

MULTIDIMENSIONAL VULNERABILITY ASSESSMENT

REPORT

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For Ecosystem (GRACE)**

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Executive Summary

GRACE conducted a comprehensive household assessment in Batiaghata Upazila under Khulna District, with a specific focus on Mathavanga village of Jolma Union, a peri-urban area increasingly influenced by the rapid urbanization of Khulna City and the growing impacts of climate change. The assessment covered 180 households and aimed to identify families experiencing extreme poverty through a multidimensional vulnerability lens, including economic hardship, health and nutrition risks, WASH conditions, livelihood insecurity, and social exclusion.

Khulna's expanding urban footprint, combined with climate-related stresses such as salinity intrusion, waterlogging, erratic rainfall, and livelihood disruption, is placing heightened pressure on peri-urban communities. Many households in the assessment area are transitioning from traditional rural livelihoods while lacking the assets, skills, and services needed to adapt to changing environmental and urban market conditions. This creates compounded vulnerabilities, especially for women, children, and marginalized groups.

The assessment objectives were to: identify extremely poor households; design targeted support for health, nutrition, and WASH; strengthen income-generating activities (IGA); enhance children's access to education; foster small-scale entrepreneurship; promote social and behavior change communication (SBCC); encourage organic and climate-adaptive vegetable production in peri-urban settings; and provide technical livelihood support to build long-term community resilience.

A systematic and transparent beneficiary selection process was applied, ensuring inclusion criteria based on vulnerability indicators and selecting one female participant per household to strengthen women's participation and decision-making capacity. Data were collected by three trained enumerators using a structured questionnaire covering socioeconomic status, climate exposure, service access, and adaptive capacity.

The findings will guide integrated, climate-responsive, and urbanization-sensitive interventions to support resilient livelihoods and improved well-being among vulnerable peri-urban households in the Khulna region.

Table of Contents

Introduction:	5
Objective of the assessment	5
Methodology:	5
Indicator wise Results and National scenario at a glance:	6
Analysis & Key Findings	8
Section-01: Socio-demographic vulnerability	9
1.1 Religion Distribution of the Respondent:	9
1.2 Status of Age group of the Respondent:	9
1.3 Status of Sex of the respondent:	10
1.4 Family size information of the respondent:	10
1.5 Profession of the respondent: The survey collected occupational data in the target area, showing the following distribution	10
1.6 Income of the Household	12
1.7 Educational status:	13
1.8 Status of types of Living House:	14
Section-02: Health, Nutrition & WASH Vulnerability	15
2.1 Maternal & Child Health:	15
2.2 Distribution of Toilet facilities	22
Section 03: Agriculture, Livestock, Poultry & Aquaculture	25
3.1 Households implementing Agriculture at Households level in rural areas:	25
3.2 Practices of Households rearing livestock (cow/goat/sheep)	25
3.3 Households adopting poultry rearing in rural areas:	26
3.4 Households Practicing Aquaculture	26
Section 04: School Education	27
4.1 Percentage of Children Completing Primary Who Reach Class 10:	27
4.2 Secondary School Dropout Rate (Grade 6–10)	27
Section 05: Vulnerability & Income Generating Activities (IGA)	28
5.1 Distribution of percentage of women engaged in economic activities beyond only household work:	28
5.2 Percentage of population aged 60 + years and above:	28



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6.1 Coverage of PWD households receiving social safety net support:	28
6.2 Coverage of Old-age allowance (60+ population) coverage	28
Section 07: Climate Change Knowledge & Climate-Related Migration	29
7.1 Coverage of heard of or understood climate change concepts	29
7.2 Coverage of climate-related migration in south coastal areas of Bangladesh	29
Section 08: Challenges, Way forward and Recommendations	29
8.1 Challenges During Data Collection	29
8.2 Way Forward / Recommended Actions	30
8.3 Recommendations Based on Key Findings	31
References:	33

Introduction:

At the edge of a rapidly urbanizing Khulna and within a landscape increasingly shaped by climate uncertainty, GRACE undertook a constructive household assessment to better understand the realities of vulnerable communities. From 20–31 January 2025, a focused field survey was carried out in Matha Vanga Village of Jolma Union, Batiaghata Upazila, where shifting livelihoods, environmental stress, and peri-urban transition intersect. A total of 180 households actively participated in the assessment, sharing their conditions, challenges, and aspirations.

This initiative was designed not merely as a data exercise, but as a listening journey capturing multidimensional aspects of poverty, resilience, health, WASH, education, and livelihood capacity. In a region where urban expansion meets climate exposure, the assessment serves as a grounded foundation for planning inclusive, adaptive, and community-centered interventions that respond to both present vulnerabilities and future risks.

Objective of the assessment

- To assess multisectoral vulnerabilities and service gaps in peri-urban communities of Batiaghata, Khulna particularly in Health, Nutrition, WASH, livelihoods, and social protection within the context of rapid urbanization and climate related risks.
- To identify and analyze locally appropriate and sustainable livelihood opportunities for climate-affected peri urban households to strengthen income security and adaptive capacity.
- To develop integrated, context-responsive, and cost-efficient intervention directions based on assessment findings, prioritizing local resources, community leadership, and long-term resilience.

Methodology:

The assessment was conducted using a structured and participatory methodology designed to generate reliable, field-based evidence on multisectoral vulnerability and service gaps in the peri-urban context of Batiaghata, Khulna. The approach combined systematic household selection, standardized data collection tools, and trained field facilitation to ensure data quality and community representation.

A cross-sectional household survey was carried out from 20–31 January 2025 in Matha Vanga Village, Jolma Union, Batiaghata Upazila. A total of 180 households participated in the assessment. Households were selected through a predefined vulnerability-focused screening process to ensure inclusion of extremely poor and at-risk families affected by climate stress and peri-urban transition. To promote inclusion and gender-sensitive participation, one adult female representative per household was prioritized as the primary respondent wherever possible.





Data were collected by three trained enumerators using a well-structured questionnaire developed around key thematic areas: socioeconomic status, health and nutrition conditions, WASH practices and access, livelihood and income sources, climate and environmental exposure, education status, and social protection coverage. The tool included both quantitative indicators and qualitative response sections to capture context and coping strategies.

Before field deployment, enumerators received orientation on the questionnaire, ethical considerations, interview techniques, and consent procedures. Field supervision and spot-checking were conducted to maintain consistency and accuracy. Collected data were reviewed, cleaned, and compiled for analysis to identify priority gaps,

vulnerability patterns, and locally feasible intervention opportunities.

This constructive methodology ensured that findings are evidence-based, community-informed, and directly usable for designing locally led, cost-effective, and resilience-oriented programs.

Indicator wise Results and National scenario at a glance:

Sections	Indicators	National Data	Survey Result
Socio Demographic Characteristics	% of rural households live in self-owned dwelling, Rental and live rent-free	94–95% own their dwelling, 3–4% rent And 1–2% live rent-free	90% own dwelling, 6.8% rental and 3.2% rent free
	% of Housing Types	Katcha (non-durable) - 62.4% Semi-pacca (mixed) -25.1% Pacca (durable) - 12.1% Jhupri/temporary - 0.2% BBS <i>Socio-Economic and Demographic Survey 2023</i>	Katcha (non-durable) - 39% Semi-pacca (mixed) -33% Pacca (durable) -27% Jhupri/temporary -1%
	Average monthly household income (BDT) of the extreme poor households (bottom 10%) in the coastal rural region.	BDT 8000-9000 Proxy from HIES 2022	5,641 BDT (41% populations income is below 7000 and 8000-10000 were 37%)
	% of rural adults with no formal schooling	(BBS, 2023), 28–30%	51%

Health, Nutrition & WASH	% of pregnant women receiving ≥ 4 ANC visits during pregnancy with a recent live birth	41% BBS-2025 and BDHS-2022.	32%
	% of mothers receiving PNC within 2 days of delivery (BDHS 2022) % of mothers receiving <i>any</i> PNC within 42 days (BDHS 2017–18)	55% 63%	63.2% 48%
	% of infants aged 0–5 months were exclusively breastfed in the previous 24 hours	40% MICS 2025 and BBS 2025	31.5%
	% of children 6-23 months <i>minimum acceptable diet</i> by the older IYCF standard.	27-28% BBS/MICS	19.9%
	% of births were assisted by untrained traditional birth attendants (TBAs)	35% BDHS 2017–18	37%
	% of C-section deliveries in health facilities	41.37 % BBS-2022	12 of 13 (92%)
	% of women aged 15–49 years who consumed at least 5 of 10 defined food groups in the previous 24 h	45 % (BBS-2025)	12%
	% of people received treatment for illness from a pharmacy/dispensary or compounder	53.5% BBS and HMSS- 2025	56%
	% of households have access to improved toilet facilities (which are considered hygienic latrines)	92.3% BBS and HIES- 2022	16% hygienic (baseline)
	% of Knowledge on five critical moment of Hand washing with soap	86%	26%
Agriculture, Livestock, Poultry & Aquaculture	% of caregivers/adults who wash hands with soap at all five critical times	70–80% MICS & BBS 2022/23	23%
	% of households adopting poultry rearing in rural areas	80% HIES	39%
	% of households rearing goat/cow.	26.9% rear cows and 13.4% rear goats/sheep.	(16% cow and 9% goat
	% HHs engaged in fish culture in rural households (pond/river).	13% HIES 23/24	1%
	% of households adopting agriculture in rural Bangladesh:	53.8 % (BBS Agriculture Census-2019)	13%

