3.6 Sampling Technique

3.6.1 Quantitative component

Census sampling was applied to include all eligible service providers and JAMUNA implementation staff across the seven selected community clinics. All eligible participants of all genders were included to ensure equity and non-discrimination.

3.6.2 Qualitative component

Participants selection for the Key Informant Interviews was done through purposive sampling. Individuals with direct involvement in JAMUNA-supported CC rehabilitation or service delivery were selected to ensure that interview data were contextually grounded and information-rich. Purposive selection targeted participants who could speak meaningfully to acceptability experiences and implementation realities across diverse roles and engagement levels.

3.7 Variables

3.7.1 Dependent Variables

The primary outcome of interest for the quantitative component was the perceived acceptability of JAMUNA-supported community clinic rehabilitation, measured using the four-item Acceptability of Intervention Measure (AIM) (Weiner et al., 2017). The AIM total score, ranging from 4 to 20, served as the primary dependent variable.

3.7.2 Independent Variables

For quantitative studies, the following independent variables were examined in relation to AIM scores:

- Participant type (service provider or JAMUNA implementation staff)
- Years of work experience (up to 6 years or more than 6 years)
- Type of rehabilitation at the associated community clinic (complete, partial, or both)

- Community clinic (one of the seven study sites)

For the qualitative component, the main domains of inquiry were guided by the domains of Theoretical Framework of Acceptability (TFA) and the updated Consolidated Framework for Implementation Research (CFIR).

Table 3.1: Summary of study variables

Variable	Type	Measurement
Acceptability of CC rehabilitation	Dependent	AIM score (sum of 4 items, range 4–20)
Participant type	Independent	Service provider / JAMUNA implementation staff
Years of experience	Independent	Up to 6 years / More than 6 years
Type of rehabilitation	Independent	Complete / Partial / Both
Community clinic	Independent	One of seven CCs in Bogura or Sirajganj
TFA domains (qualitative)	Exploratory	Affective attitude, burden, ethicality, intervention coherence, opportunity costs, perceived effectiveness, self-efficacy
CFIR domains (qualitative)	Exploratory	Innovation, outer setting, inner setting, individual characteristics, implementation process

AIM = Acceptability of Intervention Measure; TFA = Theoretical Framework of Acceptability; CFIR = Consolidated Framework for Implementation Research; CC = Community Clinic.

3.7.3 Operational Definitions

Community clinic Rehabilitation: JAMUNA-supported interventions to restore and strengthen community clinic infrastructure for climate resilience include complete rehabilitation through construction of new clinics in locations where existing facilities were washed away by floods, and partial rehabilitation through upgrading and strengthening existing clinics with climate-resilient structural, WASH, and design improvements to ensure continuity of primary health care services.

Acceptability: The extent to which JAMUNA-supported community clinic rehabilitation is perceived by service providers and implementation staff as agreeable, appropriate, and satisfactory based on their cognitive and emotional responses to the intervention.

3.8 Data Collection

3.8.1 Data Collection Tools

3.8.1.1 Quantitative tool

Acceptability of Intervention Measure (AIM): Quantitative data was collected using the AIM, a validated four-item implementation outcome measure developed by Weiner et al. (2017). Each item was rated on a five-point Likert scale ranging from 1 (Completely Disagree) to 5 (Completely Agree). Items were adapted to the study context by specifying the JAMUNA-supported CC rehabilitation as the target intervention. The four AIM items used in this study are presented in Table 3.2.

Table 3.2: AIM items used in the quantitative survey

AIM Code	Statement
AIM 1	The JAMUNA-supported CC rehabilitation is appealing to me.
AIM 2	I like the JAMUNA-supported CC rehabilitation.
AIM 3	The JAMUNA-supported CC rehabilitation seems suitable for our setting.
AIM 4	I welcome the JAMUNA-supported CC rehabilitation.

AIM = Acceptability of Intervention Measure. Items adapted from Weiner et al. (2017) to reflect the study context.

Each AIM item was scored from 1 to 5. An overall AIM score was calculated as the sum of the four items (range: 4–20). The response scale is presented in Table 3.3.

Table 3.3: AIM response scale

Score	Response
1	Completely Disagree
2	Disagree
3	Neutral
4	Agree
5	Completely Agree

3.8.1.2 Qualitative tool

Key Informant Interview (KII) Guide: Qualitative data were collected using a semi-structured KII guide developed specifically for this study. The guide was structured around two analytical frameworks: (i) the seven domains of the Theoretical Framework of Acceptability (TFA) and (ii) the five domains of the updated Consolidated Framework for Implementation Research (CFIR). Separate interview guides were developed for service providers and JAMUNA implementation staff to reflect their distinct roles and perspectives.

3.8.2 Pretesting

Both data collection tools were reviewed by the academic supervisor and co-supervisor prior to data collection. The AIM questionnaire was reviewed for clarity and contextual appropriateness in the local context. The KII guide was reviewed to ensure adequate domain coverage, logical question flow, and alignment with the study objectives. Refinements were made based on reviewer feedback before finalizing the tools for field use. A formal field pretest was not conducted given the small study population and time constraints; however, the first two KIIs were reviewed by the research team to assess the adequacy of probe questions and to identify any gaps in coverage before proceeding with the remaining interviews.

3.8.3 Data Collection Procedure

3.8.3.1 Quantitative data collection

Quantitative data were collected using a self-administered, paper-based questionnaire distributed at the respective community clinic premises. Considering the time constraints of service providers

during working hours, questionnaires were distributed and collected at a scheduled time agreed with participants in advance. JAMUNA implementation staff completed the questionnaire at the JAMUNA project field office.

3.8.3.2 Qualitative data collection

Key Informant Interviews were conducted at two primary locations. Interviews with service providers were conducted at the respective community clinic premises, allowing participants to reflect on their rehabilitation experiences within their routine working environment. Interviews with JAMUNA implementation staff were conducted at the JAMUNA project field office, a setting appropriate for discussing planning, coordination, supervision, and implementation processes. All interviews were conducted in Bengali by the principal investigator, audio-recorded with participants' consent. To capture contextual observations and non-verbal cues, field notes were taken during and after each interview.

3.9 Data Management and Quality Assurance

3.9.1 Quantitative data

Completed questionnaires were reviewed for consistency and completeness at the point of collection. Data were entered into a structured dataset using KoBoToolbox and exported to Stata (version 17) for analysis. Data cleaning procedures included checking for out-of-range values, duplicate entries, and inconsistencies. No imputation was performed for missing values; missing data were reported transparently.

3.9.2 Qualitative data

Audio recordings were transcribed verbatim in Bengali by the principal investigator and subsequently translated into English. Transcripts were anonymized by replacing participant names with unique identification codes (e.g., KII_1 through KII_12). No personal identifying information was retained in the transcripts. All data files were stored in password-protected folders accessible only to the research team. To ensure analytical rigour, a random sample of transcripts was reviewed by the supervisor to verify transcription accuracy and coding consistency.

3.10 Data Analysis

3.10.1 Quantitative Analysis

Quantitative data were analyzed using Stata version 17. Descriptive statistics were computed for each AIM item, including mean scores, standard deviations (SD), and the proportion of respondents expressing agreement (rating of 4 or 5 on the five-point Likert scale). The overall AIM score was calculated as the sum of the four items (range: 4–20). Following the interpretive thresholds applied by Tan et al. (2025), total AIM scores were categorized as high acceptability (≥ 16), moderate acceptability (12–15), or low acceptability (≤ 11).

AIM scores were compared across the following subgroups using descriptive statistics:

- Participant type: service providers versus JAMUNA implementation staff
- Community clinic: across the seven study sites
- Years of experience: up to 6 years versus more than 6 years
- Type of rehabilitation: complete versus partial

All comparisons were descriptive and exploratory in nature and were not intended for inferential or hypothesis-testing purposes, given the small census sample and the early-stage implementation research context. Findings were interpreted cautiously as descriptive trends to inform program refinement.

3.10.2 Qualitative Analysis

Qualitative data from the Key Informant Interviews were analyzed using the Framework Analysis Method (Creswell, 2014), a structured approach well-suited to theory-driven qualitative inquiry. Framework analysis was conducted in five stages: familiarization, identification of a thematic framework, indexing, charting, and mapping and interpretation.

An analytical coding framework was developed a priori based on the seven domains of the Theoretical Framework of Acceptability (TFA) and the five domains of the updated Consolidated

Framework for Implementation Research (CFIR). All interview transcripts were systematically coded against this framework. Codes that were relatively related were merged into categories and subsequently organized into a data display matrix. This matrix aided cross-case comparison and identification of patterns. Following the flow of information in emerged patterns, themes were developed under each domain of the framework. Finally, acceptability perceptions were interpreted.

Barriers and facilitators influencing implementation were organized under the relevant CFIR domains and summarized in a barrier–facilitator matrix. Thematic saturation was assessed within each framework domain rather than across the dataset, consistent with framework analysis practice.

3.10.3 Integration of Findings

Quantitative and qualitative findings were integrated at the interpretation stage using a convergent mixed-method approach. AIM scores provided a structured quantitative assessment of the level of acceptability, while qualitative findings explained the how and why underlying these perceptions within their implementation context.

Both the TFA and CFIR guided the integration process. TFA-informed qualitative findings were examined for convergence or divergence with corresponding quantitative acceptability scores. CFIR-informed findings were used to situate acceptability perceptions within the broader organizational, environmental, and process-related implementation context. Where findings across the two components converged, credibility of results was strengthened. Where divergence occurred, such as high AIM scores alongside qualitative reports of implementation challenges, the following interpretive steps were applied:

- Contextual explanations were sought using CFIR domains.
- As a possible explanation, social desirability bias was considered.
- Divergence was considered as a meaningful insight into broader implementation contexts.

3.11 Ethical Considerations

Ethical approval for this study was obtained from the Institutional Review Board (IRB) of the James P. Grant School of Public Health (JPGSPH), BRAC University, Dhaka, Bangladesh [IRB Approval

Reference: MPH-2025-013, Date: 22 February 2026]. Administrative permission was obtained from the JAMUNA project management prior to the commencement of data collection.

Written informed consent was obtained from each participant before data collection. Participants were clearly informed of the study purpose, procedures, potential risks and benefits, and their right to withdraw at any time. For the quantitative component, participants could withdraw without consequence by returning the blank or incomplete questionnaire. For the qualitative component, participants were informed that they could withdraw their data within 24 hours of the interview by contacting the research team, as no transcription would be completed within that timeframe. If a participant notified the team within 24 hours, transcription would be discontinued and the audio file deleted. Once transcripts were integrated into thematic analysis, expected after 24 hours and within seven days of data collection, individual data could no longer be identified for removal.

The study was conducted through maintaining strict confidentiality and anonymity all throughout. Interview transcripts were anonymized using unique participant identification codes, and no personal identifying information was retained in any data file. All data were stored in password-protected folders accessible only to the research team. Quantitative questionnaires were stored securely and destroyed after data entry.

Participation was ensured to be completely voluntary and without incentive. Participants were assured that refusal or withdrawal would have no bearing on their employment, their relationship with the JAMUNA project, or their professional responsibilities. The study involved no experimental procedures, clinical interventions, or deception. The risk of harm to participants was assessed as minimal.

Use of artificial intelligence tools in preparing this study was limited to literature searching and translation support. No identifiable participant data was uploaded to any AI platform, AI was not used for data analysis, and all transcripts were anonymized prior to any digital processing, in accordance with the JPGSPH academic integrity guidelines.

Chapter 4: Results

This chapter presents the quantitative findings on the perceived acceptability and contextual factors influencing the implementation of the JAMUNA project-supported climate-resilient community clinic rehabilitation intervention in Bagura and Sirajganj, followed by qualitative ones.

4.1 Quantitative Findings

4.1.1 Participant Profiles

A total of 25 participants were enrolled in the quantitative component of the study through census sampling across seven rehabilitated community clinics under the JAMUNA project across the two locations (presented in Table 4.1). The majority of participants were service providers (n=18, 72%), comprising CHCPs, HAs, FWAs, HIs, and AHIs. The remaining participants, who were the JAMUNA implementation staff, accounted for 28.0% of participants (n=7), including a field officer, a program officer, a project coordinator, and a senior finance and admin officer. While all the implementation staff were involved with both types of rehabilitations, service providers' association was divided into partially rehabilitated and completely rehabilitated clinics, which are 56% and 16% of all participants respectively.

Participant characteristics are presented in Table 4.1.

Table 4.1: Socio-demographic and contextual characteristics of participants (n=25)

Characteristic	Category	n	%
Participant Type	Service Providers	18	72.0
	<i>Frontline health workers (CHCP)</i>	7	28.0
	<i>Community-level workers (HA, FWA)</i>	8	32.0
	<i>Monitoring & inspection staff (HI, AHI)</i>	3	12.0
	JAMUNA Implementation Staff	7	28.0
	<i>Field-level staff (Field Officers)</i>	4	16.0

	<i>Program-level staff (Program Officer, Project Coordinator, Sr. Finance & Admin Officer)</i>	3	12.0
Years of Experience	Less than 1 year	1	4.0
	1–3 years	2	8.0
	4–6 years	1	4.0
	More than 6 years	21	84.0
Type of Rehabilitation	Complete	4	16.0
	Partial	14	56.0
	Both	7	28.0
Total		25	100.0

CHCP = Community Health Care Provider; HA = Health Assistant; FWA = Family Welfare Assistant; HI = Health Inspector; AHI = Assistant Health Inspector. Rehabilitation type reflects the classification of the community clinic at which the participant was based. Sub-categories shown in italics with indentation under each participant type. Percentages are calculated out of total n=25.

4.1.2 Overall Acceptability of JAMUNA-Supported Community Clinic Rehabilitation

Acceptability was assessed using the four-item Acceptability of Intervention Measure (AIM). Each item was rated on a five-point Likert scale ranging from 1 = Completely disagree to 5 = Completely agree. The total AIM score was calculated by summing the four items, yielding a possible score range of 4 to 20.

The overall mean AIM score was 19.48 (SD=1.33) out of 20, indicating very high perceived acceptability of the rehabilitation intervention. All four AIM items recorded high mean scores, ranging from 4.84 to 4.88 on a five-point scale. All 25 participants either agreed or strongly agreed with each item, indicating that 100.0% perceived the intervention as appealing, liked it, found it suitable for the setting, and welcomed it.

The response categories “Agree” and “Strongly agree” were combined to summarize the proportion of participants expressing a positive acceptability response. This approach was used

because both categories indicate agreement with the AIM statements and combining them provides a clearer descriptive picture of overall positive perception in a small census-based sample.

Following the interpretive thresholds applied in recent implementation research, total AIM scores were categorized as low acceptability (≤ 11), moderate acceptability (12–15), and high acceptability (≥ 16). All participants in this study fell within the high acceptability category. Therefore, the acceptability category distribution is described narratively rather than presented as a separate table, as there was no variation across categories.

4.1.3 Descriptive Comparison of AIM Scores

AIM scores were compared descriptively by participant type, community clinic, years of experience, and rehabilitation exposure. Considering the small sample size and census-based design of the study, all comparisons are exploratory and intended to identify descriptive patterns rather than test statistical differences.

4.1.3.1 AIM Scores by Participant Type

Table 4.2: Item-wise and overall AIM scores by participant type

AIM Item	Service Providers (n=18)		JAMUNA Implementation Staff (n=7)	
	Mean	SD	Mean	SD
AIM 1 — Appealing	4.89	0.32	4.86	0.38
AIM 2 — Like	4.89	0.32	4.71	0.49
AIM 3 — Suitable	4.89	0.32	4.86	0.38
AIM 4 — Welcome	4.89	0.32	4.86	0.38
Overall AIM Score	19.56	1.29	19.29	1.50

SD = Standard Deviation.

Table 4.2 presents item-wise and overall AIM scores stratified by participant type. Service providers reported a slightly higher mean overall AIM score (19.56, SD=1.29) compared to JAMUNA implementation staff (19.29, SD=1.50). At the item level, AIM 2 (“I like the rehabilitation”) showed

the most notable descriptive difference, with implementation staff recording a lower mean (4.71, SD=0.49) compared to service providers (4.89, SD=0.32). Scores on AIM 1, AIM 3, and AIM 4 were comparable across both groups. Overall, both participant types demonstrated high acceptability, with mean scores well above the high-acceptability threshold of 16.

4.1.3.2 AIM Scores by Community Clinic, Grouped by Rehabilitation Status

Table 4.3 presents overall AIM scores by community clinic, grouped according to rehabilitation status. This grouping allows clinic-level acceptability scores to be interpreted in relation to whether the clinic received complete or partial rehabilitation.

Among the completely rehabilitated clinics, Kowakola recorded the maximum possible mean AIM score of 20.00, while Pakuria recorded a mean score of 19.75. Among partially rehabilitated clinics, Nouda Telkopi and Char Katenga recorded the maximum possible mean AIM score of 20.00. Tengra Kura, Pachil, and Char Brammangati recorded slightly lower mean scores, ranging from 19.00 to 19.20. Overall, acceptability remained consistently high across both completely and partially rehabilitated community clinics.

Table 4.3: Item-wise and overall AIM scores by community clinic and rehabilitation status

Rehabilitation Status	Community Clinic	Overall AIM Mean	SD	n
Complete Rehabilitation	Pakuria	19.75	0.50	4
	Kowakola	20.00	0.00	3
Partial Rehabilitation	Pachil	19.00	2.00	4
	Tengra Kura	19.20	1.79	5
	Nouda Telkopi	20.00	0.00	3
	Char Brammangati	19.00	2.00	4
	Char Katenga	20.00	0.00	2
Overall		19.48	1.33	25

SD = Standard Deviation. All clinics fall within the high acceptability category (score ≥ 16).

4.1.3.3 AIM Scores by Years of Experience

Table 4.4 presents item-wise and overall AIM scores stratified by years of work experience, categorized as up to six years (n=4) and more than six years (n=21). Participants with up to six years of experience recorded a perfect mean overall AIM score of 20.00 (SD=0.00), with unanimous highest-level agreement on all four items. Participants with more than six years of experience recorded a slightly lower mean overall score (19.38, SD=1.43), with marginally more variability across items.

However, because the two groups were highly unequal in size, the observed difference may not reflect a meaningful pattern and may partly reflect the small number of less-experienced participants. Despite this limitation, both groups demonstrated high acceptability, with mean scores well above the high acceptability threshold.

Table 4.4: Item-wise and overall AIM scores by years of experience

AIM Item	Up to 6 Years (n=4)		More than 6 Years (n=21)	
	Mean	SD	Mean	SD
AIM 1 — Appealing	5.00	0.00	4.86	0.36
AIM 2 — Like	5.00	0.00	4.81	0.40
AIM 3 — Suitable	5.00	0.00	4.86	0.36
AIM 4 — Welcome	5.00	0.00	4.86	0.36
Overall AIM Score	20.00	0.00	19.38	1.43

SD = Standard Deviation. Experience categories: “Up to 6 years” includes participants with less than 1 year, 1–3 years, and 4–6 years of experience (n=4); “More than 6 years” includes participants with over 6 years of experience (n=21).

4.1.3.4 AIM Scores by Participant type and Rehabilitation exposure

Table 4.5 presents overall AIM scores by participant type and rehabilitation exposure. This table combines two important dimensions: whether the participant was a service provider or

implementation staff, and whether their exposure was to complete, partial, or both types of rehabilitation.

Among service providers, those affiliated with completely rehabilitated clinics recorded a mean AIM score of 19.86 (SD=0.38), while those affiliated with partially rehabilitated clinics recorded a mean score of 19.25 (SD=1.75). JAMUNA implementation staff, all of whom were involved with both complete and partial rehabilitation activities, recorded a mean score of 19.29 (SD=1.50). All groups remained within the high acceptability category.

Table 4.5: Item-wise and overall AIM scores by participant type and rehabilitation exposure

Participant type	Rehabilitation exposure	n	Mean	SD
Service provider	Complete rehabilitation	7	19.86	0.38
	Partial rehabilitation	11	19.25	1.75
JAMUNA implementation staff	Both: Complete and Partial rehabilitation	7	19.29	1.50
Overall		25	19.48	1.33

SD = Standard Deviation. All groups fall within the high acceptability category (score ≥ 16).

4.2: Qualitative Findings

4.2.1 Theoretical Framework of Acceptability (TFA)

4.2.1.1 Affective Attitude

Theme 1: Strong Positive Perception

Participants expressed strong satisfaction regarding the rehabilitation. They described it as improved and more beneficial for ensuring service delivery, compared to the previous one. Especially, the service providers were overjoyed that it had exceeded their prior expectations. Aesthetically pleasing infrastructure, well-designed to serve purpose, shaped the consistent positive perception among the providers.

"Regarding my personal feelings, as I said at the beginning, Alhamdulillah, I have received somewhat more than I asked for. I think it exceeded my expectations a bit... overall, this Jamuna project is the most beautiful and the best project that I have ever worked on. (CHCP, KII_8, Partial Rehabilitation)"

Both the providers and implementors mentioned that relationships between them were nurtured and valued consistently. Strong responsiveness from implementing side, continuous communication and engagement throughout the implementation and even after project completion, have contributed to providers' strong satisfaction with the intervention.

"My personal feeling is that it is very positive because the work was completed quickly... they haven't abandoned me just because the renovation is finished; they still invite me to the training sessions and meetings, talk to me, and drop by to check on me... I truly appreciate that they keep in touch even after their work is done. (CHCP, KII_6, Partial Rehabilitation)"

"We coordinate with everyone... no single decision is made here without involving everyone... this shared process builds trust and satisfaction among all stakeholders. (Project officer, KII_12)"

Theme 2: Renewed Motivation

Participants, especially the service providers, expressed that their enthusiasm has been enhanced by the improved working environment. They feel more motivated than before to provide services in a safer environment and organised manner. Infrastructure upgrades were perceived as a great enhancement of their daily performance and active engagement to their assigned roles.

"Because they coordinated with us... a drive to properly fulfill our roles and responsibilities comes up. I will definitely say that our speed of work has increased even more. (CHCP, KII_4)"

"The enthusiasm for work has increased... earlier it was difficult, but now the environment is better, and I feel encouraged to continue my work more actively. (CHCP, KII_8)"

4.2.1.2 Burden

Theme 1: Reduced Safety Burden

The rehabilitation intervention has reduced the physical burden of maintaining the clinic. Previously, the dilapidated and unsafe infrastructure with frequent pest infestations and consistently falling debris from the damp wall required frequent cleaning. Participants reported incidents of falling plasters on patients and providers, which made their daily work risky. The scenario reversed after renovation. Post-rehabilitation status brought about safer facilities and less time consumption for maintenance.

"The CC infrastructure was very fragile back then, like plaster was coming off often and falling all over the place. Once a part of the ceiling fell on me and I got very scared... We used to deliver services under terror all the time. (CHCP, KII_2, Partial Rehabilitation)"

"When it was unclean and risky, parts used to fall off, so I had to clean it repeatedly. Now, if I come and sweep it once, it lasts until the next day It even happened one day that the roof crumbled and fell while a pregnant patient was here; the roof debris fell

right between the patient and me. Now those risks are no longer there, Alhamdulillah. (CHCP, KII_8, Partial Rehabilitation)"

Theme 2: Increased Service Demand

The rehabilitation initiative has significantly increased patients' attendance, compared to the prior renovation stage. As more patients have begun utilizing the upgraded facilities, the workload has also increased rapidly.

"After my Community Clinic was newly established and relocated, the number of patients here has increased, the scope of my work has increased... the scope of my medical services has increased, the number of patients has increased, and it's a good thing. (CHCP, KII_3, Complete Rehabilitation)"

4.2.1.3 Ethicality

Theme 1: Dignified Care

The rehabilitation was perceived to ensure the proper dignity of care by establishing a more organized, cleaner and safer environment. According to them, specific features, such as designated breastfeeding corners, provision for privacy with curtains, gender-specific washrooms, etc., played significant roles in improving maternal and reproductive health services. Both the service providers and implementation staff mentioned that patients also appreciate the greater respectful treatment within the improved space.

"Undoubtedly, the health component service we are providing in our Jamuna project is undoubtedly increasing human dignity; the person providing the service is also providing the service in a good, joyful environment, and the person coming to receive the service is also getting the service in a joyful environment with dignity. (Project officer, KII_12)"

"Obviously, the changes made are respectful for the patients. Now when patients come to this new CC, they can use washroom facilities with more convenience as previously there were no arrangements for water but now water is available for use." (HA, KII_1, Partial Rehabilitation)

Theme 2: Incomplete Inclusivity

Although some improvements have been made, there are still gaps that remain, which hinders full inclusivity. Many clinics, especially the partially rehabilitated ones, lacked gender specific washroom facilities, disability access etc., which limits equitable access to all walks of population.

"Actually, there are not enough facilities for maintaining privacy for women. Also, there is no breastfeeding corner at the CC. Regarding ensuring accessibility to disabled persons, unfortunately we don't have anything. Furthermore, we don't have separate toilets for men and women. (HA, KII_1, Partial Rehabilitation)"

"No, until now, regarding the issue of physically challenged or disabled persons at my community clinic here, there is nothing like that yet for their movement. (CHCP, KII_6, Partial Rehabilitation)"

4.2.1.4 Intervention Coherence

Theme 1: Clarity in understanding

Participants were found to have a clear understanding of the purpose of the intervention. They were aware of the core goal of service continuity during extreme climate events. They were informed about the project via seminars, meetings, and field engagement. Regular and structured interaction with implementing partners also played a major role in strengthening their knowledge and awareness.

"Yes, we were informed about this at various seminars at the upazila level that it is possible to provide services from here even during disaster times... within a short time, we can relocate this community clinic to another place... they have given us this idea. (CHCP, KII_3, Complete Rehabilitation)"

"Our specialty is that we prioritize the stakeholders and work in tandem with their opinions. Many organizations might come in without coordinating with any stakeholders. However, the distinct flavor of our Jamuna Project is that we actively engage with all. We explained every aspect clearly during meetings with the

community, CG (Community Group), and disaster management committee. So, everyone understands the purpose.”. (Field officer, KII_11)

Theme 2: Professional Fit

Service providers mentioned that the intervention was well-aligned with their professional responsibilities. They consistently mentioned that the changes brought about by the rehabilitation initiative made their routine work smoother.

"There is nothing that goes against my duties. The changes made our responsibilities to perform more effectively. (CHCP, KII_2, Partial Rehabilitation)"

4.2.1.5 Opportunity Costs

Theme 1: Service Continuity and Minimal disruption

Service delivery was maintained throughout the renovation period. Service providers from completely rehabilitated CCs mentioned that while new structure was being built, they were continuing the service at the existing temporary place. The partial rehabilitation works were also conducted gradually section by section so that service delivery could be continued with minimal disruption.

"Services were still provided. Since we have two rooms, they initially seated us outside. First, I vacated one room, and while they worked on that room, I provided services here. Then when they worked on this room, I moved to the other room. We did it, one by one, in this way. (CHCP, KII_8, Partial Rehabilitation)"

4.2.1.6 Perceived Effectiveness

Theme 1: Improved Service Environment

Rehabilitation significantly improved the perceived quality of healthcare services. All the participants, especially the service providers, mentioned improvements in inner arrangements of CCs with better cleanliness as well as overall functionality. These betterments resulted in better

provider performance, easier maintenance, smooth workflow, reduced waiting times and eventually enhanced patient experience.

"Due to my new clinic, the quality of my service has improved overall... I can gather ten or twenty patients in one place and provide healthcare services, I can provide services to the disabled properly... the quality of work has improved, and the quality of my service has also increased. (CHCP, KII_3, Complete Rehabilitation)"

"Waiting time for the patients has reduced now and providing regular services has become better than before. Also, maintaining the cleanliness of the clinic has improved compared to before. (CHCP, KII_8, Partial Rehabilitation)"

Theme 2: Long-Term Benefit

Participants believed that the improvements would yield lasting benefits for service delivery. The strengthened physical infrastructure and improved organizational functioning were seen as contributing to long-term clinic sustainability.

"I would say that the community clinic is definitely sustainable and strong... additionally the infrastructure renovations we have proposed, if those are done, it will be more durable and of standard quality, and I believe we will be able to provide sustainable, uninterrupted service. (CHCP, KII_4, Partial Rehabilitation)"

4.2.1.7 Self-Efficacy

Theme 1: Perceived low Confidence in service provision

Most service providers expressed strong confidence in delivering routine healthcare in the rehabilitated clinics. The improved physical environment, better arrangements and safer workspace appeared to strengthen their sense of professional competence. Unfortunately, this confidence was not uniform across all situations. Especially during disasters or extreme weather events, providers from partially rehabilitated CCs mentioned reduced confidence due to existing structural gaps and accessibility issues, despite rehabilitation.

"I feel fully confident providing service in normal time, but I am not confident about continuing services during floods or heavy rainfall now, rather I feel helpless that I can't provide the required services. We are benefited by the changes made by the rehabilitation initiative but it's still not climate resilient because the chance of water logging or floods still remains which is the biggest hindrance to continued service delivery at extreme climate events (CHCP, KII_2, Partial Rehabilitation)"

Service providers mentioned their capacity to continue service under any situations, drawing the example of managing previous crises, such as floods and COVID-19 pandemic. Despite strong commitment, provider confidence is often affected by systemic constraints, such as shortage of manpower and logistics. This evidence indicates that self-efficacy is not determined by infrastructure alone.

"Adequate training and logistics are necessary for better service delivery. It would be great if we had a facility for normal delivery with trained personnel. A trained midwife would be a great addition. (HA, KII_1, Partial Rehabilitation)"

4.2.2 Consolidated Framework for Implementation Research (CFIR)

The CFIR was applied to identify factors at multiple levels that influenced the implementation of the JAMUNA project's clinic rehabilitation. Findings are organized across five CFIR domains: Innovation, Outer Setting, Inner Setting, Individual Characteristics, and Implementation Process.

4.2.2.1 Innovation

Flexible Design

The rehabilitation design was perceived as highly suitable for char and climate-vulnerable settings due to its portability, flexibility, and disaster-responsive features such as raised plinths and relocatable structures. This alignment with local environmental realities enhanced the feasibility, usability, and continuity of the intervention.

"The quality of the work is quite good. Their initiative is truly commendable. Building a clinic in a char area. Since this is a riverine area, floods can occur anytime. I can

dismantle this and move it to another place. This is an advantage. (CHCP, KII_5, Complete Rehabilitation)”

“We made a portable design. This entire structure can be disassembled and relocated. For this reason, since the char is a temporary landmass prone to river erosion, I believe this structure is vastly superior. (Field officer, KII_11)”

Design Gap in Flood Protection

Although the design of the intervention was appreciated for improved aesthetics and better working conditions, service providers from partially rehabilitated CCs felt that this upgradation is not enough to withstand climate risks. They mentioned a limitation of the design: it fails to address structural vulnerabilities, such as the CC still being low-lying. The design for partial rehabilitation didn’t include raising the level of CCs. Therefore, during floods, the partially rehabilitated CCs will be going underwater, which will eventually limit the effectiveness during extreme climate events.

“Actually, we are benefiting from the changes made by the rehabilitation initiative, but it’s still not climate resilient because the chance of waterlogging or floods remains, which is the biggest hindrance to continued service delivery in extreme climate events. (CHCP, KII_1, Partial Rehabilitation)”

4.2.2.2 Outer Setting

Perceived Community Ownership

Strong community trust and their active engagement in the rehabilitation process resulted in local ownership and contributed to increased service utilization. Community members’ active participation in the implementation process voluntarily, such as guarding supplies and providing suggestions, reflects strong ownership of the intervention outcomes.

“In fact, people cooperated with us even more. When the work was being executed by local contractors, the local community came forward to assist. Many helped guard the materials and pointed out things like, “Brother, if you repair this specific spot a bit more, it would be even better.” In that regard, there was strong community participation. (Field officer, KII_11)”

Environmental Barriers

Persistent environmental challenges; including seasonal flood, river erosion, geographic remoteness, and transportation barriers; were mentioned as the most critical implementation barrier. These factors restricted physical access to services and threatened continuity of care, particularly during climate events.

“Service accessibility during floods is very difficult as this whole area, including the CC premises, goes underwater. Boats are not easily available, and transport cost is high, which makes it difficult for people to reach the CC. (CHCP, KII_2, Partial Rehabilitation)”

4.2.2.3 Inner Setting

Improved Infrastructure, improved quality

As per the participants, rehabilitation improved the physical environment of clinics, creating cleaner, safer, and more functional spaces. These improvements, in their perception, enhanced patient comfort, provider efficiency, and the overall quality of service delivery.

“There is some space in the front, a beautiful area where people can plant various fruit trees, and there is ample space to conduct meetings. A seating arrangement has been established there so that at least health services can be provided. We installed formal complaint boxes so that any grievances could be officially reported. (Field officer, KII_11)”

Strengthened Coordination

Improved coordination among community groups (CG), implementing partners, and government actors strengthened accountability, and day-to-day functioning. Regular engagement facilitated trust-building among the stakeholders and enhanced the overall implementation environment.