	% of households adopting poultry rearing in rural areas	80% HIES	39%
	% of households rearing goat/cow.	26.9% rear cows and 13.4% rear goats/sheep.	(16% cow and 9% goat
School Education	% of children who complete primary schooling go on to reach Class 10	44% MICS 2025	37%
	% secondary school dropout rate (Grade 6–10)	30-36% BANBEIS-2023	76%
Vulnerability & IGA	% of women engaged in economic activities beyond only household work	36% MICS-2025	12%
	% of population aged 60 + years and above	9.5% MICS -2025 and BBS 2021	7%
Social SafetyNet Coverage	# of PWD households receiving social safety net support	34% and more as per MICS-2025 and 47.4% National Survey on Persons with Disabilities (NSPD) / BBS (2021)	40%
	% of Old-age allowance (60+ population) coverage	40% (MICS-2025)	18%
	# of new low-cost houses introduced for vulnerable HHs.	Govt housing support exists in limited form	0%
Climate Change	% of heard of or understood climate change concepts	57% (PMC)	38%
	% of climate-related migration in south coastal areas of Bangladesh	60 % are climate migrants in urban slum (urban composition)	44% in peri urban or rural areas near to city.

Analysis & Key Findings

The household assessment conducted among 180 peri-urban households in Matha Vanga Village, Jolma Union of Batiaghata Upazila, Khulna reveals a pattern of multidimensional vulnerability linked to rapid urbanization around Khulna and increasing climate stress. Comparative analysis with national benchmarks highlights significant sectoral gaps and interrelated risks affecting livelihoods, education, gender inclusion, and social protection coverage.

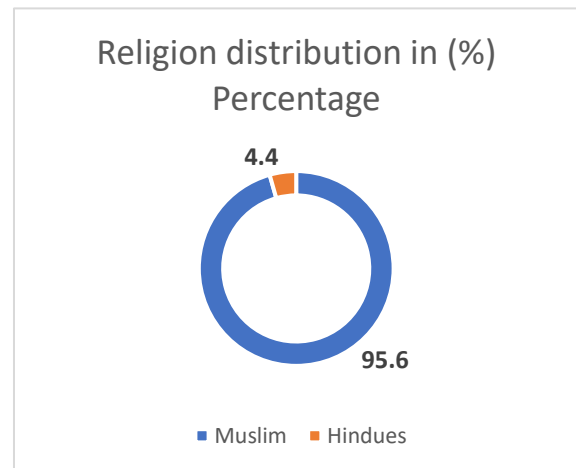
Section-01: Socio-demographic vulnerability

1.1 Religion Distribution of the Respondent:

The dataset presents the religious affiliation of a sample population consisting of 180 individuals. The distribution is highly skewed towards one major group:

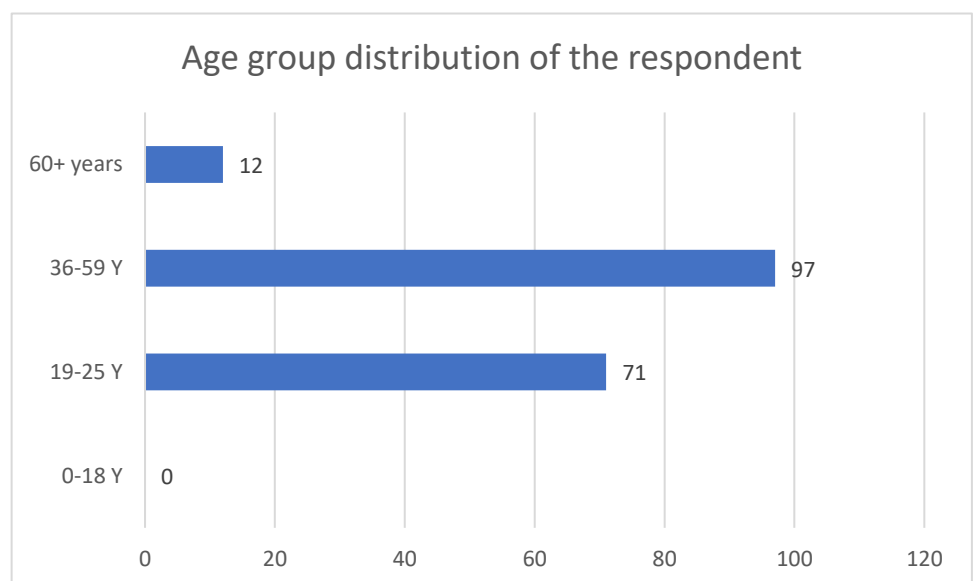
- Muslims: 95.6% of the population (172 individuals).
- Hindus: 4.4% of the population (8 individuals).

The population is overwhelmingly Muslim (95.6%), indicating strong religious homogeneity, while Hindus constitute a small minority (4.4%, 8 individuals), limiting statistical comparisons and potentially influencing social and cultural dynamics. With only 8 individuals in the minority group, statistical comparisons between groups may be limited due to the low sample size for Hindus.



1.2 Status of Age group of the Respondent:

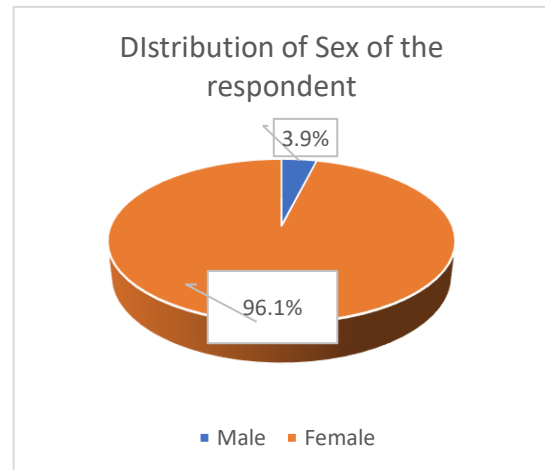
The age distribution of the population shows that the majority falls within the 36–59 years age group, accounting for 53.9%, which indicates a predominantly adult population. Young adults aged 19–25 years make up 39.4% of the population, reflecting a significant presence of youth. No individuals were recorded in the 0–18 years age group, suggesting that the study either focused specifically on adults or that the sample excluded children. Elderly individuals aged 60 years and above constitute only 6.7% of the



population, indicating a relatively small aging population in this dataset.

1.3 Status of Sex of the respondent:

A total of 180 participants were included in the study. Among them, 7 (3.9%) were male and 173 (96.1%) were female. The data indicate a predominantly female participant group, which may reflect the population under study or the nature of the survey/program.



1.4 Family size information of the respondent:

The survey findings indicate that the average family size is 4 members, with the largest household comprising 10 members and the smallest consisting of 1 member. According to the Bangladesh Bureau of Statistics (BBS) 2022 data, the national average household size is approximately 4.4 persons, with rural households tending to be slightly larger on average than urban households.

This suggests that the surveyed area reflects a typical household structure in Bangladesh, though the presence of very large households (10 members) indicates some extended families, while single-member households may represent elderly individuals or nuclear families living alone. Overall, the survey aligns closely with national trends but shows slightly more variation at the extremes compared to the BBS national average.