“In the presence of the Red Crescent, I can form the Community Group. And the supervision they are providing, along with everyone else, and the committees they

have in different areas are helping us bring in patients. (CHCP, KII_5, Complete Rehabilitation)”

Resource Constraints for long-term success

The community demand for services; such as physician consultations, delivery care, and a wider range of medicines; exceeded the existing capacity of community clinics. Concurrently, shortages of manpower, medicines, equipment, and weak maintenance systems restricted the service delivery and raised concerns about long-term sustainability.

“We need some medical equipment. The motor of the water pump is not functioning here. We wish for some infrastructure upgrade, like raising the height of the facility to save it from being flooded, and we need some equipment to make service delivery more efficient. Staff here are already trained in CSBA (Community Skilled Birth Attendant) to conduct normal delivery, but we lack essential instruments. (CHCP, KII_2, Partial Rehabilitation)”

4.2.2.4 Individual Characteristics

Provider Commitment

Service providers demonstrated strong personal commitment and resilience, frequently continuing to deliver services under challenging and disaster-prone conditions. This dedication was a consistent facilitator across implementation settings and adverse environmental context.

“I provided services amidst those hardships. It was difficult, but I still provided the services. (CHCP, KII_8, Partial Rehabilitation)”

Experience-Based Capacity

Both providers and implementers mentioned that their knowledge and prior experience have equipped them to navigate climate-related challenges and operational demands effectively. While implementation staff mentioned that their long-term familiarity with char environments facilitated smoother implementation and timely project completion, providers also expressed confidence in tackling potential adverse events due to their long exposure to this context.

“The staff working on the Jamuna Project have been with us for 5 to 10 years through previous projects. They are very experienced and already have a clear understanding of climate-resilient infrastructure. (Project coordinator, KII_10)”

“I have been working here since 2001. I am very familiar with the potential adversities we could face here. My long service experience has shaped my confidence and made me more efficient at my role. (CHCP, KII_7, Partial Rehabilitation)”

Training Gaps

Limited training opportunities, high workloads, and exposure to risk during disasters reduced some providers’ capacity to maintain consistent and quality service delivery. Need for additional training and capacity building for the service providers was frequently mentioned by both providers and implementers.

“I haven’t received training until now, but if training is given to me, I think my experience will increase, and from all aspects. (CHCP, KII_3, Complete Rehabilitation)”

“For the existing manpower, the government service providers, if some training can be arranged for them, I think their skills will increase further; the more their skills increase. (Program officer, KII_12)”

4.2.2.5 Implementation Process

Structured and Participatory Planning

Implementors mentioned the implementation process followed a community-led approach. Strong community engagement and participatory decision-making resulted in reduced potential resistance, easier acceptance of the intervention within the community, and enhanced local ownership, making members perceive the intervention as their own. Participants described the flow of the implementation process, comprising need-based assessment, well-coordinated execution and continuous monitoring. Systematically organized and scope of improvement at every stage eventually ensured that the project target and local needs were met.

“We follow a community-led approach and community mobilization. The community takes care of it. When the work was ongoing, they helped laborers carry and plant pillars and guarded the materials. Because it’s a community-led program, they have no confusion about costs; the budget is open to them, and they feel they are doing the work themselves. (Project coordinator, KII_10)”

“Red Crescent Youth (RCY): through them, we first conducted a Needs Assessment. To find out what actual work we need to do there. Regarding the existing work, based on the survey data we piled up, we generated a report. After generating the report, we shared it again at Upazila. In continuation of that, we later sat with the Community Group to discuss it. (Field officer, KII_9)”

Local Implementation Challenges

Several challenging factors resulted in delays in implementation process, such as challenges related to land selection, logistics procurement and community-level power dynamics. Participants from implementor side mentioned, in some instances, local landownership disputes and influential community members resulted in delay in the site selection process.

“Land selection took time. Also, some local people in the area are powerful... there was some difference in opinion from their side. (Field officer, KII_9)”

Chapter 5: Discussion

5.1 Summary of Key Findings

This mixed-method implementation research used a validated survey tool and two theoretical frameworks and generated both quantitative and qualitative evidence on perceived acceptability among service providers and implementation staff and identified contextual factors influencing implementation of JAMUNA-supported community clinic rehabilitation in climate-vulnerable char areas of Bangladesh.

The quantitative findings reveal very high overall acceptability with the mean AIM score of 19.48 out of 20, which demonstrates strong positive perceptions among both categories of stakeholders. All participants agreed or strongly agreed that the rehabilitation was appealing, suitable, welcomed, and acceptable for their setting. Although participants associated with completely rehabilitated clinics demonstrated slightly higher AIM scores than those from partially rehabilitated clinics, acceptability remained high across all groups.

The qualitative findings further explained the reasons shaping this high acceptability. Across TFA domains, participants expressed strong satisfaction regarding the rehabilitation, mentioning it as aesthetically pleasant, structurally improved and functionally beneficial. Both the stakeholders highlighted positivity on clear understanding of the rehabilitation purpose prior to the initiative inauguration, also on consistent and nurtured mutual relationships throughout and even post rehabilitation. Service providers mentioned that the intervention is professionally aligned and has exceeded their expectations, which eventually made them more enthusiastic and motivated to provide services, even in vulnerable environmental status. The success of the intervention for ensuring a safer working environment with easier maintenance as well as predicted long sustainability, and dignified care have contributed to better service delivery and increased patient flow with enhanced community trust.

Participants mentioned that service delivery was not stopped during rehabilitation. The implementation was carried out gradually section by section, like while one room was being renovated, service delivery was ongoing on the other room and when the first room renovation was done, logistics and equipment were shifted, and service was continued without interrupting the pace of renovation works.

While complete rehabilitation was perceived as highly climate responsive, participants from partially rehabilitated clinics reported persistent structural vulnerabilities, particularly flood risk at the low-lying clinic premises. Access and continuity of care was reported to be restricted by geographical vulnerability, extreme weather conditions and transportation challenges. Additionally, participants mentioned the consistent need for sufficient human resources, logistics and equipment.

The CFIR findings demonstrated that implementation was facilitated by flexible and context-suitable design, strong community ownership, strong commitment of the providers to continue service delivery at any situation, collaborative and well-planned implementation process, involving all stakeholders, strong co-ordination between providers and implementers and highly experienced and contextually adapted implementing staff. However, the findings also highlighted important implementation barriers, such as infrastructure gaps especially in partially rehabilitated design, capacity restriction because of resource constraints and training gaps, challenges to smooth implementation driven by local as well as environmental barriers.

Overall, the findings suggest that climate-resilient community clinic rehabilitation is highly acceptable in climate-vulnerable settings of Bangladesh when interventions are contextually appropriate, participatory, and responsive to local needs. However, long-term climate resilience and sustainability require more comprehensive structural adaptation and stronger system-level support.

5.2 Discussion of Findings

The quantitative findings of this study reveal an exceptionally high level of acceptability. This acceptability was consistent across all levels: all seven community clinics, both rehabilitation modalities, both participant types and both years of experience group. The slight difference of acceptability scores across the participants type reflects the variation of acceptance of an intervention to different stakeholders, which indicates perception can differ based on the roles and interest (Pérez et al., 2020). Svedin et al. (2023) described acceptability of an intervention is comprehensively shaped by the expansion, coverage and completeness; which is supportive to the higher acceptability in completely rehabilitated clinics in comparison with partial reconstruction. Perception and evaluation of an intervention is often shaped by the individual's professional experience and level of engagement and participants with longer work experience or greater exposure to field realities may interpret the usefulness, practicality, and limitations of an intervention differently from less experienced participants (Dunnett et al., 2025) which explains slightly lower acceptance among participants having more than 6 years of experience, than who are performing for less than 6 years.

However, despite slight differences among different categories, all the participants fell within the high acceptability category with no participants falling below the nearly mean point of 4. This level

of acceptability exceeds the scores reported in similar implementation studies. Proctor et al, 2023 documented mean AIM score ranging from 16-18 in a study that evaluated the community health worker interventions in sub-Saharan Africa, while primary health care improvement initiatives in South Asia reported high acceptability specific to contexts where interventions were perceived as appropriate for routine operations and responsive to local needs (Means et al., 2020). Bhui et al. (2024) described that in resource constrained and poor geographical settings where there have been long-standing unmet needs, even a small-scale initiative is highly appreciated. So, the near-perfect acceptability scores in this study suggest that the JAMUNA rehabilitation initiative was appreciated and deeply valued by the providers and implementers, considering the broader context of environmental vulnerability, infrastructural fragility, and limited prior investment in these char communities. However, these findings should be interpreted cautiously considering the relatively small sample size and the unique characteristics of the intervention and study setting. Future research involving larger samples and multiple implementation settings would help determine whether similar levels of acceptability are observed more broadly.

The qualitative findings revealed several distinct sub-dimensions of affective attitude which shaped the overall strong positive perception about the rehabilitation. First, the participants appreciated the structural improvements. Service providers addressed the rehabilitated CC as aesthetically pleasing with repaired plaster, newly painted walls, addition of signboards and nameplates. Liu and Neisch (2024) illustrated the similar perception of importance of visually improvement by the intervention makes it more preferred and acceptable. Secondly, they emphasized the mutual relationship between the providers and implementers. The implementing side mentioned involving all the stakeholders and giving equal importance while service providers agreed to the same and expressed satisfaction for continued engagement prior, throughout and even post rehabilitation, reflecting the importance of coordinated stakeholders' mutuality presented by Ezech et al., 2024. Lastly, the providers expressed their increased motivation and enthusiasm brought about by the results of implementation. The upgraded facility with a safer and organized working environment has enhanced their level of engagement in the designated role as well as improvement to service delivery. This is consistent with implementation science evidence that physical workspace quality directly influences frontline health worker motivation and role performance (Lokotola, 2023) and suggests that infrastructure rehabilitation in chronically under-resourced settings may generate motivational effects that extend beyond the physical improvements themselves.

The rehabilitation was reported to reduce physical burden of maintenance and safety concerns. Previously the dilapidated infrastructure with frequently falling debris from the damp wall and pest infestation resulted in discomfort for both the service providers and patients, as well as frequent and laborious need of cleaning. Zhenjing et al. (2022) mentioned similar scenario where improvements of working environment through structural upgrade has resulted in speed up of performance and level of service as well. Not only the providers side, but beneficiary side has also showed significant improvement in health-seeking tendency post rehabilitation. The transition to safer facilities with easier maintenance, along with upgraded facilities, has acted as a driving factor for increased health seeking attitude among the patients.

The project was perceived to be fully aligned from an ethical lens considering the provider's professional values. It was mentioned that health service delivery and uptake, both have been better, more comfortable and joyful. The provider mentioned ensuring dignified care for the patients by virtue of addition of some specific features like, provision for privacy, designated breastfeeding corner, separate toilet facility for male and female, clean water supply, installation of a complaint box, ramp for disability access etc. Patient friendly environment with availability of basic amenities and inclusivity features are often appreciated by the patients (Ferreira et al., 2023). Unfortunately, the partially rehabilitated clinics lacked some of those features, which limits complete inclusivity.

One of the most appreciating features of this rehabilitation initiative is the clear understanding of the purpose by all the stakeholders. The core objective of the project, to make the community clinic resilient to climate change and continue service delivery during extreme weather events, was disseminated through seminars, meetings and field engagements. Adam (2019) studied the benefits of clear understanding of the process by the people involved and found out that it speeds up the completion of tasks smoothly and often within time limit. Another positive aspect consistently mentioned was continuity of service delivery during rehabilitation. Gradual renovation activity led to uninterrupted service, which eventually resulted in greater acceptability.

CFIR-based exploration reveals contextual factors influencing the implementation. The portability of the design was identified as the most appreciated feature of this intervention. In char context, installation of permanent structures is not suggestive of intelligent planning as frequent flood risks and riverbank erosion are evidenced to destroy fixed structures. So, a flexible design which is easy

to dismantle and relocate elsewhere, is convenient and appropriate in this context. This perceived fit between innovation design and environmental context is a powerful facilitator of acceptability and sustained adoption.

However, the design limitation was reported in a partially rehabilitated clinic for failing to address structural vulnerabilities. The clinic, still low-lying, carries substantial flood risks. Service providers from partially rehabilitated CCs raised their concerns to address this design gap to make the CC climate resilient. Their assessment that partial rehabilitation fell short in meeting the purpose of the intervention is a credible evaluation and an important implication for program design.

Environmental barriers remained the most critical and irreducible hindrance to implement. Frequent floods, riverbank erosion, geographical vulnerability, accessibility issues etc. altogether were responsible for limiting accessibility to reach CC for essential services. Despite this hardship, the project was successful in gaining community trust and fostered community ownership. Community people were actively involved in the implementation process; guarding the construction materials, expressing their satisfaction. This community led approach is useful for minimizing resistance and generating local accountability for maintenance and continued use successfully

The rehabilitation acted as a medium of advocacy to strengthen the co-ordination between the provider side and implementor side. The inter-professional relationship and smooth co-ordination eventually resulted in unrestricted completion of the project. These factors are crucial in climate-vulnerable contexts, where effective coordination among stakeholders is essential for sustaining service delivery improvements.

However, the multistakeholder engagement was thoroughly impacted by the inadequate inner organizational readiness in terms of manpower shortage, scarcity of medicine and medical equipment, non-functional water pump motor etc. An expectation-capacity gap was also reported in community aspects, such as physician-level consultation, normal delivery service, and expanded medicine supply, which are also reported outside project coverage and cannot be met within the existing capacity.

Service providers across all seven community clinics mentioned their motivation to continue service despite any environmental hazards, which adds significant value to implementation. This

professional determination signals sustained service delivery. The experience-based capacity of long years of experience from both the provider and implementer side acted as a facilitator for smooth and timely implementation. This fact eliminates the adverse effects of staff turnover and project lag.

Though majority of the participants have long working experiences, a training gap was reported. Along with professional competency, providers need to enhance their knowledge about managing climate vulnerabilities at an organizational level. Road to resilience cannot be achieved solely by infrastructure investment; a dedicated and equipped workforce is equally important.

The implementation challenges identified in this study included procurement and land selection delays, which are not uncommon in the local context. Similar challenges have been reported by Means et al. (2020), which demonstrates that such barriers are common in administrative processes. Though these challenges did not affect the overall acceptability of the initiative, they had impact on the pace of implementation. Addressing these barriers will be important for ensuring timely and effective implementation of future climate-resilient rehabilitation initiatives.

5.3 Strengths of the Study

This study has several notable strengths.

- The mixed method study design with convergent approach allowed triangulation of quantitative acceptability measurement with qualitative exploration, ultimately generating a comprehensive overview.
- Globally validated tools (AIM, TFA, CFIR) were used which ensures methodological strength and wide comparison.
- Quantitative part of the study used census sampling which reduced selection bias and enhanced inclusivity.
- Bogura and Sirajganj: two distanced study sites were covered to enrich the data and minimize contextual limitations.
- Explicit recording of the rehabilitation status was recorded to relate rehabilitation status with acceptability perceptions.

5.4 Limitations of the study

This study identifies several factors as limitations.

- Small sample size limits the statistical power of subgroup comparison.
- All quantitative comparisons are descriptive and lacks inferential conclusions
- Highly unequal group size in the years of experience comparison limits comparison strength.
- The study was conducted at a single point in time which lacks the chance to capture any change of acceptability perception over time.
- Both the study sites were contextually similar, which limits transfer of findings to non-char areas.
- This study only included providers and implementers. Community perceptions were not considered.
- The study may also be subject to social desirability bias, as participants directly involved with the intervention may have been more likely to express favorable opinions regarding the rehabilitation initiative. Although participants discussed both facilitators and barriers, the possibility of overly positive responses cannot be fully excluded.

5.5 Implications for Public Health Policy and Practice

5.5.1 For Program design and scale up

The high and consistent acceptability of the JAMUNA supported community clinic rehabilitation across all sites, participants type and rehabilitation status provides strong evidence for scaling up of the intervention to similar char areas of Bangladesh. However, the qualitative evidence on partial rehabilitation carries important policy aspect that, scale-up should prioritise the features added in complete rehabilitation design for continued service delivery even during climate events.

5.5.2 For Health Workforce Development

The finding that providers' confidence in providing primary health care is often restricted by scarce workforce and inadequate training; points to an urgent deployment of sufficient workforce. Along with infrastructure upgrades, advocacy for filling up vacant positions should be emphasized. Frequent refresher training, especially training on disaster preparedness and first aid and triage in hazardous situations should be included to make the workforce disaster competent.

5.5.3 For Implementation Science

This study demonstrates applicability of TFA and AIM in infrastructure-based interventions especially in LMIC setting; the context where those tools were not previously applied. This step carries evidence that TFA and AIM have been underutilized beyond clinical and behavioral interventions.

Chapter 6: Conclusion and Recommendations

6.1 Conclusion

This study emphasizes the importance of integrating climate resilience into primary healthcare infrastructure through measures that address context-sensitive climate vulnerabilities and meet service delivery needs. The findings indicate that rehabilitation initiatives are well accepted and effectively implemented when they address local environmental vulnerabilities along with enhancing the regular service provision. The study also highlights that infrastructure improvements alone are not enough; effective implementation processes, active stakeholder engagement, and advocacy for availability of resources require attention. Overall, these insights provide valuable evidence for future efforts to strengthen climate-resilient primary healthcare facilities in Bangladesh and other climate-vulnerable settings.

6.2 Recommendations

6.2.1 For JAMUNA Project and Implementing Partners

Prioritization for future rehabilitation initiatives should be given to the infrastructure improvements that directly support the provision of quality healthcare services. Specific features of the design, such as adequate space for service delivery, improved sanitation and hygiene facilities, road connectivity, and climate-resilient structural features; portable, relocatable, raised-plinth should be taken into consideration in future scale up. Along with structural advancements advocacy for sufficient staffing, resource availability should be enhanced at CC level.

6.2.2 For Government of Bangladesh and Policy Stakeholders

Climate resilient CC rehabilitation measures should be incorporated into national community clinic program guidelines and implement this during upgrade and new construction of CCs. Manpower shortage and logistic requirements should be addressed for ensuring smooth primary health care.

6.2.3 For Future Research

Longitudinal follow-up studies should be conducted to assess the level of acceptability over time (sustained or faded) and beneficiary side perspective should be captured to compare demand side perception with provider and implementor side. Comparative effectiveness study should be conducted to link service utilization outcomes to impacts of implementation.

Declaration of GenAI Use

I, Tamanna Munmun Emaa, declare that in preparing this assignment, I used ChatGPT as a support tool to assist with brainstorming ideas, organizing the structure of my writing, overcoming writer's block, and improving clarity and language in the text that I drafted myself. GenAI was not used to generate original arguments, interpret results, or produce final academic content. All substantive ideas, judgments, references, and conclusions are my own and have been independently verified in line with JPGSPH academic integrity guidelines.

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Appendices (Optional)

Appendix A: Data Collection Instrument

A 1 AIM based questionnaire (Bangla)

AIM-ভিত্তিক প্রশ্নাবলি

অধ্যায় ক: সাধারণ তথ্য

গবেষণার শিরোনাম:

জলবায়ু সহনশীল প্রাথমিক স্বাস্থ্যসেবা জোরদারকরণ: বাংলাদেশে বগুড়া এবং সিরাজগঞ্জ জেলায় যমুনা-সমর্থিত কমিউনিটি ক্লিনিক পুনর্বাসন বিষয়ক একটি মিশ্র-পদ্ধতির বাস্তবায়ন গবেষণা।

অংশগ্রহণকারীর আইডি: _____

কমিউনিটি ক্লিনিকের নাম: _____

সাক্ষাৎকারের তারিখ: ____ / ____ / ____

দিন মাস বছর

শুরুর সময়: _____

সাক্ষাৎকার গ্রহণকারীর নাম: _____

সম্মতি প্রদান করা হয়েছে:

☐ লিখিত ☐ মৌখিক

অধ্যায় খ: অংশগ্রহণকারীর তথ্য

অংশগ্রহণকারীর ভূমিকা

☐ কমিউনিটি হেলথ কেয়ার প্রোভাইডার (CHCP)

☐ হেলথ অ্যাসিস্ট্যান্ট (HA)

☐ ফ্যামিলি ওয়েলফেয়ার অ্যাসিস্ট্যান্ট (FWA)

☐ যমুনা প্রকল্পের বাস্তবায়নকারী কর্মী: _____

বর্তমান পদে কাজের অভিজ্ঞতা

☐ ১ বছরের কম

☐ ১-৩ বছর

☐ ৪-৬ বছর

☐ ৬ বছরের বেশি

সাক্ষাৎকারের স্থান

☐ কমিউনিটি ক্লিনিক

☐ যমুনা ফিল্ড অফিস

☐ অন্যান্য: _____

অধ্যায় গ: গ্রহণযোগ্যতা পরিমাপের সূচক (AIM)

- নিচের বক্তব্যগুলো যমুনা-সমর্থিত কমিউনিটি ক্লিনিক পুনর্বাসন কার্যক্রম সম্পর্কে আপনার অভিজ্ঞতা ও মতামত জানতে চায়।
- প্রতিটি বক্তব্য মনোযোগ দিয়ে পড়ুন এবং আপনি কতটুকু একমত বা দ্বিমত তা চিহ্নিত করুন।
- এখানে কোনো সঠিক বা ভুল উত্তর নেই। আপনার দেওয়া তথ্য সম্পূর্ণ গোপন রাখা হবে।

AIM কোড	বক্তব্য	সম্পূর্ণ অসম্মত	অসম্মত	নিরপেক্ষ	সম্মত	সম্পূর্ণ অসম্মত
AIM ১	যমুনা-সমর্থিত কমিউনিটি ক্লিনিক পুনর্বাসন কার্যক্রমটি আমার কাছে আকর্ষণীয় মনে হয়।	১	২	৩	৪	৫
AIM ২	আমি যমুনা-সমর্থিত কমিউনিটি ক্লিনিক পুনর্বাসন কার্যক্রমটি পছন্দ করি।	১	২	৩	৪	৫
AIM ৩	যমুনা-সমর্থিত কমিউনিটি ক্লিনিক পুনর্বাসন কার্যক্রমটি আমাদের এলাকার জন্য উপযোগী বলে মনে হয়।	১	২	৩	৪	৫

AIM 8	আমি যমুনা-সমর্থিত কমিউনিটি ক্লিনিক পুনর্বাসন কার্যক্রমকে স্বাগত জানাই।	১	২	৩	৪	৫
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A 2 AIM based questionnaire (English)

Acceptability of Intervention Measure (AIM) based questionnaire

Section A: INTERVIEW IDENTIFICATION INFORMATION

- Study Title:**

Enhancing Climate-Resilient Primary Health Care: A Mixed-Methods Implementation Research on JAMUNA-Supported Community Clinic Rehabilitation in Bogura and Sirajganj Districts, Bangladesh

- Participant ID:** _____

- Community Clinic Name:** _____

- Type of rehabilitation:**

☐ Complete rehabilitation (newly constructed clinic)

☐ Partial rehabilitation (upgraded existing clinic)

- Date of Interview:** ____ / ____ / ____

Day Month Year

- Start Time:** _____

- Name of Interviewer:** _____

Section B: BACKGROUND INFORMATION

- Role of respondent**

☐ Community Health Care Provider (CHCP)

☐ Health Assistant (HA)

☐ Family Welfare Assistant (FWA)

☐ JAMUNA implementation staff: _____

- Years of experience in current role**

☐ Less than 1 year

☐ 1–3 years

☐ 4–6 years

☐ More than 6 years

• **Interview Location:**

☐ Community Clinic

☐ JAMUNA field office

☐ Other: _____

Section C: ACCEPTABILITY OF INTERVENTION MEASURE (AIM)

Instructions to respondents:

The following statements ask about your experience and opinions regarding the JAMUNA-supported community clinic rehabilitation.

Please read each statement carefully and indicate how much you agree or disagree.

There are no right or wrong answers. Your responses will be kept confidential.

AIM code	Statement	Completely disagree	Disagree	Neutral	Agree	Completely agree
AIM 1	The JAMUNA-supported CC rehabilitation is appealing to me	1	2	3	4	5
AIM 2	I like the JAMUNA-supported CC rehabilitation.	1	2	3	4	5
AIM 3	The JAMUNA-supported CC rehabilitation seems suitable for our setting.	1	2	3	4	5
AIM 4	I welcome the JAMUNA-supported CC rehabilitation	1	2	3	4	5

মূল তথ্যদাতা সাক্ষাৎকার (KII) নির্দেশিকা

উত্তরদাতা: সেবাদানকারী

অধ্যায় ক: সাক্ষাৎকার সনাক্তকরণ তথ্য

গবেষণার শিরোনাম:

জলবায়ু সহনশীল প্রাথমিক স্বাস্থ্যসেবা জোরদারকরণ: বাংলাদেশে বগুড়া এবং সিরাজগঞ্জ জেলায় যমুনা-সমর্থিত কমিউনিটি ক্লিনিক পুনর্বাসন বিষয়ক একটি মিশ্র-পদ্ধতির বাস্তবায়ন গবেষণা।

অংশগ্রহণকারী আইডি: _____

পদবি:

- ☐ কমিউনিটি হেলথ কেয়ার প্রোভাইডার (CHCP)
- ☐ হেলথ অ্যাসিস্ট্যান্ট (HA)
- ☐ ফ্যামিলি ওয়েলফেয়ার অ্যাসিস্ট্যান্ট (FWA)

কমিউনিটি ক্লিনিকের নাম: _____

সাক্ষাৎকারের স্থান:

- ☐ কমিউনিটি ক্লিনিক
- ☐ অন্যান্য: _____

সাক্ষাৎকারের তারিখ: ____ / ____ / ____

দিন মাস বছর

শুরুর সময়: _____

শেষের সময়: _____

মোট সময়কাল (মিনিটে): _____

সাক্ষাৎকারগ্রহণকারীর নাম: _____

নোট গ্রহণকারীর নাম: _____

সাক্ষাৎকারের ভাষা:

- ☐ বাংলা ☐ ইংরেজি ☐ মিশ্র (বাংলা ও ইংরেজি)

অডিও রেকর্ডিং:

- ☐ হ্যাঁ ☐ না

বিভাগ খ: পটভূমি সংক্রান্ত তথ্য

প্রশ্ন: এই কমিউনিটি ক্লিনিকে আপনার বর্তমান ভূমিকা এবং দায়িত্বগুলো সম্পর্কে বিস্তারিত বলবেন কি?

প্রশ্ন: আপনি কতদিন ধরে এই ক্লিনিকে কাজ করছেন?

প্রশ্ন: পুনর্বাসন বা সংস্কারের আগে এই ক্লিনিকটি কীভাবে পরিচালিত হতো এবং তখন এর অবস্থা কেমন ছিল?

অনুসন্ধানী প্রশ্ন (Probes):

- অবকাঠামোগত চ্যালেঞ্জ: আগের ভবনে বিশেষ কী কী সমস্যা ছিল? (যেমন: ভাঙা ছাদ, জায়গার অভাব বা জরাজীর্ণ অবস্থা)।
- কার্যক্রম বাস্তবায়নজনিত চ্যালেঞ্জসমূহ
- বন্যা বা চরম আবহাওয়ার প্রভাব: প্রাকৃতিক দুর্যোগ বা বন্যার সময় রোগীদের ক্লিনিকে আসতে বা সেবা নিতে কী ধরনের বাধার সম্মুখীন হতে হতো?
- স্বাস্থ্যসেবা প্রদান: সেই সময়ে স্বাস্থ্যসেবা দেওয়ার প্রক্রিয়াটি কেমন ছিল?

প্রশ্ন: যমুনা (JAMUNA) প্রকল্পের আওতায় এই ক্লিনিকে কী কী পরিবর্তন করা হয়েছে সে সম্পর্কে সংক্ষেপে কিছু বলবেন কি?

অনুসন্ধানী প্রশ্ন (Probes):

- নির্মাণশৈলী: এই ক্লিনিকটি কি সম্পূর্ণ নতুনভাবে নির্মাণ (Newly constructed) করা হয়েছে নাকি বিদ্যমান কাঠামোটিকেই সংস্কার বা আধুনিকায়ন (Upgraded) করা হয়েছে?
- এটি কবে শুরু হয়েছিল?
- নির্মাণ/পুনর্বাসন সম্পন্ন করতে কত সময় লেগেছিল?
- এই উদ্যোগটি কে গ্রহণ করেছিলেন?
- পুনর্বাসন/পুনর্নির্মাণ প্রক্রিয়ায় আর কারা সম্পৃক্ত ছিলেন?
- আগে যা ছিল না, এমন কী কী পরিবর্তন আনা হয়েছে?
- নির্মাণ/পুনর্বাসনের প্রয়োজন কেন হয়েছিল? অনুগ্রহ করে বিস্তারিতভাবে আমাদের জানান কী ঘটেছিল।

- পুনর্বাসন চলাকালীন সময়ে কি আপনি কোনো সেবা (ক্লিনিক বা কমিউনিটি পর্যায়ে) প্রদান করতে পেরেছিলেন? কীভাবে?
- পুনর্নির্মাণ/পুনর্বাসন চলাকালীন সময়ে আপনি কী করছিলেন?

বিভাগ গ: গ্রহণযোগ্যতার ক্ষেত্রসমূহ

আবেগময় দৃষ্টিভঙ্গি বা মনোভাব	প্রশ্ন: যমুনা (JAMUNA) প্রকল্পের আওতায় এই কমিউনিটি ক্লিনিকের পুনর্বাসন বা সংস্কার কাজ সম্পর্কে আপনার ব্যক্তিগত অনুভূতি কী? অনুসন্ধানী প্রশ্ন (Probes): • পছন্দের দিক: এই আধুনিকায়ন করা বা উন্নত ক্লিনিকে আপনার সবচেয়ে ভালো লাগে কোন বিষয়টি? • অসন্তোষের দিক: এমন কিছু কি আছে যা আপনার পছন্দ হয়নি বা যে বিষয়ে আপনি অসন্তুষ্ট? প্রশ্ন: পুনর্বাসন কাজ শেষ হওয়ার পর থেকে এ পর্যন্ত সময়ের সাথে সাথে আপনার এই অনুভূতি বা ধারণায় কি কোনো পরিবর্তন এসেছে? (অর্থাৎ শুরুতে যেমন মনে হয়েছিল, এখনো কি তেমনই মনে হয়, নাকি ধারণা বদলেছে?)
কাজের চাপ বা বোঝা	প্রশ্ন: এই পুনর্বাসন বা সংস্কার কাজের ফলে আপনার দৈনন্দিন কাজ কি আগের চেয়ে সহজ হয়েছে নাকি আরও কঠিন হয়েছে? অনুসন্ধানী প্রশ্ন (Probes): • অতিরিক্ত কাজের চাপ: ক্লিনিক পরিষ্কার-পরিচ্ছন্ন রাখা, রক্ষণাবেক্ষণ করা কিংবা রোগীদের সামলানোর ক্ষেত্রে আপনার ওপর কি বাড়তি কোনো কাজের চাপ (Additional workload) তৈরি হয়েছে? প্রশ্ন: দুর্যোগকালীন কাজের চাপ: বন্যা বা অতিবৃষ্টির সময় এই পুনর্বাসিত ক্লিনিকে কাজ করা কি আপনার কাজের বোঝা (Work burden) বাড়িয়ে দেয়? কীভাবে?

নৈতিকতা	প্রশ্ন: আপনার কি মনে হয় যে এই পুনর্বাসিত ক্লিনিকটি রোগীদের জন্য সম্মানজনক এবং ন্যায্যসঙ্গত (Equitable) স্বাস্থ্যসেবা নিশ্চিত করতে সহায়তা করে? অনুসন্ধানী প্রশ্ন (Probes): • অন্তর্ভুক্তি ও গোপনীয়তা: নারীদের জন্য পর্দার ব্যবস্থা বা গোপনীয়তা (Privacy), ব্রেস্টফিডিং কর্নার, প্রতিবন্ধীদের যাতায়াতের সুবিধা (Disability access) এবং নারী-পুরুষের জন্য আলাদা টয়লেটের ব্যবস্থা কি এখানে পর্যাপ্ত? • সাম্য: সমাজের সব স্তরের মানুষ কি এখানে সমানভাবে সেবা পাওয়ার সুযোগ পাচ্ছে? প্রশ্ন: এই ক্লিনিকের এমন কোনো দিক বা পরিবর্তন কি আছে যা আপনার পেশাগত দায়িত্ব (Professional responsibilities) পালনের সাথে সামঞ্জস্যপূর্ণ নয় বলে আপনি মনে করেন?
কার্যক্রমের সামঞ্জস্যতা	প্রশ্ন: আপনার ধারণা অনুযায়ী, এই ক্লিনিকটিতে পুনর্বাসন বা সংস্কারের এই পরিবর্তনগুলো কেন করা হয়েছে? অনুসন্ধানী প্রশ্ন (Probes): • জলবায়ু সহনশীলতা: ক্লিনিকটিকে দুর্যোগ-সহনশীল (Climate resilience) করার বিষয়টি কি আপনি বুঝতে পেরেছেন? • সেবার ধারাবাহিকতা: দুর্যোগের সময়ও যাতে সেবা চালু থাকে (Service continuity), সেই লক্ষ্যটি কি আপনার কাছে স্পষ্ট? • রোগীর নিরাপত্তা: রোগীদের নিরাপত্তার (Patient safety) ক্ষেত্রে এই পরিবর্তনগুলো কতটা জরুরি ছিল বলে আপনি মনে করেন? প্রশ্ন: এই ক্লিনিকের যে সব নতুন সুযোগ-সুবিধা এবং জায়গাগুলো (Facilities and spaces) তৈরি করা হয়েছে, সেগুলো কীভাবে ব্যবহার করতে হবে সে সম্পর্কে আপনার কি স্পষ্ট ধারণা আছে?