1.5 Profession of the respondent: The survey collected occupational data in the target area, showing the following distribution

1. Housewives:

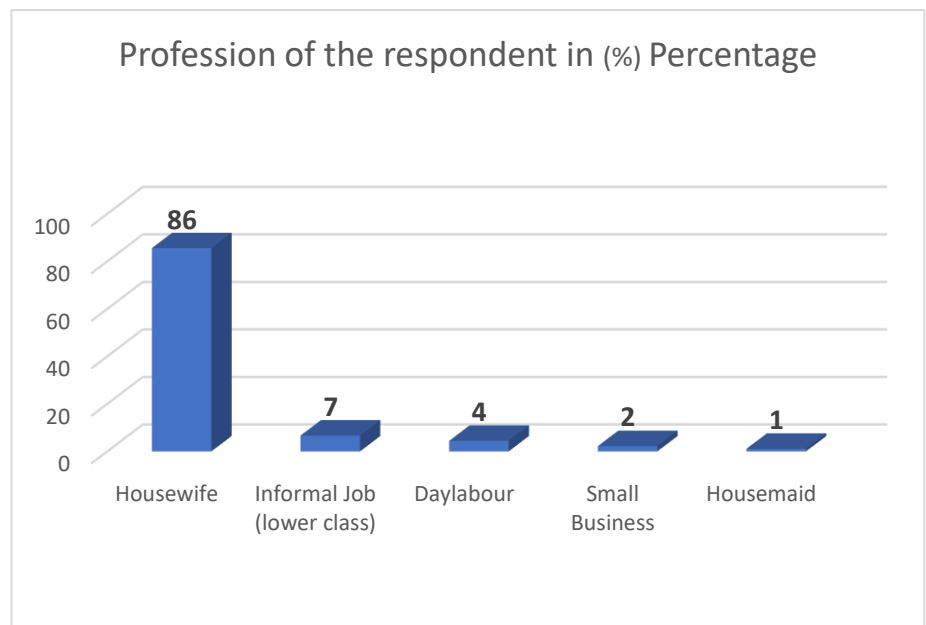
- In the survey area, 86% of women are housewives, which is significantly higher than the national rural average of 72.6%.
- This indicates that women in the surveyed communities are more likely to remain in unpaid domestic roles compared to the national trend.

2. Informal Jobs and Day Labor:

- Women working in informal jobs constitute 7% in the survey (vs. 5.7% nationally), and day laborers make up 4% (vs. 3.8% nationally).
- These small increases suggest slightly higher engagement in low-income employment outside the household in the surveyed area compared to the national average.

3. Small Business and Housemaid:

- Small business owners (2%) and housemaids (1%) are marginally higher than the national rural averages (1.9% and 0.9%, respectively), indicating limited but present participation in income generating activities.



Interpretation:

- Overall, the survey reveals that domestic work remains the primary occupation for rural women, even more so in the surveyed area than the national average.
- Income-generating activities (informal work, day labour, small business, housemaid) remain minor components of women's occupational profile, reflecting broader structural barriers to economic participation for women in rural Bangladesh.
- The slightly higher percentages in informal jobs and day labour may indicate emerging opportunities or necessity-driven participation in paid work in these communities.

The survey confirms the dominance of housewives in rural female occupation, exceeding national averages, while engagement in income-generating activities remains low. This underscores the need for programs promoting skill development, entrepreneurship, and economic empowerment for women in rural areas.

Survey Data vs. National Rural Data

Emranul Haq, Chairman, GRACE & Health systems and policy expert; ²Md. Mamun Or Rashid, General secretary and public health, Nutrition and climate change adaptation expert

Occupation	Survey Number	Survey (%)	National Rural (%) BBS -22/23
Housewife	154	86 %	72.6%
Informal Job (lower class)	12	7%	5.7%
Day Labour	8	4%	3.8%
Small Business	4	2%	1.9%
Housemaid	2	1%	0.9%
Total	180	100%	

1.6 Income of the Household

Types	National data	Survey Data
Average monthly household income (BDT) of the extreme poor households (bottom 10%) in the coastal rural region.	BDT 8000-9000 (Proxy) from HIES 2022	5,641 BDT (approximately) (41% populations income is below BDT 7,000 and 8,000-10,000 were 37%)

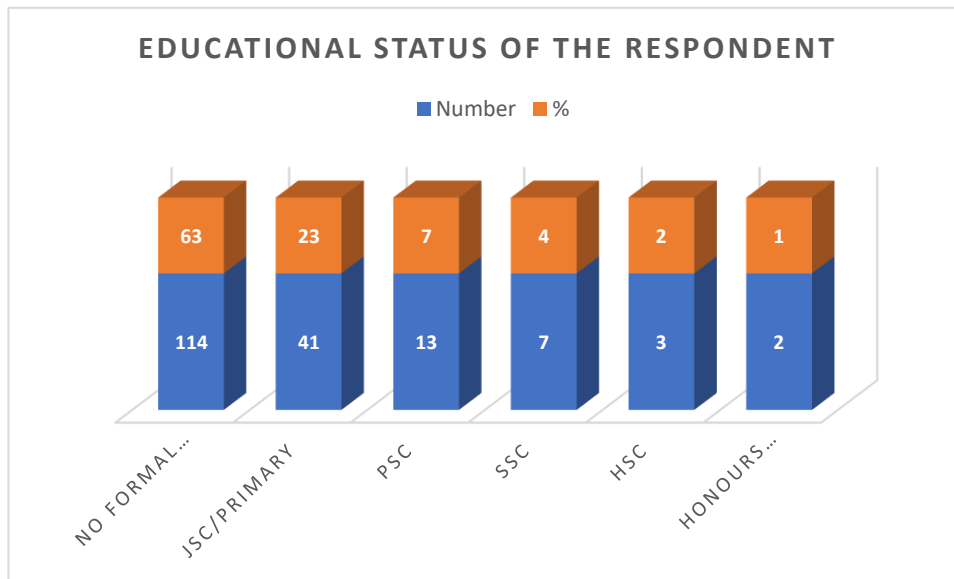
Average Monthly Household Income of Extreme Poor Households

The survey estimates that the average monthly household income of extreme poor households (bottom 10%) in the coastal rural region ranges between BDT 8,000–9,000. In comparison, the HIES 2022 proxy estimate is BDT 5,641, indicating that the surveyed income level is notably higher than the national benchmark for the lowest income decile.

However, the income distribution shows continued vulnerability: 41% of the population earns below BDT 7,000 per month, while 37% fall within the BDT 8,000–10,000 range. This suggests that although average income among the bottom decile appears comparatively higher, a substantial proportion of households remain clustered around or below subsistence levels.

Overall, the findings indicate persistent income inequality and economic vulnerability in coastal rural areas, likely influenced by seasonal employment, climate risks, and informal livelihood dependence, despite slightly improved income levels compared to national HIES estimates.

1.7 Educational status:



According to the Bangladesh Bureau of Statistics (BBS, 2023), the national rural illiteracy rate is around 28–30%, whereas the survey area shows 63% (114 out of 180) of respondents have no formal education, indicating a much higher illiteracy rate than the national rural average.

- Completion of secondary (SSC/HSC) and higher education (Honours and above) is very low (11%

combined), compared to higher national rural percentages (20–25%), showing limited access to higher education in the surveyed communities. Observation were stated below-

1. High Illiteracy:
 - More than half of the surveyed population (63%) is illiterate, which is more than double the national rural average.
 - This highlights significant educational deprivation in the area, especially for adults who may have missed formal schooling.
2. Low Secondary and Tertiary Education:
 - Only 11% of the surveyed population has SSC, HSC, or higher education, indicating limited continuation beyond primary or junior secondary levels.
 - This can lead to reduced employment opportunities and low socio-economic mobility.
3. Primary Education Prevalence:
 - Around 21% have JSC or primary-level education, reflecting moderate coverage of basic schooling, but retention beyond this level is poor.
4. Implications for Development:
 - The high illiteracy rate and low higher education attainment suggest a need for targeted literacy programs, adult education, and female education initiatives.
 - Strengthening access to secondary and higher education is essential to improve livelihoods and socio-economic resilience.

The survey area shows significantly lower educational attainment compared to national rural averages, with high illiteracy and minimal higher education levels. Focused interventions are needed to improve literacy, retention, and skills development, which are crucial for community development and poverty reduction.

1.8 Status of types of Living House:

Among of the 180 household's founded the below Status of Types of Living Space

Housing Type	Survey (%)	BBS 2023 National Rural (%)
Katcha (non-durable)	62.4%	39%
Semi-pacca (mixed)	25.1%	33%
Pacca (durable)	12.1%	27%
Jhupri / temporary	0.2%	1%

1. Katcha (Non-Durable) Houses:

- In the survey area, 62.4% of households live in katcha houses, significantly higher than the national rural average of 39%.
- This indicates that a majority of households in the surveyed area still rely on temporary or non-durable housing, reflecting economic vulnerability and limited access to durable construction materials.

2. Semi-Pacca (Mixed) Houses:

- About 25.1% of households live in semi-pacca houses, which is lower than the national rural average of 33%.
- This suggests that the transition from non-durable to semi-durable housing is slower in the surveyed area compared to the broader rural population.

3. Pacca (Durable) Houses:

- Only 12.1% of households live in pacca houses, much lower than the national rural figure of 27%.
- This shows that fully durable housing is less accessible in the surveyed communities, highlighting a gap in long-term housing security.

4. Jhupri / Temporary Housing:

- Extremely few households (0.2%) live in jhupri or temporary shelters, slightly lower than the national rural average of 1%.
- While this indicates that very few households are in the most precarious housing, the prevalence of katcha housing remains a major concern.



The survey area has a higher proportion of non-durable (katcha) houses and a lower proportion of durable (pacca) and semi-durable (semi-pacca) houses compared to the national rural averages. This suggests higher housing vulnerability and economic limitations in the area. There is a clear need for programs supporting housing improvement and access to durable construction materials to improve living conditions.

Section-02: Health, Nutrition & WASH Vulnerability

2.1 Maternal & Child Health:

2.1.1 Status of Pregnancy:

Based on the survey dataset, a total of 12 pregnant women were identified among 180 households, with a total population of 720 individuals between the age range 16-59 years. This corresponds to a pregnancy prevalence of 1.66% in the surveyed population. That indicated it included early marriage and pregnancy occurred over there.

The observed pregnancy prevalence of 1.66% indicates a moderate level of current maternal burden within the study population. According to Bangladesh Bureau of Statistics (BBS) demographic reports (such as SVRS and Population & Housing Census summaries), pregnancy at any given point in time in a stable population typically ranges around 1.5–2.5% of the total population, depending on fertility rate, age structure, and rural–urban composition.

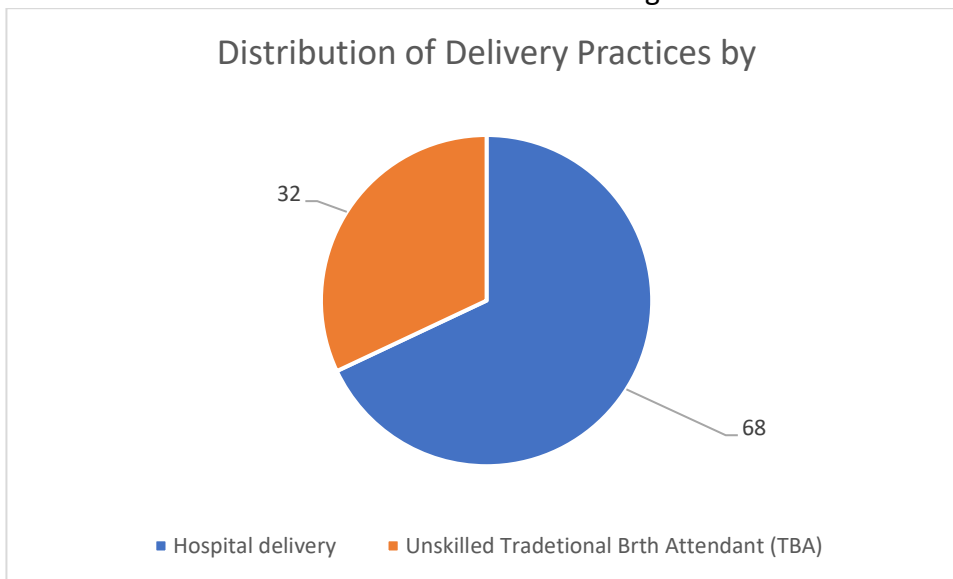
2.1.2 Delivery Pattern:

A total of 19 deliveries were recorded in the survey period, indicating recent maternal health service utilization patterns within the study population. Among these births, 13 deliveries took place in health facilities, while 6 were conducted at home by unskilled traditional birth attendants, reflecting a mixed practice of institutional and traditional delivery care. Notably, 12 out of the 13 facility-based deliveries were performed through Caesarean section, suggesting a very high concentration of surgical interventions among hospital births. This distribution provides important context for analyzing access, care-seeking behavior, and quality of maternal health services in the area.

Indicator	Survey Data	National Reference (BBS / BDHS)	Comparative Observation
Total deliveries found who have two years baby	19	—	Sample-based
Facility (Hospital) Delivery Rate	68.4% (13/19)	50%± (BDHS/BBS recent rounds, national avg varies by area)	Survey area shows higher facility use
Home Delivery with Unskilled TBA	31.6% (6/19)	Still significant nationally in rural areas	Traditional practice persists
CS among Facility Deliveries	92.3% (12/13)	41.37% (BBS 2022)	Survey CS rate extremely higher
CS among All Deliveries	63.2% (12/19)	30–35% (BDHS recent est.)	More than national average

Delivery Practices: Hospitals and at home by TBAs:

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The study found that 32% of births were assisted by untrained TBAs (BDHS 2017–18), slightly reduced from 37%. Despite a slight decline from 37% to 32%, a significant proportion of births are still assisted by untrained TBAs, highlighting a critical gap in referral system to UHC and introducing skilled birth attendance at community level that must be addressed to achieve SDG 3 on maternal and neonatal health.

❖ Comparative Findings

Facility (Hospital) Delivery Rate — Survey vs National Pattern

The survey shows a facility delivery rate of 68.4%, which is substantially higher than typical national averages reported in recent BBS/BDHS rounds (generally around half of total births or lower, depending on region). This suggests comparatively stronger facility linkage in the study area.

Possible contributing factors:

- Better geographic access to hospitals or private clinics
- NGO or program referral support
- Higher perceived safety of institutional delivery
- Increased tendency toward medically managed births

However, the fact that 31.6% of deliveries still occur with unskilled TBAs indicates a persistent dual system — modern facility care alongside traditional home delivery practices.

Caesarean Section (CS) Rate — Facility Deliveries

Among facility deliveries in the survey, the CS rate is extremely high (92.3%), which is more than double the BBS 2022 reference level (41.37%). This is a striking deviation from national norms.

This indicates that in the study area, facility delivery is strongly associated with surgical delivery, rather than normal vaginal birth.

Interpretive insight: Facility use here appears to be intervention-driven rather than routine-care-driven — mothers may be going to facilities primarily when complications are suspected or when CS is pre-planned or provider-influenced.

CS Rate — All Deliveries

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When calculated against all births, the CS rate is 63.2%, which is far above both:

- National CS averages (BBS/BDHS)
- WHO recommended population-level CS range (generally 10–15% as a benchmark for medical necessity planning)

This suggests a localized over-medicalization pattern in childbirth services.

❖ Association Patterns Observed

Strong association between facility delivery and CS use:

- Nearly every facility birth resulted in CS
- Normal vaginal deliveries are largely occurring outside facilities (through TBAs)
- This creates a polarized model:
 - Home = normal delivery
 - Facility = surgical delivery

This pattern may influence maternal decision-making — some families may avoid facilities to avoid CS, while others may prefer facilities specifically to ensure CS.

❖ Major Gaps, Challenges, and Threat Signals

Continuity Gap

- High facility delivery does not automatically ensure balanced obstetric care.
- Preventive ANC completion was lower (as noted earlier), suggesting late facility entry rather than planned skilled birth attendance.

Possible Overuse of CS

- Very high CS proportion suggests:
 - Provider practice bias
 - Private-sector financial incentives
 - Defensive clinical decision-making
 - Maternal preference shaped by fear of labor pain or perceived safety

Persistent Unskilled Home Delivery Segment

- One-third of births still occur with unskilled TBAs
- Indicates:
 - Cultural preference
 - Cost barriers
 - Emergency transport gaps
 - Trust deficit in facilities

Risk of Inequity

- Likely two-tier maternal care pattern:
 - Poorer households → home delivery with TBA
 - Better-off households → facility + CS
- This may widen maternal and neonatal risk inequities.

Key Observation Summary

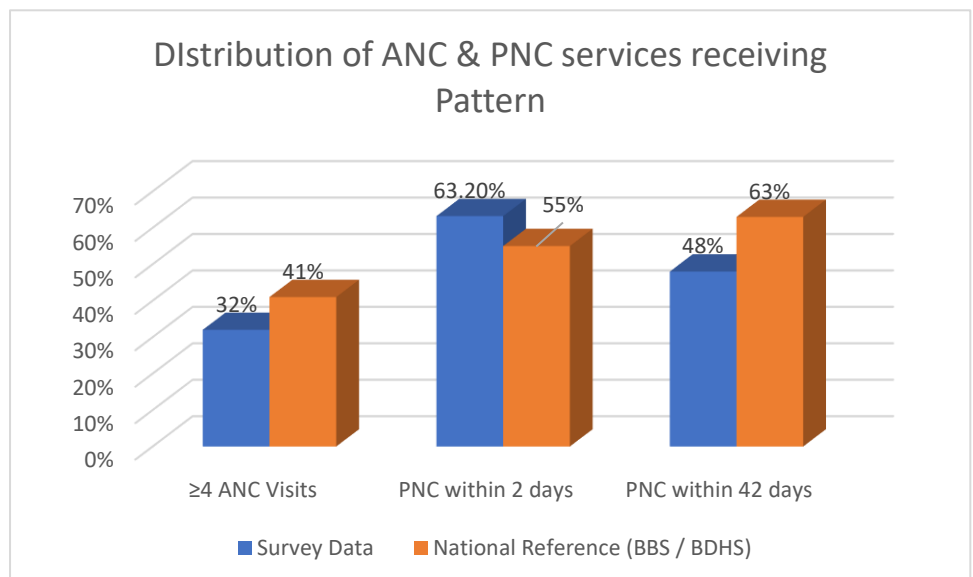
The study area demonstrates a high institutional delivery rate but an unusually concentrated CS pattern, alongside a residual cluster of unskilled home births. This suggests not simply improved access, but a skewed service utilization model where facility care is heavily intervention-oriented. Strengthening quality ANC counseling, promoting normal facility delivery, regulating CS indications, and reducing TBA dependence are critical program priorities.