সুযোগ ব্যয় বা বিকল্প ত্যাগ	প্রশ্ন: এই পুনর্বাসন বা সংস্কার কাজের ফলে কি আপনার নিয়মিত স্বাস্থ্যসেবা বা সময়ের ওপর কোনো ধরনের প্রভাব পড়েছে? কীভাবে? অনুসন্ধানী প্রশ্ন (Probes): • নির্মাণকালীন বিঘ্ন: ক্লিনিকটি যখন সংস্কার করা হচ্ছিল, তখন কি স্বাভাবিক স্বাস্থ্যসেবা প্রদানে কোনো ধরনের বিঘ্ন (Disruption) ঘটেছিল? যদি ঘটে থাকে, তবে আপনারা সেটি কীভাবে সামলেছিলেন? • পরবর্তী সময়ের চাহিদা: পুনর্বাসন কাজ শেষ হওয়ার পর, নতুন কাঠামো বা সরঞ্জাম ব্যবস্থাপনার জন্য কি আপনাকে এখন অতিরিক্ত সময় ব্যয় করতে হচ্ছে?
উপলব্ধিগত কার্যকারিতা	প্রশ্ন: আপনার অভিজ্ঞতা অনুযায়ী, এই পুনর্বাসন বা সংস্কার কাজের ফলে এই ক্লিনিকের স্বাস্থ্যসেবা প্রদানের মান কি উন্নত হয়েছে? একটি উদাহরণ দিন। অনুসন্ধানী প্রশ্ন (Probes): • রোগীর উপস্থিতি ও সময়: রোগীদের আসার সংখ্যা (Attendance) কি বেড়েছে? রোগীদের অপেক্ষার সময় (Waiting time) কি আগের চেয়ে কমেছে? • পরিচ্ছন্নতা ও ধারাবাহিকতা: ক্লিনিকের স্বাস্থ্যবিধি বা পরিচ্ছন্নতা (Hygiene) এবং নিয়মিত সেবার ধারাবাহিকতা (Service continuity) কি আগের চেয়ে উন্নত হয়েছে? প্রশ্ন: আগের তুলনায়, বন্যা বা চরম প্রতিকূল আবহাওয়ার সময় এখন ক্লিনিকটি কীভাবে পরিচালিত হয়? (অর্থাৎ দুর্যোগের সময় সেবাদান কি এখন সহজতর হয়েছে?)
আত্ম-সক্ষমতা বা নিজস্ব দক্ষতা	প্রশ্ন: এই পুনর্বাসিত ক্লিনিকে নিয়মিত স্বাস্থ্যসেবা (Routine service delivery) দেওয়ার ক্ষেত্রে আপনি বর্তমানে নিজেকে কতটা আত্মবিশ্বাসী মনে করেন?

	প্রশ্ন: এখন বন্যা বা অতিবৃষ্টির মতো পরিস্থিতিতেও সেবা চালু রাখার ক্ষেত্রে আপনি নিজেকে কতটা আত্মবিশ্বাসী মনে করেন? অনুসন্ধানী প্রশ্ন (Probes): উন্নয়নের পথ: আপনার এই আত্মবিশ্বাস আরও বৃদ্ধি করার জন্য আর কী কী করা যেতে পারে বলে আপনি মনে করেন? (যেমন: আরও উন্নত প্রশিক্ষণ, পর্যাপ্ত জনবল বা বাড়তি সরঞ্জাম)।
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বিভাগ ঘ: সি এফ আই আর ক্ষেত্রসমূহ (CFIR DOMAINS)

উদ্ভাবন (Innovation)	প্রশ্ন: আপনার মতে, এই পুনর্বাসিত ক্লিনিকটি আগের অবকাঠামোর তুলনায় কি উন্নত? কীভাবে? অনুসন্ধানী প্রশ্ন (Probes): - তুলনামূলক সুবিধা (Relative advantage): আগের ক্লিনিক ভবনের তুলনায় এই নতুন সংস্করণে বিশেষ কী কী বাড়তি সুবিধা যোগ হয়েছে? - নকশার উপযোগিতা (Design suitability): এই এলাকার পরিবেশ ও প্রয়োজনের সাথে এই নতুন নকশাটি কতটা সামঞ্জস্যপূর্ণ বলে আপনি মনে করেন? - জটিলতা বনাম সহজতা (Complexity or simplicity): এই নতুন কাঠামো বা সুযোগ-সুবিধাগুলো ব্যবহার করা কি সহজ নাকি আগের চেয়ে বেশি জটিল মনে হয়? - এই পুনর্বাসিত অবকাঠামোটি কতটা দীর্ঘস্থায়ী (Durable) বা মজবুত হবে বলে আপনি মনে করেন?
বাহ্যিক প্রেক্ষাপট (Outer Setting)	প্রশ্ন: বর্তমান পরিস্থিতিতে স্থানীয় মানুষের চাহিদা এবং জলবায়ু ঝুঁকিগুলো ক্লিনিকে স্বাস্থ্যসেবা প্রদানের ক্ষেত্রে কীভাবে প্রভাব ফেলছে? অনুসন্ধানী প্রশ্ন (Probes):

	• দুর্যোগ ও যাতায়াত বাধা: বন্যা, নদী ভাঙন বা যাতায়াতের সমস্যাগুলো (Access barriers) সেবা প্রদানের ক্ষেত্রে কী ধরনের প্রতিবন্ধকতা তৈরি করেছে? • সামুদায়িক প্রত্যাশা: বর্তমান পরিস্থিতিতে স্থানীয় জনগণের স্বাস্থ্যসেবা সংক্রান্ত প্রত্যাশাগুলো (Community expectations) ঠিক কেমন? • পুনর্বাসনের পর এই ক্লিনিকের প্রতি স্থানীয় মানুষের আস্থা (Trust) বা প্রত্যাশা কি আগের চেয়ে কোনোভাবে পরিবর্তিত হয়েছে?
অভ্যন্তরীণ প্রেক্ষাপট (Inner Setting)	প্রশ্ন: পুনর্বাসিত ক্লিনিকটির কার্যক্রম পরিচালনার ক্ষেত্রে ক্লিনিক ব্যবস্থাপনা বা উর্ধ্বতন কর্তৃপক্ষের তদারকি ও সহায়তা কতটা সন্তোষজনক? অনুসন্ধানী প্রশ্ন (Probes): • নেতৃত্বের সমর্থন (Leadership support): উর্ধ্বতন কর্তৃপক্ষের পক্ষ থেকে আপনারা কি প্রয়োজনীয় দিকনির্দেশনা এবং সমর্থন পাচ্ছেন? • যোগাযোগ ব্যবস্থা: যমুনা (JAMUNA) প্রকল্প এবং সরকারি স্বাস্থ্য কর্তৃপক্ষের মধ্যে বর্তমান যোগাযোগ ব্যবস্থা কেমন? • সম্পদের প্রাপ্যতা: ক্লিনিকটি সঠিকভাবে চালানোর জন্য প্রয়োজনীয় সরঞ্জাম বা অর্থের যোগান কি ঠিকঠাক আছে? • পুনর্বাসনের আগের তুলনায় বর্তমানে তদারকি (Supervision) বা নিয়মিত পর্যবেক্ষণের (Monitoring) ক্ষেত্রে আপনি কী ধরনের পার্থক্য লক্ষ্য করছেন?
ব্যক্তিগত বৈশিষ্ট্য (Individual Characteristics)	প্রশ্ন: জরুরি অবস্থার সময় (যেমন: বন্যা বা ঘূর্ণিঝড়) এই পুনর্বাসিত ক্লিনিকটি ব্যবহার করে সেবা দেওয়ার ক্ষেত্রে আপনি নিজেকে কতটা আত্মবিশ্বাসী মনে করেন?

	অনুসন্ধানী প্রশ্ন (Probes): • দক্ষতা ও জ্ঞান: আপনার কি মনে হয় দুর্যোগের সময় এই নতুন অবকাঠামো এবং সরঞ্জামগুলো ব্যবহার করার জন্য প্রয়োজনীয় কারিগরি জ্ঞান আপনার আছে? • অনুপ্রেরণা ও মালিকানাধীন: এই ক্লিনিকটি রক্ষণাবেক্ষণ বা ব্যবহারের ক্ষেত্রে আপনার আত্মবিশ্বাস কি পুনর্বাসনের পর থেকে সময়ের সাথে আরও বৃদ্ধি পেয়েছে? • প্রশিক্ষণ: এই নতুন সুযোগ-সুবিধাগুলো ব্যবহারের ওপর আপনি কি কোনো বিশেষ প্রশিক্ষণ (Training) পেয়েছেন?
বাস্তবায়ন প্রক্রিয়া (Implementation Process)	প্রশ্ন: পুনর্বাসন কার্যক্রম চলাকালীন যোগাযোগ (Communication) এবং সমন্বয় (Coordination) প্রক্রিয়াগুলো কীভাবে পরিচালিত হয়েছিল? অনুসন্ধানী প্রশ্ন (Probes): • মতামত প্রদানের সুযোগ: কাজের মান বা পদ্ধতি নিয়ে মতামত বা ফিডব্যাক (Feedback) দেওয়ার মতো পর্যাপ্ত সুযোগ কি আপনাদের ছিল? • তদারকি ও ফলো-আপ: কার্যক্রমের অগ্রগতি নিয়মিত পর্যবেক্ষণ (Monitoring) এবং পরবর্তীতে সেগুলোর ফলো-আপ কীভাবে করা হতো? • উন্নয়নের জায়গা: আপনার মতে, যোগাযোগ বা সমন্বয়ের ক্ষেত্রে আর কোন কোন বিষয় আরও উন্নত করা যেত (What could have been improved)?

বিভাগ গ: জলবায়ু ও দুর্যোগ প্রেক্ষাপট

প্রশ্ন: এই কমিউনিটি ক্লিনিক এলাকায় সাধারণত কী ধরনের জলবায়ু-সম্পর্কিত প্রাকৃতিক দুর্যোগ বা ঝুঁকি (Climate-related hazards) দেখা যায়? (যেমন: বন্যা, নদী ভাঙন, অতিবৃষ্টি বা জলাবদ্ধতা)

প্রশ্ন: এই ধরনের জলবায়ুগত দুর্যোগগুলো এই ক্লিনিকে স্বাস্থ্যসেবা প্রদানের ক্ষেত্রে কত ঘনঘন বা কীভাবে প্রভাব ফেলে?

অনুসন্ধানী প্রশ্ন (Probes):

- সময়কাল: এই ধরনের দুর্যোগ সাধারণত বছরের কোন সময়ে ঘটে?
- প্রভাব: সেই সময়ে ক্লিনিকের অবকাঠামো এবং স্বাস্থ্যসেবা প্রদানের ক্ষেত্রে ঠিক কী ধরনের সমস্যা হয়েছিল?

প্রশ্ন: এই ক্লিনিকে প্রভাব ফেলেছে এমন সাম্প্রতিক কোনো বড় প্রাকৃতিক দুর্যোগের কথা কি আপনার মনে আছে?

প্রশ্ন: সেই অভিজ্ঞতার ওপর ভিত্তি করে আপনি কি মনে করেন যে যমুনা (JAMUNA) প্রকল্পের এই পুনর্বাসন কাজগুলো ক্লিনিকটিকে দুর্যোগ মোকাবিলায় আগের চেয়ে বেশি সক্ষম করে তুলেছে?

অনুসন্ধানী প্রশ্ন (Probes):

- যাতায়াত ও প্রবেশাধিকার: দুর্যোগের সময় বা ঠিক পরে ক্লিনিকে রোগীদের যাতায়াত কি সহজ হয়েছে?
- পূর্বের সাথে তুলনা: পুনর্বাসনের আগের অবস্থার তুলনায় এখন দুর্যোগের সময় সেবার মানে কী ধরনের পার্থক্য লক্ষ্য করছেন?

প্রশ্ন: জলবায়ু-সম্পর্কিত এমন কোনো চ্যালেঞ্জ বা সমস্যা কি এখনও রয়ে গেছে যা এই পুনর্বাসন কার্যক্রমের মাধ্যমে পুরোপুরি সমাধান করা সম্ভব হয়নি?

বিভাগ চ: সমাপনী

প্রশ্ন: আপনার মতে, এই পুনর্বাসন কার্যক্রমের কোন দিকটি সবচেয়ে ভালো কাজ করেছে বা সবচেয়ে সফল হয়েছে? (What do you think worked best in this rehabilitation?)

প্রশ্ন: এই পুরো প্রক্রিয়ায় প্রধান চ্যালেঞ্জ বা সীমাবদ্ধতাগুলো (Main challenges or limitations) কী ছিল?

প্রশ্ন: ভবিষ্যতে কমিউনিটি ক্লিনিক পুনর্বাসনের ক্ষেত্রে আপনি কী কী সুপারিশ বা পরামর্শ (Recommendations) দেবেন?

প্রশ্ন: এই পুনর্বাসিত ক্লিনিকগুলোকে স্বাস্থ্যসেবা প্রদানকারীদের কাছে আরও বেশি গ্রহণযোগ্য (Acceptable) করে তোলার জন্য আপনি কী কী পরিবর্তনের পরামর্শ দেবেন?

প্রশ্ন: এছাড়া কি আর কোনো বিষয় আছে যা আপনি আমাদের সাথে শেয়ার করতে চান বা যোগ করতে চান? (*Is there anything else you would like to add?*)

A 4 KII guidelines: service providers (English)

Key Informant Interview (KII) Guideline

Respondent: Service Provider

Section A: INTERVIEW IDENTIFICATION INFORMATION

- **Study Title:**

Enhancing Climate-Resilient Primary Health Care: A Mixed-Method Implementation Research on JAMUNA-Supported Community Clinic Rehabilitation in Bogura and Sirajganj Districts, Bangladesh

- **Participant ID:** _____

- **Designation:**

☐ Community Health Care Provider (CHCP)

☐ Health Assistant (HA)/

☐ Family Welfare Assistant (FWA)

- **Community Clinic Name:** _____

- **Interview Location:**

☐ Community Clinic

☐ Other: _____

- **Type of rehabilitation:**

☐ Complete rehabilitation (newly constructed clinic)

☐ Partial rehabilitation (upgraded existing clinic)

- **Date of Interview:** ____ / ____ / ____

Day Month Year

- **Start Time:** _____

- **End Time:** _____
- **Total Duration (minutes):** _____
- **Name of Interviewer:** _____
- **Name of Note taker:** _____
- **Audio Recording:**
☐ Yes ☐ No

Section B: BACKGROUND INFORMATION

- **Can you please tell me about your current role and responsibilities at this community clinic?**
- **How long have you been working at this clinic?**
- **Can you describe how the clinic functioned before rehabilitation?**

Probes:

- Infrastructure challenges
- Operational challenges
- Impact of floods or extreme weather in patient access
- Service delivery
- **Can you briefly describe the changes made to this clinic under the JAMUNA project?**

Probes:

- Was this a newly constructed clinic or an upgraded one?
- When was this initiated?
- How long did it take to construct/rehabilitate?
- Who took the initiative?
- Who else was involved in rehabilitation/reconstruction process?
- Which changes have been made that were not present earlier?
- Why was there a need to construct/rehabilitate? Please tell us what happened in detail.
- Were you able to provide any services during rehabilitation? (clinic, community) How?
- What were you doing when the reconstruction/rehabilitation took place?

Section C: ACCEPTABILITY DOMAINS

Affective Attitude	How do you feel about the JAMUNA-supported rehabilitation of this community clinic? <i>Probes:</i> • What do you like most about the upgraded clinic? • Is there anything you dislike or unhappy about? Has your feeling changed over time since the rehabilitation was completed?
Burden	Has the rehabilitation made your daily work easier or more difficult? <i>Probes:</i> • Any additional workload related to cleaning, maintenance, or managing patients? During floods or heavy rainfall, does the rehabilitated clinic increase your work burden? How?
Ethicality	Do you believe that this rehabilitated clinic helps ensure respectful and equitable healthcare for patients? <i>Probes:</i> Inclusion and Privacy: Are the provisions for privacy (such as curtains for women), dedicated breastfeeding corners, disability access (ramps/facilities), and separate toilets for men and women adequate here? Equity: Do people from all levels of society have equal access to services at this facility? Are there any aspects or changes in this clinic that you feel are inconsistent with your professional responsibilities?
Intervention Coherence	What is your understanding of why these rehabilitation changes were made? <i>Probes:</i> • Climate resilience, service continuity, patient safety Do you feel clear about how to use all the new facilities and spaces?