2.1.3 Status of received ≥ 4 ANC & PNC :

The maternal care utilization pattern observed in the study area presents a **layered and behaviorally meaningful picture** rather than a simple high–low coverage scenario. When compared with BDHS and BBS national benchmarks, the findings reveal a continuum gap between **contact with services** and **continuity of care**.

2.1.3.1 ANC Utilization (≥ 4 Visits):

Only **32% of pregnant women completed four or more ANC visits**, which remains below the national reference level (41% reported by BDHS 2022/BBS 2025). This gap suggests that pregnancy is still not consistently treated as a condition requiring scheduled preventive care. The pattern indicates possible barriers such as delayed pregnancy registration, irregular follow-up behavior, hidden cost burdens, mobility constraints, or limited outreach counseling. The lower ANC completion rate reflects a front-end weakness in the maternal care pathway, where awareness and early engagement are not yet optimal.



1.1.3.2 Post Natal Care

Early PNC (Within 2 Days):

In contrast, early postnatal care coverage is comparatively strong (63.2%), exceeding the national benchmark (55%). This creates an interesting service paradox: although preventive ANC engagement is relatively weak, immediate post-delivery care is comparatively high. The explanation lies in delivery modality and location. A large proportion of births occurred in hospitals (13 of 19), and almost all facility deliveries (12 of 13) were conducted through Caesarean section. Facility protocols ensure mandatory clinical observation and early postnatal checks before discharge. Thus, early PNC coverage here is **system-driven rather than behavior-driven** — it happens because mothers remain inside the clinical system at the time of delivery.

Extended PNC (Within 42 Days):

Emranul Haq, Chairman, GRACE & Health systems and policy expert; ² Md. Mamun Or Rashid, General secretary and public health, Nutrition and climate change adaptation expert

However, the momentum of care drops after discharge. Only 48% of mothers received PNC within 42 days, notably lower than the national reference (63%). This indicates a continuity break in the maternal care chain. Follow-up visits appear largely complication-triggered rather than schedule-driven. Mothers tend to return only when problems arise, suggesting limited post-discharge counseling, weak referral tracking, or low perceived need for routine postnatal follow-up. The system successfully captures mothers at the point of delivery but struggles to keep them engaged afterward.

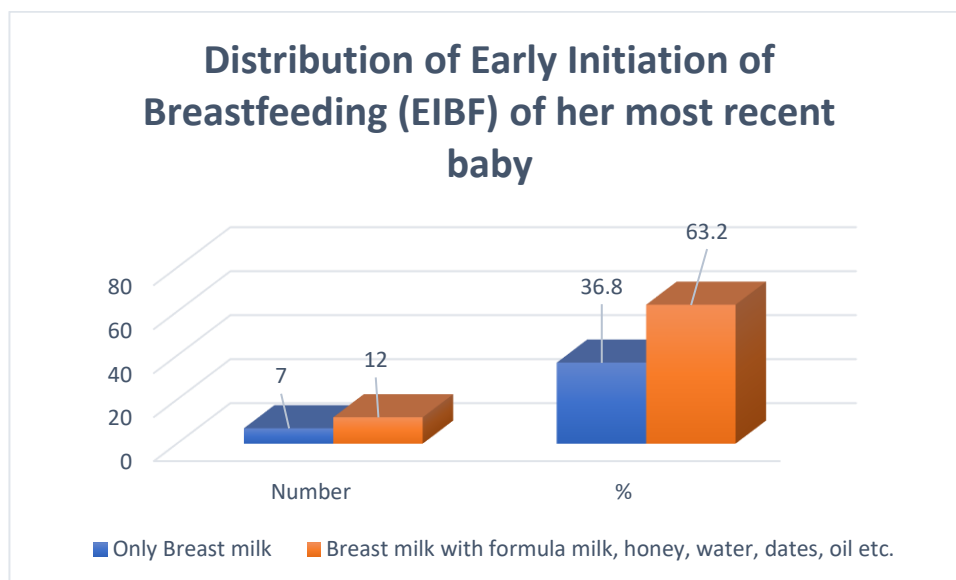
Overall Analytical Insight:

Taken together, the findings illustrate a facility-capture but community-dropout pattern in maternal healthcare utilization. Institutional delivery — especially CS — boosts immediate PNC indicators, yet insufficient ANC completion and low 42-day follow-up reveal behavioral and system-level gaps in preventive and continuity care. This pattern highlights the need to strengthen early pregnancy registration, ANC adherence counseling, and structured post-discharge follow-up mechanisms to transform one-time clinical contact into a sustained maternal care journey.

2.1.4 Infant and Young Child Feeding (IYCF):

2.1.4.1 Early Initiation Of Breast Feeding (EIBF):

Among the 19 recent births covered in the survey, only 36.8% (n=7) of newborns received only breast milk at the early stage, while the majority 63.2% (n=12) were given breast milk along with additional substances such as formula milk, honey, water, dates, or oil. This indicates that mixed or prelacteal feeding is the dominant early feeding behavior in the study population.



The survey's exclusive breastfeeding rate (36.8%) is substantially lower than the national BDHS 2022 estimate (55%), and even lower compared with earlier national highlights (65% in 2017–18) reflecting continued challenges in sustaining optimal breastfeeding practices in the country.

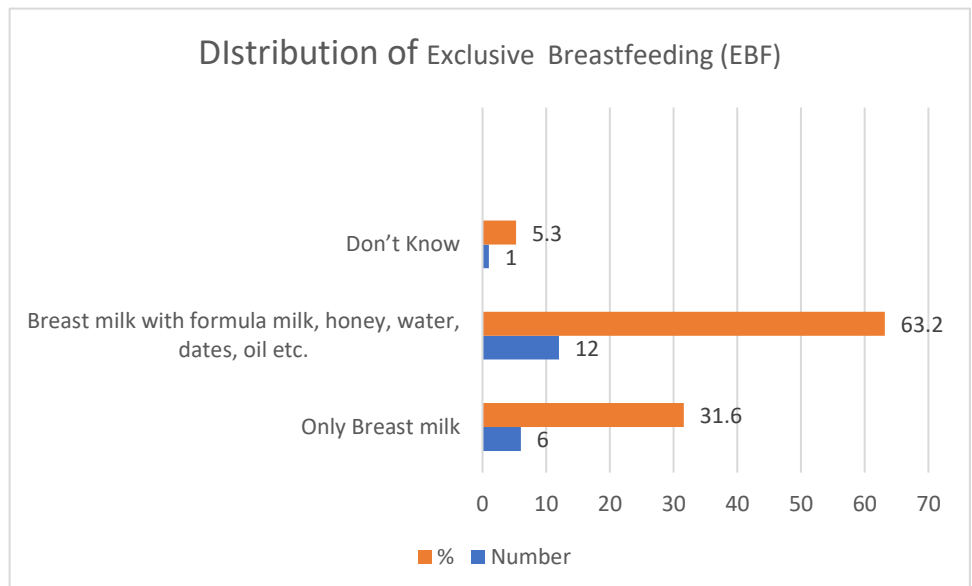
Exclusive breastfeeding rate of **36.8%** markedly lower than recent **BDHS national averages (55%)** suggests an **urgent need to strengthen early infant feeding promotion, counseling, and community support** in line with national and global infant and young child feeding guidelines.

This discrepancy could reflect local behavioral, cultural, or service delivery patterns that are not fully aligned with broader national trends. It may also indicate recall differences, since national surveys typically measure exclusive breastfeeding among infants under six months using standardized 24-hour recall question formats

2.1.4.2 Exclusive Breastfeeding (EBF) :

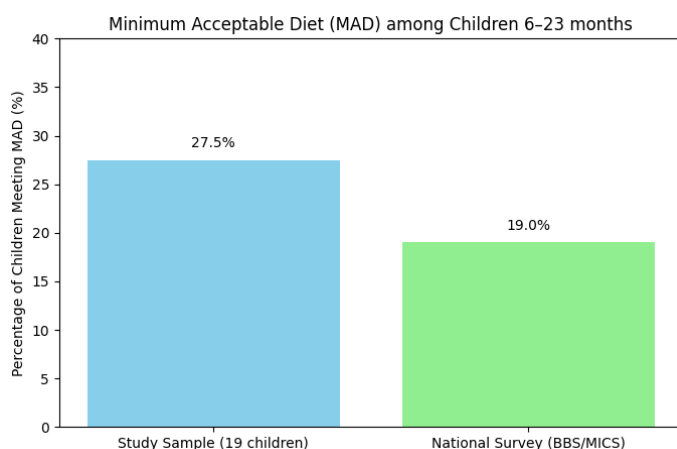
Out of 19 recent births, only 31.6% (n=6) of newborns received only breast milk in the immediate feeding period, while the majority 63.2% (n=12) received breast milk along with other substances such as formula milk, honey, water, dates, or oil. An additional 5.3% (n=1) of respondents were unsure about the feeding practice.

This suggests that mixed early feeding practice in the survey area is roughly double the exclusive-only breast milk practice (63.2% vs 31.6%), MICS and BBS-24/25 indicating a dominant behavioral trend that runs counter to national nutrition and newborn care recommendations. The high rate of supplementary early feeding may be associated with cultural norms, family influence, misconceptions about colostrum sufficiency, or aggressive promotion/use of formula products.



From a programmatic perspective, this gap signals a behavioral and counseling deficit in maternal and newborn nutrition education. While facility delivery and early PNC coverage were relatively high in the same population, optimal breastfeeding counseling does not appear to be consistently translated into practice. Strengthening ANC and postnatal counseling on immediate and exclusive breastfeeding, along with community behavior change communication, would be necessary to align local practice with BDHS/BBS-supported national standards.

2.1.4.3 Minimum Acceptable Diet of children (6–23 months) last 24 hours:



The study sample (19 children) shows 27.5% meeting MAD, slightly higher than the national average of 19% reported by BBS/MICS.

Despite this slight improvement, over 70% of children in the study sample still do not receive the minimum acceptable diet, indicating poor complementary feeding practices.

The chart visually highlights the nutritional gap, emphasizing the need for targeted interventions to improve both dietary diversity and meal

frequency for children aged 6–23 months.

1.1.4.4 Minimum Dietary Diversity among Women (Aged 15–49 years)

Name of Group	Items name
Group 1	Grains, white roots and tubers, and plantains – e.g., rice, wheat, maize, potatoes, cassava, yams.
Group 2	Pulses (beans, peas, lentils) – e.g., red lentils, chickpeas, kidney beans.
Group 3	Nuts and seeds – e.g., peanuts, almonds, sunflower seeds.
Group 4	Dairy – e.g., milk, yogurt, cheese.
Group 5	Meat, poultry, and fish – e.g., beef, chicken, goat, fish.
Group 6	Eggs – e.g., chicken eggs, duck eggs.
Group 7	Dark green leafy vegetables – e.g., spinach, kale, amaranth leaves.
Group 8	Other vitamin A-rich fruits and vegetables – e.g., carrots, pumpkin, mango, papaya.
Group 9	Other vegetables – e.g., cabbage, cucumber, tomatoes, onions.
Group 10	Other fruits – e.g., bananas, guava, berries, oranges.

Only **12% of women (22 out of 180)** in the surveyed area met this minimum dietary diversity, indicating a very low level of dietary diversity locally, whereas- Nationally, 45% of women consumed at least 5 out of the 10 defined food groups in the previous 24 hours (BBS 2025).

Women in the target area are consuming far fewer nutrient-rich foods than the national average, placing them at high risk of micronutrient deficiencies and malnutrition, which can negatively impact maternal and child health outcomes.

Addressing the Gap were observed - Limited access to diverse foods leads to inadequate intake of essential vitamins and minerals; Low dietary diversity reflects broader challenges in household food availability, affordability, and accessibility; Behavioral & Knowledge Gap: Potential lack of awareness regarding the importance of diverse diets during pregnancy and lactation.

The stark disparity between the national average (45%) and local dietary diversity (12%) highlights a critical nutritional emergency, emphasizing the urgent need for targeted maternal nutrition interventions, behavior change campaigns, and enhanced food access programs in the surveyed area.

2.1.4.4 Primary Health Care Service Receiving Pattern during their serious illness

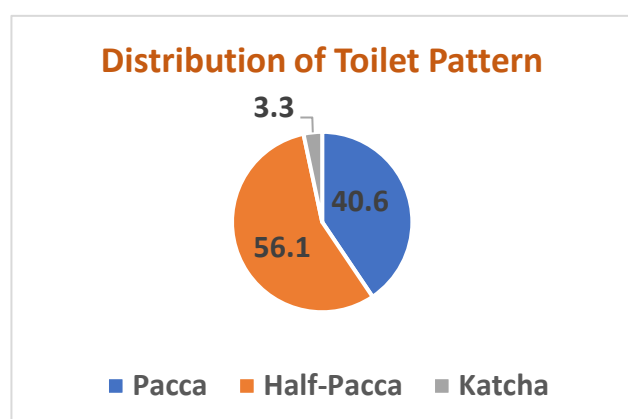
Name of the center	Number	%
Local Farmacy	101	56
Private Hospital or Clinic	31	17
Community Clinic (CC)	19	11
Union Health & Family Health Care	17	9
Government Hospital	12	7

The survey findings on care-seeking behavior during serious illness show a strong preference for private and informal providers over public primary health care facilities. Among respondents, the majority (56%, n=101) reported seeking treatment from local pharmacies as their main source of care. This is followed by private hospitals or clinics (17%, n=31). In contrast, utilization of public-sector primary health care facilities remains comparatively low, with 11% (n=19) attending Community Clinics, 9% (n=17) visiting Union Health & Family Welfare Centers, and only 7% (n=12) seeking care from government hospitals.

According to HMSS-25 and BBS national estimates, approximately 53.5% of patients with serious illness seek care from formal health facilities. While the present survey shows a similar overall magnitude of service contact, the pattern differs substantially, with a disproportionately high reliance on local pharmacies rather than qualified public PHC facilities. Pharmacy-based care is often driven by proximity, lower immediate cost, ease of access, and no waiting time, but it may also indicate gaps in perceived quality, availability, or trust in public services.

This divergence suggests a structural and behavioral gap between national service utilization expectations and local practice. Strengthening community-level public PHC facilities, improving service readiness, and increasing community awareness about appropriate sources of care are essential to shift care-seeking toward qualified providers and ensure better clinical outcomes.

2.2 Distribution of Toilet facilities



Out of 180 households (HHs), the distribution of toilet types indicates that the majority use semi-improved sanitation facilities. Half-pacca toilets account for 56.1% (n=101) of households, representing the most common sanitation structure in the survey area. Pacca toilets are used by 40.6% (n=73) of households, suggesting that a substantial proportion have access to more durable and comparatively improved sanitation facilities. In contrast, only 3.3% (n=6) of households rely on katcha toilets, which typically reflect more fragile and less hygienic conditions.

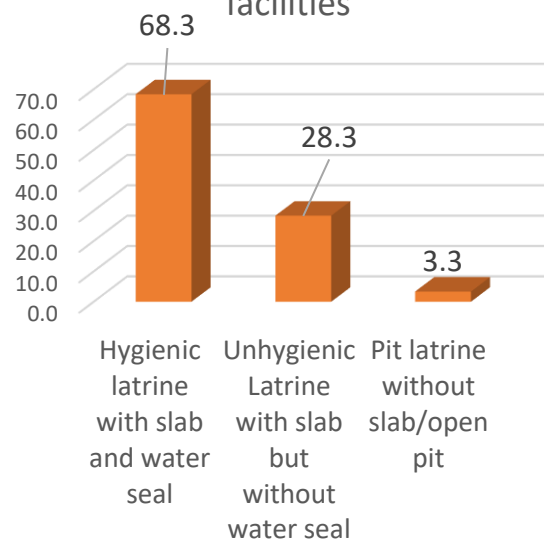
2.2.1 Access to Improved/Hygienic Toilet Facilities

According to national estimates from BBS & HIES 2022, approximately 92.3% of households in Bangladesh have access to improved toilets. In comparison, findings from the present survey of 180 households indicate a substantially lower level of improved sanitation coverage.

Survey results show that 68.3% (n=123) of households use a hygienic latrine with slab and water seal, which meets the standard definition of an improved sanitation facility. However, 28.3% (n=51) households use latrines with slab but without a water seal, which are considered unhygienic due to higher contamination and vector exposure risk. Additionally, 3.3% (n=6) households rely on pit latrines without slab/open pits, representing the most vulnerable sanitation condition. No households reported open defecation.