Opportunity Costs	Did the rehabilitation affect your routine services or time in any way? How? <i>Probes:</i> • Service disruption during construction • Extra time required after rehabilitation
Perceived Effectiveness	In your experience, has the rehabilitation improved service delivery at this clinic? Give an example. <i>Probes:</i> • Patient attendance, waiting time, hygiene, service continuity Compared to before, how does the clinic function during floods or extreme weather?
Self-Efficacy	How confident do you feel using the rehabilitated clinic for routine service delivery? How confident do you feel continuing services during floods or heavy rainfall now? <i>Probes:</i> • What would increase your confidence further?

Section D: CFIR DOMAINS

Innovation	Is the rehabilitated clinic better than the previous structure? How? <i>Probes:</i> • Relative advantage • Design suitability • Complexity or simplicity • How durable or long-lasting do you think the rehabilitated structure is?
Outer setting	How do community needs and climate risks influence service delivery now? <i>Probes:</i> • Floods, erosion, access barriers • Community expectations

	• Has community trust or expectations toward this clinic changed after rehabilitation?
Inner setting	How supportive is clinic management or supervision regarding the rehabilitated clinic? <i>Probes:</i> • Leadership support • Communication with JAMUNA and health authorities • Availability of resources • How does supervision or monitoring differ now compared to before rehabilitation?
Individual characteristics	How confident do you feel using the rehabilitated clinic during emergencies? <i>Probes:</i> • Skills and knowledge • Motivation and ownership (Has your confidence changed over time since the rehabilitation?) • Training received
Implementation Process	How were communication and coordination handled during rehabilitation? <i>Probes:</i> • Opportunities for feedback • Monitoring and follow-up • What could have been improved

Section E: CLIMATE AND DISASTER CONTEXT

- What types of climate-related hazards usually affect this community clinic area?
- How often do these climate events affect service delivery at this clinic?

Probe:

- o When did it occur?

- o What happened to the clinic and service delivery at that time?
- Can you recall the most recent significant climate event that affected this clinic?
- Based on that experience, do you think the JAMUNA-supported rehabilitation helped the clinic cope better with climate hazards?

Probe:

- o Access during hazards
- o Difference compared to pre-rehabilitation
- Are there any climate-related challenges that the rehabilitation did not fully address?

Section F: CLOSING

- What do you think worked best in this rehabilitation?
- What were the main challenges or limitations?
- What recommendations would you give for future community clinic rehabilitation?
- What changes would you suggest to make the rehabilitated clinic more acceptable for service providers?
- Is there anything else you would like to add?
- Thank you for participating.

A 5 KII guidelines: Implementers (Bangla)

মূল তথ্যদাতা সাক্ষাৎকার (KII) নির্দেশিকা

উত্তরদাতা: যমুনা প্রকল্প বাস্তবায়নকারী কর্মী

অধ্যায় ক: সাক্ষাৎকার সনাক্তকরণ তথ্য

গবেষণার শিরোনাম:

জলবায়ু সহনশীল প্রাথমিক স্বাস্থ্যসেবা জোরদারকরণ: বাংলাদেশে বগুড়া এবং সিরাজগঞ্জ জেলায় যমুনা-সমর্থিত কমিউনিটি ক্লিনিক পুনর্বাসন বিষয়ক একটি মিশ্র-পদ্ধতির বাস্তবায়ন গবেষণা।

অংশগ্রহণকারী আইডি: _____

পদবি: প্রজেক্ট ম্যানেজার / প্রকৌশলী / সুপারভাইজার / ফিল্ড অফিসার / অন্যান্য: _____

প্রতিষ্ঠান:

- ☐ সুইস রেড ক্রস
- ☐ বাংলাদেশ রেড ক্রিসেন্ট সোসাইটি
- ☐ অন্যান্য: _____

প্রকল্প এলাকা / উপজেলা: _____

সাক্ষাৎকারের স্থান:

☐ যমুনা ফিল্ড অফিস

☐ অন্যান্য: _____

সাক্ষাৎকারের তারিখ: ____ / ____ / ____

দিন মাস বছর

শুরুর সময়: _____

শেষের সময়: _____

মোট সময়কাল (মিনিটে): _____

সাক্ষাৎকারগ্রহণকারীর নাম: _____

নোট গ্রহণকারীর নাম: _____

সাক্ষাৎকারের ভাষা:

☐ বাংলা ☐ ইংরেজি ☐ মিশ্র (বাংলা ও ইংরেজি)

অডিও রেকর্ডিং:

☐ হ্যাঁ ☐ না

বিভাগ খ: পটভূমি সংক্রান্ত তথ্য

প্রশ্ন: যমুনা (JAMUNA) প্রকল্পে আপনার ভূমিকা বা দায়িত্ব সম্পর্কে বিস্তারিত বলবেন কি?

অনুসন্ধানী প্রশ্ন (Probes):

- মূল দায়িত্ব: কমিউনিটি ক্লিনিক পুনর্বাসনের ক্ষেত্রে আপনার প্রধান দায়িত্বগুলো কী কী ছিল?
- সম্পৃক্ততার পর্যায়: আপনি কোন কোন পর্যায়ে যুক্ত ছিলেন? (পরিকল্পনা, বাস্তবায়ন নাকি তদারকি?)
- সময়কাল: যমুনা প্রকল্পের সাথে আপনি কতদিন ধরে যুক্ত আছেন?

প্রশ্ন: যমুনা প্রকল্পের আওতায় আপনি মোট কতটি কমিউনিটি ক্লিনিক পুনর্বাসনের কাজের সাথে জড়িত ছিলেন?

অনুসন্ধানী প্রশ্ন (Probes):

- সাইট বা স্থানভেদে পার্থক্য: বিভিন্ন এলাকার ক্লিনিকগুলোর কাজের মধ্যে কি কোনো উল্লেখযোগ্য পার্থক্য ছিল?
- পূর্ণাঙ্গ বনাম আংশিক: আপনি কি পূর্ণাঙ্গ (Complete) এবং আংশিক (Partial) উভয় ধরনের পুনর্বাসন কাজের সাথেই যুক্ত ছিলেন?

বিভাগ গ: গ্রহণযোগ্যতার ক্ষেত্রসমূহ

আবেগময় দৃষ্টিভঙ্গি বা মনোভাব	প্রশ্ন: যমুনা (JAMUNA) প্রকল্পের আওতায় কমিউনিটি ক্লিনিকের এই পুনর্বাসন কার্যক্রম সম্পর্কে আপনার ব্যক্তিগত অনুভূতি বা মতামত কী? অনুসন্ধানী প্রশ্ন (Probes): • সন্তুষ্টির মাত্রা: ক্লিনিকের নতুন নকশা (Design), কাজের মান (Quality) এবং এর ফলাফল নিয়ে আপনি কতটুকু সন্তুষ্ট? প্রশ্ন: গ্রহণযোগ্যতার পার্থক্য: পূর্ণাঙ্গ (Complete) এবং আংশিক (Partial) পুনর্বাসন হওয়া ক্লিনিকগুলোর মধ্যে আপনার কি কোনো ভিন্ন ধারণা তৈরি হয়েছে? কেন এমন মনে হয়? সেবা প্রদানকারীদের মতামত: আপনার মতে, যারা সরাসরি স্বাস্থ্যসেবা দিচ্ছেন (Service providers), তারা এই পরিবর্তনের ব্যাপারে কেমন বোধ করছেন?
কাজের চাপ বা বোঝা	প্রশ্ন: আপনার দৃষ্টিকোণ থেকে, এই পুনর্বাসন কার্যক্রমটি পরিচালনা বা সমন্বয়ের ক্ষেত্রে কোনো ধরনের চ্যালেঞ্জ বা সমস্যার সৃষ্টি করেছিল কি? অনুসন্ধানী প্রশ্ন (Probes): • কাজের চাপ ও সময়: সময়ের স্বল্পতা (Time pressure), তদারকির বাড়তি দায়িত্ব (Supervision workload) অথবা লজিস্টিকস বা মালামাল আনা-নেওয়ার ক্ষেত্রে কি কোনো সমস্যা হয়েছিল? প্রশ্ন: বাস্তবায়নের জটিলতা: কার্যক্রমটির এমন কোনো বিশেষ দিক ছিল কি যা বাস্তবায়ন করা আপনার জন্য বিশেষভাবে কঠিন বা শ্রমসাধ্য (Particularly demanding) ছিল?

নৈতিকতা	প্রশ্ন: আপনার কি মনে হয় যে এই পুনর্বাসন কার্যক্রমটি একটি ন্যায্যসঙ্গত (Equitable) এবং মর্যাদাপূর্ণ (Dignified) প্রাথমিক স্বাস্থ্যসেবা নিশ্চিত করার মূলনীতির সাথে সামঞ্জস্যপূর্ণ? অনুসন্ধানী প্রশ্ন (Probes): • লিঙ্গ সংবেদনশীলতা ও বিশেষ চাহিদা: নকশাটি কি নারী-বান্ধব (Gender sensitive) এবং প্রতিবন্ধীদের প্রবেশাধিকার (Disability access) নিশ্চিত করার মতো করে তৈরি করা হয়েছে? • সামুদায়িক চাহিদা: এটি কি স্থানীয় সাধারণ মানুষের প্রকৃত চাহিদার প্রতিফলন ঘটিয়েছে? প্রশ্ন: কার্যক্রমটি বাস্তবায়নের সময় নৈতিক কোনো প্রশ্ন বা স্থানীয় জনগণের পক্ষ থেকে কোনো উদ্বেগের (Concerns) সৃষ্টি হয়েছিল কি?
কার্যক্রমের সামঞ্জস্যতা	প্রশ্ন: এই পুনর্বাসন কার্যক্রমের উদ্দেশ্যগুলো (যেমন: জলবায়ু সহনশীলতা এবং নিরবচ্ছিন্ন সেবা নিশ্চিত করা) সেবা প্রদানকারী এবং স্থানীয় জনগণের কাছে কতটা পরিষ্কারভাবে জানানো হয়েছিল? অনুসন্ধানী প্রশ্ন (Probes): • জলবায়ু সহনশীলতা: ক্লিনিকটিকে কেন দুর্যোগ-সহনশীল করা হচ্ছে, সেই বিষয়ে কি তাদের স্পষ্ট ধারণা দেওয়া হয়েছিল? • সেবার ধারাবাহিকতা (Continuity of care): দুর্যোগের সময়ও যাতে সেবা বন্ধ না হয়, এই লক্ষ্যটি কি সবাই বুঝতে পেরেছিল? প্রশ্ন: পুনর্বাসন কার্যক্রমের বিভিন্ন অংশ বা বিষয় নিয়ে সেবা প্রদানকারী বা জনগণের মধ্যে কোনো ধরনের ভুল বোঝাবুঝি (Misunderstandings) তৈরি হয়েছিল কি?
সুযোগ ব্যয় বা বিকল্প ত্যাগ	প্রশ্ন: এই পুনর্বাসন কার্যক্রমটি বাস্তবায়ন করতে গিয়ে কি সময়, বাজেট বা প্রকল্পের অন্য কোনো কাজের ক্ষেত্রে কোনো ধরনের 'ট্রেড-অফ' বা সমন্বয় (যেমন: একটি করতে গিয়ে অন্যটি বাদ দেওয়া) করতে হয়েছিল? অনুসন্ধানী প্রশ্ন (Probes):

	• বিলম্ব ও সম্পদ পুনঃবণ্টন: কার্যক্রম চলাকালীন কি কোনো অনাকাঙ্ক্ষিত বিলম্ব (Delays) হয়েছিল? অথবা এক কাজের বাজেট বা জনবল কি অন্য কাজে সরিয়ে নিতে (Reallocation of resources) হয়েছিল? প্রশ্ন: আপস বা সমঝোতা: বাস্তবায়ন প্রক্রিয়ায় গুণগত মান বা পরিধির ক্ষেত্রে কি কোনো ধরনের আপস (Compromises) করতে হয়েছিল?
উপলব্ধিগত কার্যকারিতা	প্রশ্ন: আপনার পর্যবেক্ষণ অনুযায়ী, এই পুনর্বাসন কার্যক্রমটি কমিউনিটি ক্লিনিকের কার্যকারিতা (Functionality) শক্তিশালী করার ক্ষেত্রে কতটা সফল হয়েছে? অনুসন্ধানী প্রশ্ন (Probes): • সেবার ধারাবাহিকতা: বন্যার মতো দুর্যোগের সময়ও কি ক্লিনিকে সেবাদান অব্যাহত রাখা সম্ভব হয়েছে? • ক্ষয়ক্ষতি ও যাতায়াত: অবকাঠামোগত ক্ষয়ক্ষতি কি আগের চেয়ে কমেছে? রোগীদের জন্য ক্লিনিকে যাতায়াত বা প্রবেশাধিকার (Access) কি সহজতর হয়েছে? প্রশ্ন: আপনার কি মনে হয় যে ক্লিনিকগুলো সম্পূর্ণ নতুনভাবে নির্মাণ (Fully reconstructed) করা হয়েছে এবং যেগুলোকে শুধু সংস্কার বা আধুনিকায়ন (Upgraded) করা হয়েছে, তাদের কার্যকারিতার মধ্যে কোনো পার্থক্য আছে?
আত্ম-সক্ষমতা বা নিজস্ব দক্ষতা	প্রশ্ন: সেবা প্রদানকারীরা এই পুনর্বাসিত ক্লিনিকগুলো স্বাধীনভাবে পরিচালনা ও ব্যবহার করতে পারবে—এই বিষয়ে আপনি কতটুকু আত্মবিশ্বাসী? অনুসন্ধানী প্রশ্ন (Probes): • রক্ষণাবেক্ষণ: ক্লিনিকের এই নতুন কাঠামো ও সরঞ্জামগুলো নিয়মিত রক্ষণাবেক্ষণ (Maintenance) করার মতো দক্ষতা কি তাদের আছে? • চরম আবহাওয়া: অতিবৃষ্টি বা বন্যার মতো প্রতিকূল আবহাওয়ার (Extreme weather) সময় ক্লিনিকটি সঠিকভাবে ব্যবহার করার বিষয়ে তারা কতটুকু সক্ষম?

	প্রশ্ন: এই ক্লিনিকগুলোর দীর্ঘমেয়াদী ব্যবহার নিশ্চিত করতে এবং সেবা প্রদানকারীদের সক্ষমতা বাড়াতে ভবিষ্যতে কী ধরনের সহায়তা বা উদ্যোগ (Support mechanisms) প্রয়োজন বলে আপনি মনে করেন?
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বিভাগ ঘ: সি এফ আই আর ক্ষেত্রসমূহ (CFIR DOMAINS)

উদ্ভাবন (Innovation)	প্রশ্ন: বন্যাপ্রবণ এবং জলবায়ুগতভাবে ঝুঁকিপূর্ণ অঞ্চলের জন্য এই পুনর্বাসন নকশাটি (Design) আপনার কাছে কতটা উপযুক্ত বা যথাযথ মনে হয়েছে? অনুসন্ধানী প্রশ্ন (Probes): • তুলনামূলক সুবিধা: সাধারণ বা প্রচলিত কমিউনিটি ক্লিনিকের অবকাঠামোর চেয়ে এই নকশাটির বাড়তি সুবিধাগুলো কী কী? • নকশার জটিলতা বা সহজতা: এই নকশাটি কি খুব বেশি জটিল নাকি এটি বাস্তবায়ন ও ব্যবহার করা সহজসাধ্য? • অভিযোজন সক্ষমতা (Adaptability): পরিবর্তিত বা চরম আবহাওয়ার সাথে খাপ খাইয়ে নেওয়ার ক্ষেত্রে এই উদ্যোগটি কতটা নমনীয়? • স্থায়িত্ব: আপনার কী মনে হয়—সময়ের সাথে সাথে এই বিশেষ নকশাগুলো (Design features) কতটা কার্যকরভাবে টিকে থাকবে বা কাজ করবে?
বাহ্যিক প্রেক্ষাপট (Outer Setting)	প্রশ্ন: আপনার মতে, কোন কোন বাহ্যিক বিষয়গুলো (External factors) এই পুনর্বাসন কার্যক্রম বাস্তবায়নে প্রভাব ফেলেছে? অনুসন্ধানী প্রশ্ন (Probes): • জলবায়ু ঝুঁকি: বন্যা, নদী ভাঙন বা জলাবদ্ধতার মতো বিষয়গুলো কি কাজে কোনো প্রভাব ফেলেছিল?