Distribution of Access to improved/ hygienic toilet facilities



In terms of structural type, most toilets are semi-pacca (56%, n=101) and pacca (40.6%, n=73); however, structural permanence does not fully correspond to hygienic status. Although 123 facilities are hygienic, a notable proportion of structurally developed toilets remain functionally unimproved, as 51 households (28.3%) still lack a water seal, and 6 households (3.3%) use unimproved pit systems.

Overall, the survey area lags behind the national benchmark (68.3% vs 92.3% improved sanitation), highlighting a significant coverage gap and the need for targeted upgrading of existing slab latrines to water-sealed hygienic systems, alongside behavior change and technical support interventions.

2.2.2 Knowledge and Practice of five critical moment of Handwashing:

Indicator	National Data	Survey Data
Knowledge on five critical moments for handwashing with soap	86%	26%
Caregivers/adults who wash hands at all five critical times	70–80%	23%

The survey findings reveal a substantial gap between national benchmarks and local-level knowledge and practice regarding the five critical moments for handwashing with soap. National data indicate that 86% of respondents have knowledge of the five critical handwashing moments, whereas the present survey shows that only 26% of respondents possess this comprehensive knowledge. This represents a major knowledge deficit of about 60 percentage points compared to the national level.

A similar pattern is observed in reported behavior. Nationally, an estimated 70–80% of caregivers/adults practice handwashing with soap at all five critical times, while in the surveyed population only 23% reported adhering to all five moments. This suggests that correct and consistent handwashing practice is markedly limited in the study area.

Disaggregated responses indicate that most participants are aware of — and more likely to practice — handwashing after defecation and before eating, as well as after child defecation management. However, awareness and practice are much lower for other critical times, such as before food preparation and before feeding children.



Overall, the findings highlight a significant behavior and knowledge gap relative to national standards, underscoring the need for targeted hygiene promotion, behavior change communication, and practical demonstrations focused on all five critical handwashing moments.

2.2.3 Availability of Handwashing Facilities Including Fresh Water and Soap at Household Level

The survey findings indicate that 38% of households have a functional handwashing facility with both fresh water and soap available at the household level. This suggests that while a majority maintain minimum enabling conditions for proper hand hygiene, a considerable proportion (62%) still lack adequate handwashing arrangements.

According to internationally monitored national estimates (e.g., WHO/UNICEF JMP and BBS-linked sources), the proportion of the population living in households with a basic handwashing facility that includes both soap and water on the premises in Bangladesh has been reported at approximately 58.4% as of 2020.

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Availability of handwashing facilities is more commonly observed among moderate and better-off households, particularly those with sanitary latrines, indicating a positive association between overall sanitation status and handwashing infrastructure. In contrast, poorer households are disproportionately lacking dedicated handwashing facilities, and many reported being unable to wash hands properly during emergency or critical moments due to absence of soap, water, or a fixed washing station.

This inequity in access highlights a hygiene vulnerability among low-income households and suggests the need for targeted WASH interventions, including low-cost handwashing stations, soap support, and behavior change communication to ensure equitable access to essential hygiene facilities.

Section 03: Agriculture, Livestock, Poultry & Aquaculture

3.1 Households implementing Agriculture at Households level in rural areas:

Households adopting agriculture in rural areas

- National (BBS Agriculture Census 2019): 53.8%
- Survey Findings: 13% (23 out of 180 households)

The survey shows that only 13% of households are engaged in household-level agricultural activities, which is substantially lower than the national rural average of 53.8%. This represents a gap of 40.8 percentage points. The large deviation suggests that the surveyed area has significantly lower agricultural engagement compared to national rural patterns. Possible contributing factors may include limited access to cultivable land, climate stress, input cost barriers, or livelihood diversification away from agriculture. This low participation may also increase vulnerability to food insecurity and income instability.

3.2 Practices of Households rearing livestock (cow/goat/sheep)

National (BBS Agriculture Census 2019):

- Cow rearing: 26.9%
- Goat/sheep rearing: 13.4%
- Combined livestock engagement: 40.3%

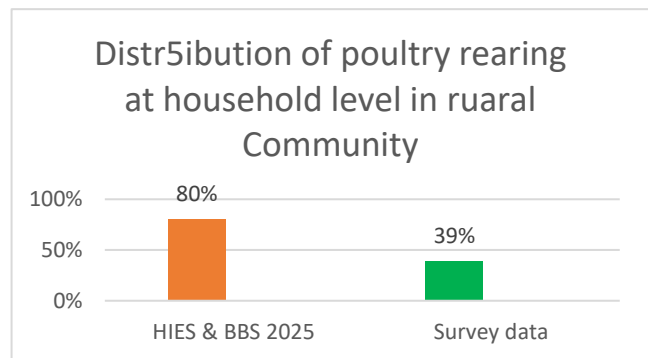
Survey Findings (n=180):

- Cow rearing: 16% (29 households)
- Goat rearing: 9% (16 households)
- Combined livestock engagement: 25%

Livestock rearing in the surveyed households (25%) is lower than the national rural benchmark (40.3%), showing a 15.3 percentage point gap. Both cow and goat rearing rates are below national levels. Livestock ownership is typically associated with asset accumulation, dietary protein access, and income buffering during shocks. Reduced livestock engagement in the study area may indicate constraints in startup capital, fodder availability, veterinary services, or disaster/climate exposure affecting animal husbandry.

3.3 Households adopting poultry rearing in rural areas:

The survey results indicate that 39% (70 out of 180) of households in the assessed rural area are currently adopting poultry rearing, while 61% (110 households) are not engaged in poultry production. In contrast, according to HIES–BBS 2025, approximately 80% of households nationally are involved in poultry rearing at the household level. This shows a substantial adoption gap of 41 percentage points between the national average and the surveyed area, suggesting that the local community is significantly lagging behind in small livestock engagement.



This lower adoption rate in the surveyed area may be associated with several possible factors: limited startup capital and access to quality chicks or feed, higher perceived disease risk and inadequate veterinary support, lack of technical knowledge on improved poultry management, space and housing constraints, women's workload and mobility limitations, and weak market linkages for selling eggs or birds. Climate shocks and past disease outbreaks may also have discouraged households from investing in poultry assets.

3.4 Households Practicing Aquaculture

Households engaged in fish culture (pond/river)

- *National (HIES 2023–24): 13%*
- *Survey Findings: 1% (≈ 2 out of 180 households)*

Aquaculture participation is extremely low in the surveyed area at 1%, compared to the national rural estimate of 13%, resulting in a 12 percentage point gap. This suggests that fish culture is largely absent as a livelihood or nutrition source among surveyed households. Constraints may include lack of pond ownership, water resource limitations, technical knowledge gaps, or investment barriers. Given aquaculture's strong contribution to nutrition and income in Bangladesh, this represents a significant missed opportunity for resilience and dietary diversification.

Overall Comparative Assessment of agriculture, livestock, poultry and aquaculture practices at households level

Across all four indicators, the surveyed households show consistently lower engagement than national rural averages:

<i>Sector</i>	<i>National %</i>	<i>Survey %</i>	<i>Gap (pp)</i>
<i>Agriculture</i>	<i>53.8</i>	<i>13</i>	<i>-40.8</i>
<i>Livestock</i>	<i>40.3</i>	<i>25</i>	<i>-15.3</i>
<i>Poultry</i>	<i>80</i>	<i>39</i>	<i>-41</i>
<i>Aquaculture</i>	<i>13</i>	<i>1</i>	<i>-12</i>

Section 04: School Education

4.1 Percentage of Children Completing Primary Who Reach Class 10:

The survey shows that 37% of primary completers reach Class 10, which is about 7 percentage points lower than the MICS national estimate (44%).

Statistical interpretation:

- The surveyed area performs below national average in secondary progression
- Indicates higher-than-average attrition after primary level
- Suggests localized barriers such as poverty, school access, cost burden, or social factors affecting continuation

4.2 Secondary School Dropout Rate (Grade 6–10)

The survey reports a 56% dropout rate, which is more the typical national-level secondary dropout range indicated through MICS (30-36%) aligned education statistics.

Compared with national benchmarks reported through the MICS framework of UNICEF in Bangladesh, the survey findings represent a severe deviation from the national pattern of secondary education retention. While MICS data indicates a moderate level of student retention through the secondary cycle, the survey results show critically low retention in the assessed area. This substantial gap suggests that the surveyed population is highly vulnerable and exposed to multiple education risk factors. The findings also confirm strong internal consistency with the low proportion of learners reaching Class 10 (37%), aligning with the very high dropout level observed across Grades 6–10. Altogether, the evidence points to a systemic retention failure throughout the secondary stage and identifies the study location as a localized education risk hotspot requiring targeted intervention.