	• দাতা সংস্থার শর্তাবলী: দাতা সংস্থার (Donor) নির্দিষ্ট কোনো প্রয়োজনীয়তা বা সময়ের সীমাবদ্ধতা (Timelines) কি ছিল? • সরকারি নীতিমালা: সরকারি নীতি বা প্রশাসনিক অনুমোদনের ক্ষেত্রে কোনো চ্যালেঞ্জ বা সুবিধা ছিল কি? • সামাজিক প্রত্যাশা: স্থানীয় জনগণের প্রত্যাশা বা তাদের পক্ষ থেকে কোনো চাপ কি কার্যক্রমটিকে প্রভাবিত করেছে? • এমন কোনো বাহ্যিক বিষয় ছিল কি যা অপ্রত্যাশিতভাবে এই কার্যক্রম বাস্তবায়নে সাহায্য করেছে?
অভ্যন্তরীণ প্রেক্ষাপট (Inner Setting)	প্রশ্ন: প্রাতিষ্ঠানিক বা সাংগঠনিক বিষয়গুলো এই কার্যক্রম বাস্তবায়নে কী ধরনের প্রভাব ফেলেছে? অনুসন্ধানী প্রশ্ন (Probes): • সমন্বয়: সুইস রেড ক্রস (SRC), বাংলাদেশ রেড ক্রিসেন্ট সোসাইটি (BDRCS) এবং সরকারের মধ্যে সমন্বয় কেমন ছিল? • যোগাযোগ ব্যবস্থা: প্রাতিষ্ঠানিক যোগাযোগের মাধ্যম বা পদ্ধতিগুলো কতটা কার্যকর ছিল? • নেতৃত্বের অংশগ্রহণ: ঊর্ধ্বতন কর্তৃপক্ষের বা নেতৃত্বের স্বতঃস্ফূর্ত অংশগ্রহণ কতটুকু ছিল? • সম্পদের প্রাপ্যতা: প্রয়োজনীয় অর্থ, জনবল বা সরঞ্জাম কি সময়মতো পাওয়া গিয়েছিল? • কার্যক্রম বাস্তবায়নের সময় কোনো বিষয়ে দ্বিমত বা দ্বন্দ্ব তৈরি হলে তা কীভাবে সমাধান করা হয়েছিল?
ব্যক্তিগত বৈশিষ্ট্য (Individual Characteristics)	প্রশ্ন: কর্মীদের জ্ঞান, দক্ষতা এবং কাজের প্রতি অনুপ্রেরণা এই কার্যক্রম বাস্তবায়নে কেমন প্রভাব ফেলেছে? অনুসন্ধানী প্রশ্ন (Probes):

	- কারিগরি সক্ষমতা: মাঠ পর্যায়ের কর্মীদের কারিগরি বা টেকনিক্যাল দক্ষতা কেমন ছিল? - অভিজ্ঞতা: জলবায়ু-সহনশীল অবকাঠামো (Climate-resilient infrastructure) তৈরির ক্ষেত্রে তাদের পূর্ব অভিজ্ঞতা কি পর্যাপ্ত ছিল? - অনুপ্রেরণা ও মালিকানাধীনতা: কাজের প্রতি তাদের আগ্রহ বা অনুপ্রেরণা কেমন ছিল? (প্রকল্প চলাকালীন কি তাদের দক্ষতা বা আত্মবিশ্বাস আগের চেয়ে বৃদ্ধি পেয়েছে?)
বাস্তবায়ন প্রক্রিয়া (Implementation Process)	প্রশ্ন: এই প্রকল্পের পরিকল্পনা (Planning), বাস্তবায়ন (Execution) এবং তদারকি (Supervision) প্রক্রিয়াগুলো কীভাবে পরিচালিত হয়েছিল, তা কি বিস্তারিত বলবেন? অনুসন্ধানী প্রশ্ন (Probes): - অংশীজনের অংশগ্রহণ: প্রকল্পের শুরু থেকে স্থানীয় অংশীজনের (Stakeholders) সম্পৃক্ত করার কৌশলগুলো কী ছিল? - মনিটরিং ও সুপারভিশন: কাজের মান বজায় রাখার জন্য তদারকি বা পর্যবেক্ষণের পদ্ধতিগুলো কেমন ছিল? - ফিডব্যাক মেকানিজম: প্রকল্পের কোনো বিষয়ে মতামত বা অভিযোগ জানানোর কোনো ব্যবস্থা ছিল কি? - শিক্ষা ও প্রতিফলন: কাজ চলাকালীন কোনো সমস্যা থেকে শিক্ষা নিয়ে পরবর্তীতে কি কোনো পরিবর্তন আনা হয়েছিল? (Reflection and learning)

বিভাগ গ: জলবায়ু ও দুর্যোগ প্রেক্ষাপট

প্রশ্ন: যমুনা (JAMUNA) প্রকল্প সমর্থিত এই ক্লিনিকগুলো যেসব এলাকায় অবস্থিত, সেখানে মূলত কোন কোন প্রধান জলবায়ু ঝুঁকিগুলো (Climate hazards) দেখা যায়?

অনুসন্ধানী প্রশ্ন (Probes):

- এগুলোর মাত্রা ও পুনরাবৃত্তি (Frequency and severity) কেমন? অর্থাৎ এগুলো কত ঘনঘন ঘটে এবং কতটা ভয়াবহ হয়?

প্রশ্ন: আপনার অভিজ্ঞতা অনুযায়ী, এই জলবায়ু ঝুঁকিগুলো সাধারণত কমিউনিটি ক্লিনিকের কার্যকারিতার (Functionality) ওপর কীরূপ প্রভাব ফেলে?

প্রশ্ন: পুনর্বাসন চলাকালীন বা তার পরে ঘটে যাওয়া সাম্প্রতিক কোনো বড় দুর্ঘটনা বা জলবায়ু পরিবর্তনের প্রভাব সম্পর্কে বলবেন কি?

অনুসন্ধানী প্রশ্ন (Probes):

- পুনর্বাসিত বনাম অ-পুনর্বাসিত ক্লিনিক: সাধারণ ক্লিনিকের তুলনায় এই পুনর্বাসিত ক্লিনিকগুলোর ওপর দুর্ঘটনার প্রভাব কেমন ছিল? (কোনটি বেশি টিকে ছিল?)

প্রশ্ন: আপনার মতে, যমুনা প্রকল্পের এই পুনর্বাসন কাজগুলো দুর্ঘটনা মোকাবিলায় কতটা কার্যকর বা উপযোগী (Useful) ছিল?

অনুসন্ধানী প্রশ্ন (Probes):

- নকশার (Design) কোন বিশেষ দিকগুলো দুর্ঘটনার সময় ভালো কাজ করেছে?
- কোনো সীমাবদ্ধতা (Limitations) কি আপনার চোখে পড়েছে?

প্রশ্ন: ভবিষ্যতে এই ধরনের পুনর্বাসনের ক্ষেত্রে আর কী কী জলবায়ু-সহনশীল পদক্ষেপ (Climate-resilience measures) নেওয়া উচিত বলে আপনি মনে করেন?

বিভাগ চ: সমাপনী

প্রশ্ন: আপনার দৃষ্টিতে, এই পুনর্বাসন প্রক্রিয়ার সবচেয়ে সফল বা কার্যকর দিক কোনটি ছিল? (অর্থাৎ কোন বিষয়টি সবচেয়ে ভালো কাজ করেছে?)

প্রশ্ন: এই কার্যক্রমটি সফলভাবে বাস্তবায়নের ক্ষেত্রে সবচেয়ে বড় বাধা বা চ্যালেঞ্জগুলো (Barriers) কী ছিল?

প্রশ্ন: ভবিষ্যতে জলবায়ু-সহনশীল কমিউনিটি ক্লিনিক নির্মাণের ক্ষেত্রে এই অভিজ্ঞতা থেকে আমাদের কী কী শিক্ষা (Lessons) নেওয়া উচিত বলে আপনি মনে করেন?

সমাপনী: আপনার মূল্যবান সময় এবং এই সাক্ষাৎকারে অংশগ্রহণের জন্য আপনাকে অসংখ্য ধন্যবাদ।

A 6 KII guidelines: Implementers (English)

Key Informant Interview (KII) Guideline

Respondent: JAMUNA Implementation Staff

Section A: INTERVIEW IDENTIFICATION INFORMATION

- **Study Title:**

Enhancing Climate-Resilient Primary Health Care: A Mixed-Method Implementation Research on JAMUNA-Supported Community Clinic Rehabilitation in Bogura and Sirajganj Districts, Bangladesh

- **Participant ID:** _____

- **Designation:** Project Manager / Engineer / Supervisor / Field Officer/ Other: _____

- **Organization:**

☐ Swiss Red Cross

☐ Bangladesh Red Crescent Society

☐ Other: _____

- **Project Area / Upazila:** _____

- **Interview Location:**

☐ JAMUNA field office

☐ Other: _____

- **Type of rehabilitation:**

☐ Complete rehabilitation (newly constructed clinic)

☐ Partial rehabilitation (upgraded existing clinic)

- **Date of Interview:** ____ / ____ / ____

Day Month Year

- **Start Time:** _____

- **End Time:** _____

- **Total Duration (minutes):** _____

- **Name of Interviewer:** _____

- **Name of Note taker:** _____

- **Audio Recording:**
☐ Yes ☐ No

Section B: BACKGROUND INFORMATION

- **Please describe your role in the JAMUNA project.**

Probes:

- Main responsibilities related to CC rehabilitation
- Involvement stages (planning, implementation, supervision)
 - o Duration of involvement in the JAMUNA project

- **How many community clinics were you involved in rehabilitating under JAMUNA?**

Probes:

- Any differences across sites
- Complete vs partial rehabilitation

Section C: ACCEPTABILITY DOMAINS

Affective Attitude	How do you personally feel about the community clinic rehabilitation under JAMUNA? <i>Probes:</i> • Satisfaction with design, quality, outcomes Did your perception of acceptability differ between complete and partial rehabilitation sites? Why? How do you think service providers feel about the rehabilitation?
Burden	From your perspective, did the rehabilitation create any operational or coordination challenges? <i>Probes:</i> • Time pressure, supervision workload, logistics Were there any aspects that were particularly demanding to implement?

Ethicality	Do you think the rehabilitation aligns with principles of equitable and dignified primary health care? <i>Probes:</i> • Gender sensitivity, disability access, community needs Were there any ethical or community concerns raised during implementation?
Intervention Coherence	How clearly was the purpose of the rehabilitation communicated to service providers and communities? <i>Probes:</i> • Climate resilience, continuity of care Were there any misunderstandings about the rehabilitation components?
Opportunity Costs	Did implementing the rehabilitation require trade-offs in time, budget, or other project activities? <i>Probes:</i> • Delays, reallocation of resources Were there compromises made during implementation?
Perceived Effectiveness	Based on your observations, how effective has the rehabilitation been in strengthening clinic functionality? <i>Probes:</i> • Service continuity during floods, reduced damage, improved access Are there differences in effectiveness between fully reconstructed and upgraded clinics?
Self-Efficacy	How confident are you that service providers can independently manage and use the rehabilitated clinics? <i>Probes:</i> • Maintenance, use during extreme weather What support mechanisms are needed to strengthen long-term use?

Section D: CFIR DOMAINS

Innovation	How appropriate was the rehabilitation design for flood-prone and climate-vulnerable settings? <i>Probes:</i> • Relative advantage over standard CC infrastructure • Design complexity or simplicity • Adaptability of the intervention • How well do you think these design features will perform over time?
Outer setting	What external factors influenced implementation? <i>Probes:</i> Climate risks (flooding, erosion, waterlogging) Donor requirements or timelines Government policies or approvals Community expectations or pressure Any external factors that unexpectedly helped implementation?
Inner setting	How did organizational factors influence implementation? <i>Probes:</i> • Coordination between SRC, BDRCS, and government • Communication mechanisms • Leadership engagement • Resource availability • How were conflicts or disagreements handled during implementation?
Individual characteristics	How did staff knowledge, skills, and motivation affect implementation? <i>Probes:</i> • Technical capacity of field staff • Experience with climate-resilient infrastructure • Motivation and ownership (Did staff capacity or confidence change during the project?)

Implementation Process	Can you describe how planning, execution, and supervision were carried out? <i>Probes:</i> • Stakeholder engagement strategies • Monitoring and supervision practices • Feedback mechanisms • Reflection and learning during implementation
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Section E: CLIMATE AND DISASTER CONTEXT

- What major climate hazards affect the areas where JAMUNA-supported community clinics were rehabilitated?

Probe:

- Frequency and severity
- From your experience, how do these climate hazards typically affect community clinic functionality?
- Can you describe the most recent significant climate event during or after the rehabilitation period?

Probes:

- o Impact on rehabilitated vs non-rehabilitated clinics
- In your view, how useful has the JAMUNA-supported rehabilitation been in responding to these climate hazards?

Probes:

- Which design features worked well
- Any observed limitations
- Are there additional climate-resilience measures that you think should be considered for future rehabilitation?

Section F: CLOSING

- In your view, what worked best in the rehabilitation process?
- What were the most significant barriers to successful implementation?
- What lessons should inform future climate-resilient CC rehabilitation initiatives?
- Thank you for participating.

Appendix B: Informed Consent Form

B 1 Information Sheet (Bangla)

তথ্য পত্র

ভূমিকা: আসসালামু আলাইকুম/নমস্কার, আমার নাম তামান্না মুনমুন ইমা এবং আমি ব্র্যাক ইউনিভার্সিটির জেমস পি গ্রান্ট স্কুল অফ পাবলিক হেলথ থেকে এসেছি। আমরা সুইস রেড ক্রস এবং বাংলাদেশ রেড ক্রিসেন্ট সোসাইটির সহযোগিতায় ‘যমুনা’ (JAMUNA) প্রকল্পের সহায়তায় কমিউনিটি ক্লিনিক পুনর্বাসন কার্যক্রমের উপর একটি গবেষণা পরিচালনা করছি। এই গবেষণাটি ব্র্যাক জেমস পি গ্রান্ট স্কুল অব পাবলিক হেলথ, ব্র্যাক বিশ্ববিদ্যালয়ের এমপিএইচ প্রোগ্রামের অর্থায়নে পরিচালিত হচ্ছে।

ক্রমিক নং: [প্রটোকল নম্বর]

গবেষণার শিরোনাম: জলবায়ু সহনশীল প্রাথমিক স্বাস্থ্যসেবা জোরদারকরণ: বাংলাদেশে বগুড়া এবং সিরাজগঞ্জ জেলায় যমুনা-সমর্থিত কমিউনিটি ক্লিনিক পুনর্বাসন বিষয়ক একটি মিশ্র-পদ্ধতির বাস্তবায়ন গবেষণা।

গবেষণা দল: তামান্না মুনমুন ইমা (প্রধান গবেষক), ডা. হুমায়রা বিনতে আনোয়ার এবং ব্র্যাক জেমস পি গ্রান্ট স্কুল অব পাবলিক হেলথ, ব্র্যাক বিশ্ববিদ্যালয়ের সংশ্লিষ্ট গবেষকবৃন্দ।

গবেষণার উদ্দেশ্য: জলবায়ু ঝুঁকিপূর্ণ পরিস্থিতিতে ‘যমুনা’ প্রকল্পের আওতায় কমিউনিটি ক্লিনিক পুনর্বাসন কার্যক্রমের গ্রহণযোগ্যতা যাচাই করা এবং এই পুনর্বাসন প্রক্রিয়াকে প্রভাবিত করে এমন বাধা ও সহায়ক বিষয়গুলো সম্পর্কে জানা।

অংশগ্রহণের যৌক্তিকতা: আপনাকে এই গবেষণায় অংশগ্রহণের জন্য আমন্ত্রণ জানানো হয়েছে, কারণ আপনি ‘যমুনা’ প্রকল্পের পুনর্বাসন কার্যক্রমের আওতায় কমিউনিটি ক্লিনিকের সেবা প্রদান, বাস্তবায়ন অথবা তদারকির সাথে সরাসরি সম্পৃক্ত। জলবায়ু ঝুঁকিপূর্ণ বাস্তব পরিস্থিতিতে এই পুনর্বাসন কার্যক্রমগুলো কীভাবে বাস্তবায়িত ও পরিচালিত হচ্ছে, তা বোঝার জন্য আপনার অভিজ্ঞতা এবং মতামত আমাদের জন্য অত্যন্ত গুরুত্বপূর্ণ।

পদ্ধতি: আপনি যদি এই গবেষণায় অংশগ্রহণ করতে সম্মত হন, তবে আমরা আপনার সাথে ৩০ থেকে ৪৫ মিনিটের একটি সরাসরি এবং বিশদ সাক্ষাৎকার (In-depth interview) পরিচালনা করব। এই সাক্ষাৎকারে কমিউনিটি ক্লিনিক পুনর্বাসন, এর গ্রহণযোগ্যতা এবং বাস্তবায়নকে প্রভাবিত করে