Section 05: Vulnerability & Income Generating Activities (IGA)

5.1 Distribution of percentage of women engaged in economic activities beyond only household work:

National MICS data indicates that **about 36% of women are engaged in economic activities beyond only household work**, reflecting moderate female participation in income-generating and productive sectors. In contrast, the survey found only **12%** of women engaged in such activities. This represents a gap of roughly **24 percentage points** below the national level. Statistically, this suggests that women in the surveyed area face significantly greater barriers to economic participation, which may include limited livelihood opportunities, restricted mobility, low skills access, or prevailing socio-cultural constraints. The difference clearly signals localized gender disparity in economic inclusion compared with the national MICS profile.

5.2 Percentage of population aged 60 + years and above:

Regarding demographic structure, MICS national data shows that approximately **9% of the total population is aged 60 years and above**. The survey, however, recorded only **7%** in this age group. While the difference is smaller than in the women's economic participation indicator, it still suggests a **slightly younger population composition** in the surveyed area. This variation may be associated with migration patterns, household structure, or sampling distribution. From a planning perspective, it implies comparatively lower — but still meaningful — demand for elderly-focused services than the national average.

Overall, the side-by-side comparison of **MICS national data and survey data** highlights two key patterns: **substantially lower women's economic engagement** and a **somewhat lower share of older population** in the study area, pointing to distinct local socioeconomic and demographic characteristics.

Section 06: Social SafetyNet Coverage

6.1 Coverage of PWD households receiving social safety net support:

According to national results from the MICS (Multiple Indicator Cluster Survey) implemented by UNICEF in Bangladesh, social safety net programmes reach a meaningful share of vulnerable households, including persons with disabilities (PWD) and older persons, though coverage remains incomplete and uneven across regions. MICS national data generally indicates that **social protection support among PWD households is moderate (roughly around one-third or more, depending on programme type and region)**. Your survey found that **40% of PWD households are receiving social safety net support**, which is slightly higher than typical national averages. This suggests comparatively better programme penetration among disability-affected households in the surveyed area, possibly due to stronger local targeting, NGO facilitation, or effective beneficiary identification.

6.2 Coverage of Old-age allowance (60+ population) coverage

In contrast, for **old-age allowance coverage among the 60+ population**, MICS national patterns show **moderate beneficiary coverage (commonly around one-quarter to one-third of eligible elderly persons)**. However, your survey found only **18% coverage** among people aged 60 years and above. This indicates a notable shortfall compared with national MICS benchmarks and suggests under-coverage of elderly support in the study location.

The lower rate may reflect beneficiary selection gaps, documentation barriers, quota limitations, or access and enrollment constraints.

Taken together, the comparison of MICS national data and survey findings shows a mixed picture: relatively stronger safety net reach among PWD households (40%), but weaker coverage of old-age allowance for the 60+ population (18%) in the surveyed area. This pattern points to uneven social protection delivery and highlights the need for improved targeting and enrollment mechanisms, especially for older persons.

Section 07: Climate Change Knowledge & Climate-Related Migration

7.1 Coverage of heard of or understood climate change concepts

Evidence from published national research on Bangladesh (peer-reviewed studies indexed in PubMed Central) indicates that approximately 57% of people have heard of or understand basic climate change concepts. In contrast, the survey found only 38% with climate change knowledge. This represents a 19-percentage-point gap, showing that awareness in the surveyed population is roughly half the level reported in national research samples. Statistically, this suggests a significant local knowledge deficit, likely linked to lower access to information, weaker risk communication outreach, or lower education exposure in the target communities. The finding implies that climate awareness and adaptation messaging are not reaching vulnerable groups effectively.

7.2 Coverage of climate-related migration in south coastal areas of Bangladesh

Regarding climate-related migration, national urban composition studies show that about 60% of slum populations in major cities consist of climate-related migrants considering the last five years, indicating strong climate pressure as a driver of urban displacement. Your survey, conducted in peri-urban or rural areas near cities, found 44% of households reporting climate-related migration. Although lower than the urban slum benchmark, this is still a very high proportion, confirming that climate stress is already driving substantial mobility even before full urban settlement occurs.

Taken together, the comparison shows a dual vulnerability pattern: lower-than-national climate knowledge (28% vs 57%) alongside high climate-related migration pressure (44% vs 60% urban benchmark). This combination indicates that affected populations are moving due to climate shocks despite having limited conceptual understanding of climate change, underscoring the need for targeted climate awareness, preparedness education, and resilience programming in peri-urban and rural fringe areas.

Section 08: Challenges, Way forward and Recommendations

8.1 Challenges During Data Collection

- **Pre-election timing of data collection:** Conducting the survey just before the election created hesitation and sensitivity among community members, reducing openness and response reliability.

- **Verification burden through NID collection:** Collecting National ID (NID) information for accuracy increased respondent concern about privacy and data use, causing delays and partial refusals.
- **Limited community awareness about NGO activities:** Many households had inadequate understanding of NGO roles and purposes, leading to mistrust and low engagement during interviews.
- **New field presence of Green Resilience And Cooperation for Ecosystem:** As a newly introduced organization in the working area, community recognition and credibility were initially low, affecting cooperation levels.
- **Technical knowledge gaps among data collectors:** Some enumerators had limited in-depth understanding of MNCH, WASH, and livelihood concepts, which constrained probing quality and accurate categorization of responses.
- **Communication and explanation challenges:** Difficulty in clearly explaining technical indicators and program themes to respondents reduced the depth of qualitative insights.
- **Time pressure in the field:** Extra time needed for identity verification and trust-building reduced the number of households covered per day.

8.2 Way Forward / Recommended Actions

- **Adjust timing of future surveys:** Avoid politically sensitive periods (such as pre-election weeks) and schedule data collection in more neutral timeframes.
- **Strengthen community orientation first:** Conduct brief courtyard meetings and stakeholder introductions before surveys to explain NGO objectives, data privacy, and benefits.
- **Use official introduction letters and local leaders' support:** Engage local representatives and respected community figures to endorse the data collection process.
- **Improve consent and privacy messaging:** Clearly explain why NID data is collected, how it is protected, and ensure written or verbal informed consent.

- **Capacity building for enumerators:** Provide structured training and refresher sessions on MNCH, WASH, and livelihood indicators, including practical field simulations.
- **Develop simple field guides:** Prepare short indicator reference cards and probing checklists for enumerators to ensure consistent understanding.
- **Pilot testing before full rollout:** Run a small pilot survey to identify comprehension gaps and adjust tools and training accordingly.
- **Continuous field supervision:** Assign experienced supervisors to conduct spot checks and on-site mentoring to maintain data quality.

8.3 Recommendations Based on Key Findings

- **Strengthen adult literacy and non-formal education programs** targeting low-income rural households, as the no-schooling rate (51%) is far higher than national levels reported by Bangladesh Bureau of Statistics; integrate functional literacy with livelihood skills.
- **Expand targeted income and livelihood support packages** for extreme poor households, since average monthly income is significantly below national HIES benchmarks from Household Income and Expenditure Survey; prioritize small business, poultry, and micro-enterprise grants.
- **Prioritize WASH infrastructure investment and behavior change campaigns** because hygienic toilet access and handwashing knowledge/practice are far below national survey levels reported by Multiple Indicator Cluster Surveys; combine hardware support with continuous hygiene promotion.
- **Scale up MNCH outreach and referral support** to increase ANC (4+ visits), early PNC, and skilled birth attendance, aligning with benchmarks from Bangladesh Demographic and Health Survey; deploy community health volunteers and mother support groups.
- **Promote maternal and child nutrition interventions** including exclusive breastfeeding counseling and complementary feeding education, as MAD and

women's dietary diversity are critically low; introduce household nutrition demonstrations and food group diversification.

- **Review high C-section concentration and low facility-use balance** by strengthening counseling on safe delivery choices, second-opinion systems, and public facility linkages to avoid medically unnecessary procedures.
- **Boost household agriculture, poultry, livestock, and aquaculture adoption** through starter asset packages, technical training, and input linkages, since adoption rates are far below national agricultural census figures; use cluster-based producer groups.
- **Implement secondary school retention and stipend support programs** to address the very high dropout rate compared with Bangladesh Bureau of Educational Information and Statistics data; include tutoring, parental counseling, and cost support.
- **Increase women's economic participation** through women-focused IGA training, access to finance, and market linkage, as engagement is far below national MICS levels; integrate childcare-friendly work models.
- **Expand access to social safety nets and climate resilience support** by facilitating enrollment in disability and old-age allowances, and adding climate adaptation awareness and migration-preparedness training for vulnerable households in coastal and peri-urban zones.

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