এমন বিষয়গুলো সম্পর্কে আপনার অভিজ্ঞতা, দৃষ্টিভঙ্গি এবং মতামত জানতে চাওয়া হবে। তথ্য সঠিকভাবে লিপিবদ্ধ করার সুবিধার্থে আপনার অনুমতি সাপেক্ষে সাক্ষাৎকারটি অডিও রেকর্ড করা হবে। এছাড়া, অনুমতি নিয়ে ছবিও তোলা হতে পারে। কোনো অংশগ্রহণকারীর মুখমণ্ডলের ছবি তোলা হবে না। ছবি শুধুমাত্র অবকাঠামোগত বৈশিষ্ট্যসমূহের মধ্যে সীমাবদ্ধ থাকবে এবং এতে কোনো ব্যক্তিকে শনাক্ত করা যায় এমন তথ্য অন্তর্ভুক্ত থাকবে না। তোলা ছবিগুলো পাসওয়ার্ড-সুরক্ষিত ডিভাইসে সংরক্ষণ করা হবে, যেখানে কেবল গবেষণা দলের সদস্যদের প্রবেশাধিকার থাকবে। ছবির অনুমতি না দিলেও সাক্ষাৎকারে অংশগ্রহণের উপর কোনো প্রভাব পড়বে না।

অংশগ্রহণের সুফল: এই গবেষণায় অংশগ্রহণের ফলে আপনার সরাসরি কোনো ব্যক্তিগত লাভ বা সুবিধা নেই। তবে, আপনার অংশগ্রহণ এমন তথ্য-প্রমাণ তৈরি করতে সাহায্য করবে যা জলবায়ু-সহিষ্ণু কমিউনিটি ক্লিনিক পুনর্বাসনের উন্নতি, প্রাথমিক স্বাস্থ্যসেবা শক্তিশালীকরণ এবং ভবিষ্যতে কার্যক্রম পরিকল্পনা ও নীতিনির্ধারণে সহায়ক ভূমিকা পালন করতে পারে।

ক্ষতিপূরণ/সম্মানী: এই গবেষণায় আপনার অংশগ্রহণ সম্পূর্ণ স্বেচ্ছামূলক। এই গবেষণায় অংশগ্রহণের জন্য আপনাকে কোনো অর্থ প্রদান করতে হবে না। একইভাবে, সাক্ষাৎকারে অংশগ্রহণের বিনিময়ে আপনাকে কোনো আর্থিক ক্ষতিপূরণ বা সম্মানী প্রদান করা হবে না।

ঝুঁকি: এই গবেষণায় অংশগ্রহণ করলে আপনার শারীরিক কোনো ক্ষতির সম্ভাবনা নেই। তবে কিছু প্রশ্ন আপনার কাজের অভিজ্ঞতা এবং চ্যালেঞ্জ সম্পর্কিত হতে পারে, যা আপনার কাছে কিছুটা অস্বস্তিকর মনে হতে পারে। যে প্রশ্নগুলো আপনার কাছে অস্বস্তিকর মনে হবে, আপনি চাইলে সেগুলোর উত্তর নাও দিতে পারেন এবং যেকোনো সময় সাক্ষাৎকারটি থামিয়ে দিতে পারেন।

গোপনীয়তা ও নাম প্রকাশ না করা : এই গবেষণার চলাকালীন সংগৃহীত সমস্ত তথ্য কঠোরভাবে গোপন রাখা হবে। কোনো প্রতিবেদন বা প্রকাশনায় আপনার নাম বা পরিচয় প্রকাশ পায় এমন কোনো তথ্য অন্তর্ভুক্ত করা হবে না। সাক্ষাৎকারগুলো নির্দিষ্ট কোড বা অনন্য শনাক্তকরণ নম্বর ব্যবহার করে সংরক্ষণ করা হবে। অডিও রেকর্ড এবং প্রতিলিপিগুলো (transcripts) নিরাপদ স্থানে সংরক্ষণ করা হবে এবং শুধুমাত্র গবেষণা দলের সদস্যদেরই এই তথ্যে প্রবেশাধিকার থাকবে। গবেষণার ফলাফলগুলো ভাগ করে নেওয়া বা প্রকাশ করা হতে পারে, তবে কোনোভাবেই অংশগ্রহণকারীর পরিচয় শনাক্ত করা যাবে না। কোনো বিদেশি গবেষকের সঙ্গে শনাক্তযোগ্য বা কাঁচা (raw) তথ্য শেয়ার করা হবে না। যদি গবেষণার ফলাফল আন্তর্জাতিক পিয়ার-রিভিউড

জার্নালে প্রকাশিত হয়, তবে শুধুমাত্র সমষ্টিগত (aggregated) ও বেনামিকৃত (anonymized) ফলাফলই প্রচার করা হবে।

অংশগ্রহণের ধরণ : এই গবেষণায় আপনার অংশগ্রহণ সম্পূর্ণ স্বেচ্ছামূলক। আপনি এই গবেষণায় অংশ নেবেন কি না, সে বিষয়ে সিদ্ধান্ত নেওয়ার পূর্ণ স্বাধীনতা আপনার রয়েছে এবং আপনার সিদ্ধান্তের কারণে কোনো সমস্যা বা শাস্তির সম্মুখীন হতে হবে না। আপনি যেকোনো সময় কোনো কারণ দর্শানো ছাড়াই এই গবেষণা থেকে নিজেকে প্রত্যাহার করে নিতে পারেন, এমনকি সাক্ষাৎকার শুরু হওয়ার পরেও। সাক্ষাৎকার প্রক্রিয়া শেষ করার পরেও আপনি গবেষণা থেকে নিজের তথ্য প্রত্যাহারের সিদ্ধান্ত নিতে পারেন। সেক্ষেত্রে, সাক্ষাৎকারের ২৪ ঘণ্টার মধ্যে প্রদত্ত ফোন নম্বরে যোগাযোগ করে আপনি প্রত্যাহারের অনুরোধ জানাতে পারেন। তবে, সাক্ষাৎকারের প্রতিলিপি (transcript) থিম্যাটিক বিশ্লেষণে অন্তর্ভুক্ত করার পর (যা সাক্ষাৎকারের ২৪ ঘণ্টা পর এবং সর্বোচ্চ ৭ দিনের মধ্যে সম্পন্ন হওয়ার সম্ভাবনা রয়েছে), তখন পৃথক তথ্য আর আলাদাভাবে শনাক্ত করে অপসারণ করা সম্ভব নাও হতে পারে। সমষ্টিগত বিশ্লেষণ বা প্রকাশনার খসড়া প্রস্তুত প্রক্রিয়া শুরু হয়ে গেলে অংশগ্রহণ প্রত্যাহার করা আর সম্ভব হবে না।

কৃত্রিম বুদ্ধিমত্তার (AI) ব্যবহার : এই তথ্যপত্র এবং গবেষণার সরঞ্জামগুলো অনুবাদের ক্ষেত্রে কৃত্রিম বুদ্ধিমত্তা (Artificial Intelligence) ব্যবহার করা হয়েছে। যদিও গবেষণা দলের জন্য আলাদা কোনো কৃত্রিম বুদ্ধিমত্তা -সংক্রান্ত নৈতিক নির্দেশিকা প্রণয়ন করা হয়নি, তবুও কিছু নির্দিষ্ট সুরক্ষা ব্যবস্থা কঠোরভাবে অনুসরণ করা হবে। যেমন— কোনো অংশগ্রহণকারীর শনাক্তযোগ্য তথ্য কোনো কৃত্রিম বুদ্ধিমত্তা প্ল্যাটফর্মে আপলোড করা হবে না। গবেষণার তথ্য বিশ্লেষণের জন্য কৃত্রিম বুদ্ধিমত্তা ব্যবহার করা হবে না। সকল সাক্ষাৎকারের প্রতিলিপি (transcript) ডিজিটাল প্রক্রিয়াকরণের পূর্বে বেনামিকরণ করা হবে। গবেষণা দলের সদস্যদের বাহ্যিক কৃত্রিম বুদ্ধিমত্তা টুলে কোনো গোপনীয় তথ্য আপলোড না করার বিষয়ে স্পষ্ট নির্দেশনা দেওয়া হবে।

যোগাযোগের তথ্য:

গবেষণা সম্পর্কিত কোনো প্রশ্ন থাকলে যোগাযোগ করুন:

তামান্না মুনমুন ইমা

জেমস পি গ্র্যান্ট স্কুল অব পাবলিক হেলথ, ব্র্যাক বিশ্ববিদ্যালয়

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ইমেইল: tamanna.munmun.emaa@g.bracu.ac.bd

নৈতিক বিষয়ক কোনো উদ্বেগ থাকলে যোগাযোগ করুন:

ইনস্টিটিউশনাল রিভিউ বোর্ড (IRB)

জেমস পি গ্র্যান্ট স্কুল অব পাবলিক হেলথ, ব্র্যাক বিশ্ববিদ্যালয়

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ইমেইল: irb-jpgsph@bracu.ac.bd

B 2 Information Sheet (English)

Information Sheet

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Introduction: Greetings, my name is Tamanna Munmun Emaa, and I come from James P Grant School of Public Health, BRAC University. We are conducting a study on JAMUNA-supported community clinic rehabilitation in collaboration with the Swiss Red Cross and Bangladesh Red Crescent Society. This study is funded by the MPH Program of BRAC James P Grant School of Public Health, BRAC University.

Serial no.: [Protocol number]

Title of the study: Enhancing Climate-Resilient Primary Health Care: A Mixed-Methods Implementation Research on JAMUNA-Supported Community Clinic Rehabilitation in Bogura and Sirajganj Districts, Bangladesh

Research team: Tamanna Munmun Emaa (Principal investigator), Dr. Humayra Binte Anwar and affiliated researchers from BRAC James P Grant School of Public Health, BRAC University.

Aim: To explore the acceptability of JAMUNA-supported community clinic rehabilitation and to understand the barriers and facilitators influencing the rehabilitation process in climate-vulnerable settings.

Justification of participation: You are invited to participate in this study because of your direct involvement in community clinic service delivery, implementation, or supervision of JAMUNA-supported rehabilitation activities. Your experience and perspectives are important to understand

how the rehabilitation interventions are implemented in practice and how they function in real-world, climate-stressed contexts.

Procedure: If you agree to participate, we will conduct a one-to-one in-depth interview of approximately 30–45 minutes. The interview will include questions about your experiences, perceptions, and opinions regarding community clinic rehabilitation, its acceptability, and factors influencing implementation. With your permission, the interview will be audio-recorded to ensure accurate documentation. Photographs will be taken with permission. No participants' faces will be photographed. Photography will include only infrastructure features and won't include any identifiable individual. Images will be stored on password-protected devices accessible only to the research team. Refusal to allow photography will not affect participation in the interview.

Benefits of participation: There is no direct benefit from participating in this study. However, your participation will help generate evidence that may support improvement of climate-resilient community clinic rehabilitation, strengthen primary health care services, and inform future program planning and policy decisions.

Compensation: Your participation in this study is entirely voluntary. You do not need to pay us for taking part in this study. Similarly, no compensation will be given to you for participating in the interview.

Risk: There is no risk of being physically harmed if you participate in this study. Some questions may relate to your work experiences and challenges, which may cause mild discomfort. You are free not to answer any question that makes you uncomfortable, and you may stop the interview at any time.

Confidentiality and anonymity: All information collected during this study will be kept strictly confidential. Your name or any identifying information will not be included in any report or publication. Interviews will be coded using unique identification numbers. Audio recordings and transcripts will be stored securely, and only the research team will have access to the data. The findings may be shared or published, but no participant will be identifiable. No identifiable or raw data will be shared with any foreign researchers. If findings are published in peer-reviewed international journals, only aggregated and anonymized results will be disseminated.

Nature of participation: Your participation in this study is completely voluntary. You are free to decide whether or not to participate, and your decision will not cause any problem or penalty. You may withdraw from the study at any time, even after the interview has started, without providing

any reason. You may decide to withdraw from the study even after finishing the interview process. You can contact the phone number provided and ask for withdrawal within 24 hours of the interview. However, once transcripts are integrated into thematic analysis (expected after 24 hours and within 7 days), individual data may no longer be identifiable for removal. After aggregated analysis or publication drafting has begun, withdrawal will no longer be possible.

AI use: Artificial Intelligence has been used while translating the information sheet and study tools. Though no team level AI ethical guideline is developed, certain safeguards will be explicitly followed. Eg No identifiable participant data will be uploaded to any AI platform. AI will not be used for data analysis. All transcripts will be anonymized prior to any digital processing. Team members will be instructed not to upload confidential data to external AI tools.

Contact information:

If you have any further queries about the research project, please contact:

Tamanna Munmun Emaa

BRAC James P Grant School of Public Health, BRAC university

Phone: +880 1711785447

Email: tamanna.munmun.emaa@g.bracu.ac.bd

For ethical concerns, you may contact:

Institutional Review Board (IRB) of BRAC James P Grant School of Public Health, BRAC university

Phone: +880 1993379512

Email: irb-jpgsph@bracu.ac.bd

B 3 Consent Form (Bangla)

সম্মতিপত্র

গবেষণার শিরোনাম: জলবায়ু সহনশীল প্রাথমিক স্বাস্থ্যসেবা জোরদারকরণ: বাংলাদেশে বগুড়া এবং সিরাজগঞ্জ জেলায় যমুনা-সমর্থিত কমিউনিটি ক্লিনিক পুনর্বাসন বিষয়ক একটি মিশ্র-পদ্ধতির বাস্তবায়ন গবেষণা।

আমি উপরের তথ্যগুলো পড়েছি (অথবা আমাকে পড়ে শোনানো হয়েছে)। আমি এই গবেষণার উদ্দেশ্য এবং অংশগ্রহণকারী হিসেবে আমার ভূমিকা বুঝতে পেরেছি। আমি অবগত আছি যে, এই

গবেষণায় আমার অংশগ্রহণ সম্পূর্ণ স্বৈচ্ছামূলক এবং আমি কোনো নেতিবাচক ফলাফল ছাড়াই যেকোনো সময় নিজেকে প্রত্যাহার করে নিতে পারি।

নিচে স্বাক্ষর বা টিপসই প্রদানের মাধ্যমে আমি এই গবেষণায় অংশগ্রহণের জন্য আমার সম্মতি প্রকাশ করছি।

আপনার আন্তরিক সহযোগিতার জন্য ধন্যবাদ।

আপনি কি সাক্ষাৎকারটি অডিও রেকর্ড করার অনুমতি দিচ্ছেন? (দয়া করে মনে রাখবেন, সাক্ষাৎকার চলাকালীন যেকোনো সময় আপনি রেকর্ডিং বন্ধ করতে বলতে পারেন।)	হ্যা	না
আপনি কি গবেষণার ফলাফল শেয়ার /প্রচার করার অনুমতি দিচ্ছেন?	হ্যা	না
আপনি কি ছবি তোলা অনুমতি দিচ্ছেন?	হ্যা	না
আপনি কি ছবি শেয়ার/প্রচার করার অনুমতি দিচ্ছেন?	হ্যা	না
আপনার কি কোনো প্রশ্ন আছে?	হ্যা	না
প্রশ্ন:		

সাক্ষাৎকার গ্রহণকারীর নাম: তামান্না মুনমুন ইমা উত্তরদাতার নাম:

সাক্ষাৎকার গ্রহণকারীর স্বাক্ষর:

উত্তরদাতার স্বাক্ষর/আঙুলের ছাপ:

তারিখ:

তারিখ:

B 4 Consent Form (English)

Consent Form

Title of the study: Enhancing Climate-Resilient Primary Health Care: A Mixed-Methods Implementation Research on JAMUNA-Supported Community Clinic Rehabilitation in Bogura and Sirajganj Districts, Bangladesh

I have read (or have had read to me) the information above. I understand the purpose of the study and my role as a participant. I understand that my participation is voluntary and that I may withdraw at any time without any negative consequences.

By signing or providing my thumbprint below, I indicate that I agree to participate in this study.

Thank you for your cordial cooperation.

Do you give permission for the interview to be audio recorded? (Please note that at any point during the interview, you can ask the interviewer to turn off the recording device.)	Yes	No
Do you give permission to share your findings?	Yes	No
Do you have any questions?	Yes	No
Do you give permission to photos?	Yes	No
Do you give permission to share photos?	Yes	No
Question:		

Interviewer name: Tamanna Munmun Emaa **Respondent's name:**

Interviewer signature:

Respondent's signature/thumbprint:

Date:

Date: