Study Report |

Landscape Analysis of Community Resilience to Disasters by Addressing Sexual and Reproductive Health and Rights in the Gaibandha and Satkhira Districts of Bangladesh

PATHFINDER

Landscape Analysis of Community Resilience to Disasters by Addressing Sexual and Reproductive Health and Rights in the Gaibandha and Satkhira Districts of Bangladesh

Pathfinder International Bangladesh
5th Floor, Shezad Palace
32 Gulshan Avenue North C/A
Dhaka – 1212, Bangladesh
+88 01908837980-4

Pathfinder International USA
9 Galen Street
Watertown, MA 02472, USA
+1 617 924 7200
www.pathfinder.org

University of Dhaka
Department of Population Sciences
Third Floor, Arts Building, University of Dhaka,
Dhaka-1000, Bangladesh
Telephone: 02-9612209, Cell: 01766517100
www.du.ac.bd/body/POPS

Suggested citation
Pathfinder International and the Department of Population Sciences, University of Dhaka. "Landscape Analysis of Community Resilience to Disasters by Addressing Sexual and Reproductive Health and Rights in the Gaibandha and Satkhira Districts of Bangladesh." Pathfinder International, 2022.

CONTRIBUTORS

Study Design

Dr. Md. Rabiul Haque, Professor, Department of Population Sciences, University of Dhaka, Bangladesh
Dr. Md. Aminul Haque, Professor, Department of Population Sciences, University of Dhaka, Bangladesh
Dr. Mohammad Mainul Islam, Professor, Department of Population Sciences, University of Dhaka, Bangladesh

This study was designed by the Department of Population Sciences at the University of Dhaka, with Pathfinder International's Monitoring, Evaluation, and Learning (MEL) team.

Site Principal Investigators

Caroline Crosbie, Senior Country Director, Pathfinder International, Bangladesh
Dr. Md. Rabiul Haque, Professor, Department of Population Sciences, University of Dhaka, Bangladesh

Data Analysts

Dr. Md. Rabiul Haque, Professor, Department of Population Sciences, University of Dhaka, Bangladesh
Asif Hasan, M&E Specialist, Pathways Consulting Services Ltd.
Rifa Jannat Mahjabin, Research Associate and Graduate Student of Department of Population Sciences, University of Dhaka, Bangladesh
Saiful Hasan, MEL Manager, Pathfinder International, Bangladesh

Report Writers

Dr. Md. Rabiul Haque, Professor, Department of Population Sciences, University of Dhaka, Bangladesh
Saiful Hasan, MEL Manager, Pathfinder International, Dhaka, Bangladesh

Technical support was provided by Liliane Winograd, Liaquat Ali, Mahbub Alam, Caroline Crosbie, and Saiful Hasan. Communications support was provided by Maren Vespia.

ACKNOWLEDGMENTS

Pathfinder extends our sincere thanks to every participant from the 16 study villages of the eight unions under the selected two upazilas of Gaibandha and Satkhira districts. Thank you for sharing your valuable perspectives related to disasters, climate shock, health behaviors, coping strategies, livelihoods, and other socioeconomic and demographic information. We are grateful to the Upazila Family Planning Officers, Medical Officers, Program Officers, and Family Planning Inspectors at each study site. Thank you to Dr. Mahbuba Nasreen (Professor), Dr. Khondokar Mokadem Hossain (Professor), and Md. Khalid Hasan (Assistant Professor) from the Institute of Disaster Management and Vulnerability Studies for your expertise and guidance. We wish to express appreciation to Mr. Asif Hasan, Data Management Expert, Ms. Rifa Jannat Mahjabin, Research Associate of this project, and all the Field Supervisors and Enumerators for their active support and cooperation. We also wish to express appreciation to the Institute of Disaster Management and Vulnerability Studies at the University of Dhaka for their guidance and ethical clearance.

Support for this study was provided by Pathfinder International's Pathfinding Fund, and this publication was made possible through the support of Pathfinder's Women-Led Climate Resilience Fund. The content is solely the responsibility of Pathfinder International.

Table of Contents

1. EXECUTIVE SUMMARY 10

Study districts 11

Study sample and key findings 12

Recommendations 16

2. BACKGROUND 19

Urgent and interconnected needs 21

Holistic response to disasters and the climate crisis in Bangladesh 22

Vulnerability of women during disasters 24

SRHR and its components 25

Management of SRH in emergencies 26

Community resilience to disaster and SRHR 27

Frameworks for disaster management and resilience 28

Pathfinder's Women-Led Community Resilience Framework 29

Focusing on "women-led" 31

3. RESEARCH METHODOLOGY 33

Research methods and design 33

Study area and sample 34

Data collection tools 36

Data analysis plan 36

Ethical assurance for protection of gender and human rights 37

4. FINDINGS 38

Socioeconomic profile of the respondents and their households 38

Households' experience of disasters and disaster preparedness and resilience strategies 42

Experience of general illness during the last disaster and their response to recover illness 47

Understanding child marriage, family planning, and MCH situation in study areas 49

Effects of disasters on the availability and utilization of SRHR services 56

Community involvement with local providers for disaster management and SRHR service delivery 67

Essential needs and approaches for delivering services during disasters 70

Community views on the integration of family planning into agriculture and nutrition programs 72

Effects of working through CBOs and empowering women 73

Role of volunteers in reducing GBV, early marriage, and teenage pregnancy 76

Women's decision-making capacity in disaster-affected areas 78

Respondents' perceptions of physical violence by husbands 79

Sources of learning about information, education, and communication (IEC) and behavior change communications (BCC) specific to SRHR issues 80

Programs and actions to address disaster effects and shortcomings of existing efforts 81

5. CONCLUSIONS 85

6. RECOMMENDATIONS 88

7. REFERENCES 91

8. ANNEXES 96

Annex 1: Survey questionnaire in English 96

Annex 2: Guidelines for in-depth interviews and key informant interviews 130

List of Figures

Figure 1: Pathfinder International's Community Resilience Framework 30

Figure 2: Gaibandha district 35

Figure 3: Satkira district 36

Figure 4: Respondents' occupation by districts (%) 39

Figure 5: Spousal primary occupation of the respondents by districts (%) 39

Figure 6: Education of respondent's and their spouses by districts (%) 40

Figure 7: Households' monthly income (BDT), based on the last 12 months 41

Figure 8: Households' monthly expenditure (BDT), based on the last 12 41

Figure 9: Households' toilet facilities by districts (%) 42

Figure 10: Time (minute) spent each day by the households to collect freshwater by district (% of households) 42

Figure 11: Households' experience of natural disasters within the previous 5 years (% of households) 43

Figure 12: Length of time that households have lived in their current place of residence, by district (% of households) 44

Figure 13: Households' strategy to cope with recent disaster effects by districts (% of households) 45

Figure 14: Households' required time to return to the pre-disaster condition and disaster preparedness (%) ... 47

Figure 15: Using methods of contraception by districts (%) 50

Figure 16: Sources for SRHR-related services during disasters by districts, according to respondents (%) 55

Figure 17: Perception about the availability of care providers to health services during disasters (%) 56

Figure 18: Perceptions about risk of climate change for households 73

Figure 19: Knowledge and perception about the role of organization in disaster management 74

Figure 20: Link between natural disaster and violence against women by districts 76

Figure 21: Sources of relief and other supports during disaster and after disaster by districts 83

List of Tables

Table 1: Sample distribution..... 34

Table 2: Demographic characteristics of the respondents and their spouse by districts 38

Table 3: Household's ownership of homestead and agricultural land by districts 40

Table 4: Effects of the last natural disasters on households by districts (% households reporting these effects in the most recent disaster)..... 43

Table 5: Households' experience of displacement and displacement costs by districts..... 45

Table 6: Households' strategies to cope with general income and expenditure imbalance by districts (% of households reporting using these strategies) 46

Table 7: Where Households took shelter during recent natural disaster by districts..... 47

Table 8: Households' experience of general illness during the last disaster and their responses by districts (% of household reporting) 48

Table 9: Sources of care for general illness by districts 48

Table 10: Respondents' age at first marriage and perception about age at first marriage by districts..... 49

Table 11: Respondents' source of information about the importance of using SRHR services..... 54

Table 12: Knowledge about the service providers/center responsible to provide SRHR services by districts 54

Table 13: Respondents' perceptions about how their service utilization on SRHR is affected due to disaster..... 57

Table 14: Respondents' self-reported actions towards access to SRHR and other health services during disasters by districts..... 58

Table 15: Health care service source availability at village and union levels during disaster 59

Table 16: Frequency of health care services utilization by districts 59

Table 17: How climate change and disaster impact SRHR service delivery systems, service requirements, and services received..... 60

Table 18: Causes of not receiving any care by type of SRHR related problems (%) 61

Table 19: Percent of respondents who indicated sources of care by type of SRHR-related problems 62

Table 20: Reasons for disruption in receiving services in case of disaster by type of SRHR related problems..... 63

Table 21: Coping strategies to seek care during disasters by type of SRHR-related problems 63

Table 22: Respondents who were pregnant during disasters and received ANC by districts..... 64

Table 23: Delivery care during the last disasters by districts 65

Table 24: Percent of respondents believe community peoples' participation in disaster management and SRHR service delivery can be helpful by districts 69

Table 25: Effects of disaster on households' food security by districts 71

Table 26: Perception about the role of volunteers and organizations in disaster management by districts 73

Table 27: Link between natural disaster and violence against women by districts 76

Table 28: Percent of respondents scopes for decision-making capacity in disaster-affected areas by districts... 79

Table 29: Respondents' perception about physical violence by husbands by districts 80

Table 30: Source of information about IEC and BCC to relates to SRHR by districts 80

Table 31: Percent of respondents received support from programs/organizations/services/community people to address disaster vulnerabilities by districts 82

Acronyms

ANC	antenatal care
BBS	Bangladesh Bureau of Statistics
BCC	behavior change communication
BDHS	Bangladesh Demographic and Health Survey
CC	community clinic
CSBA	community skilled birth attendant
CPR	contraceptive prevalence rate
CBOs	community-based organizations
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
DHS	Demographic and Health Survey
EmOC	emergency obstetric care
FPI	family planning inspector
FWA	family welfare assistant
FWV	family welfare visitor
GBV	gender-based violence
GOB	Government of Bangladesh
HPNSP	4th Health, Population, and Nutrition Sector Program
IEC	information, education, and communication
IMR	infant mortality rate
ICDDR,B	International Centre for Diarrheal Diseases Research, Bangladesh
ICPD	International Conference on Population and Development
IDIs	in-depth interviews
IPCC	Intergovernmental Panel on Climate Change
KIIs	key informant interviews
MCH	maternal and child health
MNCH	maternal, newborn, and child health
MoDMR	Ministry of Disaster Management and Relief
MO	medical officer
MMR	maternal mortality rate
NGOs	nongovernmental organizations
PHC	primary health care
PNC	postnatal care
SACMO	sub assistant community medical officer
SDGs	Sustainable Development Goals
SRH	sexual and reproductive health
SRHR	sexual and reproductive health and rights
STDs	sexually transmitted diseases
TFR	total fertility rate
UH &FWC	union health and family welfare centre
UHC	upazila health complex
UPO	upazila program officer
WHO	World Health Organization

1. EXECUTIVE SUMMARY

Bangladesh ranks seventh in the world among countries suffering most from extreme weather events.[1] Nearly every year, Bangladesh is exposed to extreme natural disasters—cyclones, tidal surges, floods, and riverbank erosion—that displace hundreds of thousands of people in the densely populated low-lying basins and flood-plain areas of Bangladesh's major rivers. Rising sea levels and floods affect the quality of fresh water as well as agricultural productivity and yield. These disasters threaten households' incomes, homes, education, and health. Climate change exacerbates these challenges, making flooding more unpredictable and monsoons more extreme. Fragile disaster preparation efforts and rural health systems are increasingly pushed to their limits. At the center of this worsening storm, one marginalized population is disproportionately affected by climate- and disaster-related risks: women and girls.

In 2017, the Government of Bangladesh (GOB), through the Ministry of Health and Family Welfare (MOHFW), reaffirmed its strong commitment to delivering lifesaving health services to hard-to-reach populations, especially vulnerable women and children.[2] To support the GOB's efforts ensuring no communities are left behind—and to accelerate progress toward achieving Universal Health Coverage and Bangladesh's Sustainable Development Goal targets by 2030—Pathfinder International, in partnership with the University of Dhaka, undertook this Landscape Analysis of Community Resilience to Disasters by Addressing Sexual and Reproductive Health and Rights in Gaibandha and Satkhira Districts. The study's goal was to better understand vulnerable populations' resilience capability to address shocks, including their needs related to sexual and reproductive health and rights (SRHR). Researchers analyzed community resilience—the capacity to adapt to changes caused by disaster- and climate-related vulnerabilities—where unmet need of SRHR services are compromised or overlooked.

Conducted May–September 2021, this study used a mixed-methods approach that combined both qualitative (key informant interviews [KIIs] and in-depth interviews [IDIs]) and quantitative methods (survey). The study aimed to sketch a holistic picture of socioeconomic and health stresses associated with disaster-related shocks and how respondents mitigate and cope with these shocks and stresses to build resilience, with crucial attention to sexual and reproductive health (SRH) services.

1 Eckstein D, Künzel V, and Schäfer L. (2021). Global Climate Risk Index 2021. Berlin: Germanwatch.

2 The 4th Health, Population and Nutrition Sector Program (HPNSP) aims to improve equity, quality, and efficiency—to drive significant improvements in a range of critical health areas, including reproductive, maternal, newborn, and child health (RMNCH), as well as nutrition.

Study districts

Researchers collected data from two districts:

Gaibandha

A mainland region within Rangpur division, Gaibandha comprises a total area of 2,179 square kilometers, including 108 square kilometers of total river area. Notable rivers include Bhramhaputra, Tista, Kartoa, and Ghaghot.

One of Bangladesh's districts most severely affected by flooding and erosion, Gaibandha belongs to a mainland region where people's livelihoods are adversely affected by a concentration of various slow-onset natural disasters.[3] More than 80 percent of people here are directly or indirectly involved with agricultural production. Char dwellers make up 30.3 percent of the total population of Gaibandha. Households in the char areas are more vulnerable to climate change due their proximity to flood-prone rivers.[4,5] Regardless of their geographic connection to the mainland and distance from the growth centers, char land regions are exceptionally susceptible to flood, drought, and river erosion. Due to its high climate-sensitivity to flooding, erosion, and configuration of rivers, large amounts of sediment in the water makes this area particularly dynamic. Shortages and challenges—limited access to food, health, education, habitation, and empowerment—make it almost impossible for char dwellers to rise above the poverty cycle.[6,7,8]

Satkhira

A coastal region in the Khulna division, Satkhira comprises a total area of approximately 3,817 square kilometers, of which one-third is covered by mangrove forest. In the southern areas of Satkhira, the nature of the soil structure in the south is saline and clayey. Due to the direct connection of the rivers of the region with the sea, the rivers carry saline water. Satkhira is classified as a climate-affected district, as the populations of these areas have experienced all forms of sudden-onset natural disasters occurring in the coastal region.[9]

The dominating disasters are cyclones, sea-level rise—and consequently, salinity intrusion—tidal fluctuation, waterlogging, and erosion in the district, which cause massive human casualties, property damage, and economic loss. Over time, such multi-hazard-prone areas faced significant

3 Arsenault M, Azam M, & Ahmad S. (2015). Riverbank Erosion and Migration in Bangladesh Char Lands. Environment, Migration and Adaptation: Evidence and Politics of Climate Change in Bangladesh, 41-62.

4 Sarker N, Wu M, Alam G, & Shouse R. (2020). Livelihood diversification in rural Bangladesh: Patterns and determinants in disaster prone riverine islands. Land Use Policy, Volume 96.

5 Alam G. (2017). Livelihood Cycle and Vulnerability of Rural Households to Climate Change and Hazards in Bangladesh. Environmental Management, Volume 59, 777-791.

6 Sarker, et. al, (2020). Livelihood diversification in rural Bangladesh.

7 Alam (2017). Livelihood Cycle and Vulnerability of Rural Households to Climate Change and Hazards in Bangladesh.

8 Lahiri-Dutt K and Samanta G (2007), ''Like the Drifting Grains of Sand': Vulnerability, Security and Adjustment by Communities in the Charlands of the Damodar River, India', South Asia-Journal of South Asia Studies, vol. 30, no. 2, pp. 327-349.

9 Ahmed B, Kelman I, Fehr H, & Saha M. (2016). Community Resilience to Cyclone Disasters in Coastal Bangladesh. Sustainability 8.

structural constraints related to poverty, governance, malnutrition, which create vulnerability and disaster risk over the long-term. These issues have been exacerbating due to anthropogenic (human) interventions, which contribute to the deterioration of the water quality of the district.

It is important to note that the socioeconomic, cultural, and health-related aspects of the studied population of one district are likely to be similar to other disaster-affected countries located in the same region.[10]

Study sample and key findings

Four subdistricts (two from each district) and eight unions (two from each subdistrict) were selected purposively based on the intensity of shocks-related information obtained from the local government office, NGOs, and locally elected personnel. Then, villages under the unions were selected randomly. Finally, households from each village (one woman from each household) were selected using a systematic random sampling approach to reach the targeted sample. A total of 645 women aged 18 to 47 were interviewed in this study.

Study findings suggest that disasters contribute to poverty, which leads to income shock, drives food insecurity, and creates barriers to SRH services for women. In addition, disasters threaten all women and girls who experience acute vulnerability related to SRHR, including limiting their access to antenatal, delivery, and postnatal care. Key findings of the study include the following:

Socioeconomic profile of the respondents and their households

Respondents (women) in both areas were predominantly involved in household tasks. The proportion of women with no education was almost double in Gaibandha than Satkhira. The spouses of the respondents are predominantly involved in agricultural sectors, mainly in labor-intensive work. Households in both areas do not own land for agricultural work. Almost 41 percent of households in Gaibandha have no homestead land.

The incomes and expenditures were higher for households in Satkhira than households in Gaibandha. About half of respondents in Gaibandha and more than two-thirds in Satkhira endured household expenditure higher than their income. Households took multiple strategies to cope with income-expenditures imbalances, including stopping children's schooling and postponing necessary health care.

Households in Satkhira spent an average of 27 minutes per day collecting fresh water, which is approximately 13.5 times longer than households in Gaibandha spent completing this task.

Households' experience of disasters, disaster preparedness, and resilience strategies

Frequent exposure to various types of disasters—floods, riverbank erosion (a longer-term issue that holds acute crises-type impact), cyclones, tidal wave, waterlogging, and water salinity—contribute to

10 Ahmed SM, Alam BB, Anwar I, Begum T, Huque R, Khan JAM, et al. Bangladesh Health System Review. Geneva: WHO 2015.

making households in both areas socioeconomically disadvantaged. Cyclones, water salinity, and tidal waves were the most common types of disasters identified by respondents in Satkhira district.

Disaster-induced displacement is a common and recurrent event for a large of number of the households surveyed, particularly in Gaibandha district. More than 28 percent of respondents from Gaibandha were displaced more than once in the last five years, compared to 17 percent in Satkhira. While households in Gaibandha spent on average TK. 64,683 for the most recent displacement, households in Satkhira spent TK. 37,852.

Respondents in both areas have a clear perception of the adversity of disasters, identifying a wide range of negative impacts of disasters, including stress/anxiety/fear, loss of livelihood/income, damages of home, loss of assets, loss of water supply, reduced access to health care, homelessness, and broken communication. Households' preparedness to move to another location during an emergency was found to be lower in Gaibandha than in Satkhira. In both districts, more than half of the households surveyed were *not prepared at all* to cope with future natural disaster effects. Return to the pre-disaster situation recovering the shocks of disasters is *not possible at all* according to 63 percent of the households.

Experience of general illness during disaster and ability to recover from illness

More than half of respondent households' members experienced general illness during the recent disaster, with a greater incidence in Gaibandha than Satkhira. The top five reported illnesses were headache, common cold/cough/fever, diarrhea, dysentery, and skin diseases. The major sources of health care services were pharmacy, locally available health center/providers, home service providers, and alternative care providers (Homeopathic/Kobiraj).

Women's understanding of SRHR and utilization of SRHR-related services

Respondents in both areas have a limited understanding of SRHR. While respondents reported receiving SRHR-related information from friends/relatives/neighbors, government, and NGO health workers, they primarily relied on friends/relatives/neighbors for information related to family planning services. The utilization of formal care for SRHR was limited among respondents, though most reported having knowledge about SRHR service providers. Unaffordability, unavailability of and inaccessibility to quality services, and disaster-induced damages were overly implicated in respondents' limited use of quality care. Service delivery and use were also adversely affected by the Covid-19 pandemic.

Maternal health and family planning situation

The incidence of child marriage was strikingly high in studied areas; more than seven in ten respondents married before the age of 18, which aligns with findings from BDHS 2017. Only a very small proportion of respondents—around 13 percent—used modern sanitary napkin for menstrual hygiene. Approximately 37 percent of respondents were not using contraception for multiple reasons, including wanting to have a baby, being currently pregnant, and side effects.

Only about one-fifth of the respondents knew about the WHO-recommended antenatal care (ANC) visits, and less than one-fifth of women across both study areas had completed the recommended four or more ANC visits during their last pregnancy. Moreover, a significant proportion of respondents—23 percent in Gaibandha and 30 percent in Satkhira—did not receive any ANC during their most recent pregnancy.

In Gaibandha, 20 percent of respondents reported that they were pregnant during the most recent disaster, compared to 9.8 percent in Satkhira. Approximately 60 percent of respondents who had been pregnant during the most recent disaster attended at least one ANC visit. During the most recent disaster, 20 percent of the respondents gave birth, and only 34 percent of them gave birth at a health center. Those who gave birth at home received delivery care assistance predominantly from relatives/local aged women or from traditional birth attendants. Nearly 20 percent (19.4%) of respondents in Gaibandha and 4.4 percent in Satkhira reported receiving postnatal care (PNC) within seven days of delivery during the last disaster.

Respondents cited multiple reasons for infrequently visiting health centers and services for ANC, delivery care, and PNC, including not perceiving such care as important, inability to pay, fear of Covid-19 infection, long-distance/travel inconvenience, lack of information, disaster-induced difficulties, family tradition,[11] and a previous experience. IDIs revealed similar findings. According to study narratives, roads were flooded during the last disaster, and the community clinic was closed. As a result, women faced various challenges accessing health and family planning services.

Effects of disasters on the availability and utilization of SRHR services

Health of the disaster-exposed population was affected in multiple ways. A vast majority of respondents perceived that overall physical and mental health/wellbeing, along with SRH service provision, were affected during natural disasters. For example, menstruation time/duration, hygiene practices during menstruation, and access to family planning services were affected at the time of disasters for 47 percent, 45 percent, and 36 percent of the respondents, respectively. While the majority of respondents—approximately 90 percent—did not take any measures to cope with these challenges, some respondents—less than 10 percent—addressed these challenges by receiving care from pharmacies, followed by government health care providers.

While a wide range of respondents experienced SRHR-related service gaps, they predominantly relied on informal sources, such as local pharmacy/pharmacist/alternative care practitioners for SRHR-related problems. Respondents who did not receive any health care identified the following reasons: they did not feel the need for care for SRHR-related problems and the cost of services was too high.

11 For example: a commonly held belief among families that one should not go to hospital or clinic for SRH services.

Role of community members and volunteers in disaster management and SRH services

Involving community members and volunteers is important to identify the needs and improve resilience of the disaster-affected people,[12] as 32 percent of disaster-affected households surveyed reported that they received support (e.g., financial, physical, mental, food and water, medical aid, and space for living) during a disaster from outside of their family members to manage the effects of disasters. A significant number of respondents mentioned that they received help from neighbors, friends, and community leaders during sudden death/illness. Health care providers also mentioned that the involvement of volunteers and community members with local health providers could play an important role in disaster management and the delivery of SRH services during and after disasters.

Women's empowerment, violence against women, and role of local volunteers

The study found that 9.1 percent of respondents in Gaibandha and 16.6 percent in Satkhira were involved in income-generating activities, but only a small percentage of these respondents—9.4 percent in Gaibandha and 2.8 percent in Satkhira—made the decision for themselves about how to spend their income. A low level of involvement was also reported in relation to respondents' decision-making about major household purchases, visiting family or relatives, and the child's health care. Overall, in all cases, respondents alone had a minimal role in the family decision-making.

Eighty-four percent of the respondents perceived that violence against women increased during disasters. A significant proportion of the respondents (43%) reported experiencing gender-based violence (GBV) during the most recent disaster. The forms of violence were verbal, mental, physical, and sexual harassment. The highest proportion of women—around 42 percent—endured such violence by their husbands in their own homes. More than half of the respondents justified such violence in several situations. Violence against women was also considered a frequent event by around 29 percent of the respondents. According to some respondents, the involvement of volunteers could play a vital role in reducing gender-based violence, early marriage, and teenage pregnancy.

Needs of essential services at home during disasters and best approaches to deliver

Food crisis—one of the catastrophes of disaster—was highlighted by respondents in this study. Nearly 90 percent of respondents reported that their households experienced food scarcity due to disasters. Specifically, 83 percent of households in Gaibandha and 73 percent in Satkhira reported experiencing food scarcity in the last 12 months. Despite this need, only two-fifths of households in Gaibandha and one-fifth in Satkhira reported receiving disaster relief supports after the most recent disaster from various sources, such as the government and nongovernmental organizations (NGO).

Respondents revealed that the involvement of local volunteers in managing disaster effects is either very important (40.3% in Gaibandha or 53.2% in Satkhira) or important (52.2% in Gaibandha and

12 For this study, resilience is defined as the capacity of a community to prevent and mitigate stresses caused by a disaster.

42.4% in Satkhira). Respondents from both Gaibandha (79.7%) and Satkhira (91.7%) mentioned that the involvement of organizations is important to improve disaster resilience.

The importance of receiving disaster-relief services was also emphasized in the qualitative interviews. Respondents spoke of the need for delivering SRHR-related services, particularly sanitary napkins and contraceptive methods, at home during disasters. Multiple respondents from communities, health centers, and the government highlighted the work of NGOs that provide disaster relief, such as support for hygiene, clean water, nutrition.

Integration of SRHR into agriculture, nutrition, and disaster management programs

Service providers reached through KIIs and community people perceived the importance of integrating SRHR-related issues into agriculture and nutrition programs. Such integration could facilitate the service delivery program with limited staff and address stigma and misperceptions, such as pressure from community members to limit a pregnant woman's protein intake during pregnancy.

Recommendations

Based on these findings—which demonstrate the adverse effects of disasters in Gaibandha and Satkhira districts on women's SRHR, their health care service utilization, their coping strategies, and their households—the research team provides the following recommendations for partners, implementers, funders, and other stakeholders interested in advancing women-led climate resilience programs:

Enhance collaboration across the SRHR ecosystem

The integration of agriculture, nutrition, and local government programs with health and family planning programs may effectively increase health care coverage and make SRHR services available to all. This is particularly true in disaster-affected areas that face shortages in health workforces, where coordination is possible between various government agencies and NGOs—including civil society organizations (CSOs) and CBOs.

For future interventions, Pathfinder recommends efforts to enhance collaboration between advocacy communities focused on climate change, health, and women's rights. The establishment of a dedicated network of actors—focusing on SRHR and climate change—can strengthen dialogue, collaboration, activities, and processes among diverse stakeholders, including women-led CSOs and CBOs. Pathfinder recommends developing a comprehensive plan that includes a mechanism for coordination before, during, and after disasters.

Preparation, training, and coordination to maintain access to skilled GBV-response services through disaster and recovery is critical to protecting women and girls and building the resiliency of communities' SRHR systems. Pathfinder recommends leveraging the high levels of continuous access to pharmacies during disaster periods by working intra-crisis to strengthen first-line response capacity of pharmacists as well as referral mechanisms between pharmacies and advanced care

sites, such as designated hospitals or one-stop crisis centers supported by the Ministry of Women and Child Affairs.

It is important to recognize and advance a full range of SRH services to prepare for, respond to, and recover from climate-related disasters. More attention to SRHR in disaster risk management (DRM) processes is needed. This includes addressing both the process of DRM planning and the practicalities of preparing for, responding to, and recovering from disasters.

Advance gender-responsive and gender-transformative climate action

Where communities experience a high prevalence of child marriage, have a limited understanding of SRHR, and are dependent on informal channels for SRHR-related information, social awareness and media campaigns may prove beneficial. Pathfinder recommends involving local volunteers; youth champions; influential local, political, and religious leaders; and services providers of government and nongovernmental agencies in campaigns focused on the adverse effects of child marriage and GBV. To reduce baseline levels of GBV—and the overall prevalence of violence against women—intra-crisis action is needed. Consider creating opportunities to increase women's role in family decision-making, offering ecologically supportive income-generating activities that involve women and girls, and raising awareness about the effects of GBV and solutions for addressing it.

Promote gender-transformative climate action by addressing the linkages between climate change and SRHR. Seize opportunities to strengthen these linkages within the Gender Action Plan under the United Nations Framework Convention on Climate Change (UNFCCC), the Women and Gender Constituency (of the UNFCCC), and through the climate National Adaptation Plans development process.

Set targets for inclusive, gender-balanced, multi-sectoral stakeholder participation in climate policy. Use gender-responsive climate action as the starting point for addressing SRHR. It is essential to include women-focused CSOs and people in all their diversity in participatory policy processes.

Build resilient health systems

Due the alarmingly low utilization of quality ANC, delivery services, PNC, and other SRHR-related care during disasters, consider making special arrangements to increase RMNCH coverage and use of services.

A lack of transportation and geographic access emerged as key barriers to health care during disasters. Pathfinder recommends investing in multi-option response systems to ensure continuous access to essential services. Examples include delivering SRHR services at home, through telemedicine, and by boats, and by involving trained birth attendants based in communities. In addition, high-impact community distribution practices, such as the advanced distribution of misoprostol for prevention of postpartum hemorrhage and the advanced distribution of chlorhexidine for neonatal cord care, may be valuable when a climate event is forecasted.

Considering disaster-affected populations' increased dependency on pharmacies and alternative care providers, taking steps to involve and build the capacity of drug sellers at pharmacies may prove beneficial for improving the quality and utilization of basic health services, especially in disaster-prone areas.

Invest in health systems to address the underlying causes of vulnerability to climate change. Investments in resilient health systems—with a focus on SRHR—provide opportunities to address persistent barriers to the realization of the right to health while addressing underlying causes of vulnerability to climate change.

Close remaining evidence gaps

Invest in research to address evidence gaps and integrate the analysis of SRHR and climate data. Greater investment in research, with an intersectional lens, on the social and gender dimensions of climate change and action is needed, so the evidence base and argument can be strengthened and incorporated in global policies, plans, and programs. Climate-related sex-disaggregated data need to be systematically collected and analyzed.

Promote resilient livelihoods and nutrition

Due to households' frequent exposure to disasters and the adverse effects on livelihoods, Pathfinder recommends working to provide alternative income opportunities at the local level—to minimize disaster disadvantages and socioeconomic impoverishment. In addition, governments and relevant NGOs should consider developing a compressive workplan involving volunteers and community members to address economic hardship as part of its emergency response during disasters.

2. BACKGROUND

Many people in Bangladesh do not have equitable access to lifesaving SRHR-related services and, as a result, experience high morbidity and mortality.[13,14,15] Since 2017, the GOB, through the Ministry of Health and Family Welfare, has been implementing a range of initiatives in cooperation with development partners under the 4th Health, Population, and Nutrition Sector Program (HPNSP) to stimulate demand and improve access to and utilization of health, population, and nutrition services to reduce morbidity and mortality, particularly among infants, children, and women; reduce population growth rate; and improve nutritional status, especially of women and children. HPNSP aims to improve equity, quality, and efficiency—to facilitate the country's movement towards achieving Universal Health Coverage and health-related targets of the Sustainable Development Goals (SDGs) by 2030. However, while HPNSP highlights SRHR-related services for hard-to-reach areas in general, it provides no specific strategy to deal with disaster-driven service gaps. None of the regional operational plans have specific intervention related to SRHR services during disaster.

The Intergovernmental Panel on Climate Change (IPCC) defines resilience as "the capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation."[16] Bangladesh has made remarkable progress in implementing its sectoral program relating to maternal, newborn, and child health (MNCH) and family planning indicators and in reducing maternal and child mortality over time. However, efforts to meet national targets to reduce maternal and infant mortality are threatened by vulnerable communities' frequent exposure to extreme natural disasters and forced displacement.[17,18]

As Bangladesh works to ensure access to SRH services, including family planning, the country faces challenges due to large and growing number of internally displaced people as well as refugees.[19] The geographic location of Bangladesh contributes to frequent natural disasters—particularly floods and riverbank erosion—that cause displacement for hundreds of thousands of people every year in

13 O'Donnell O. Access to health care in developing countries: Breaking down demand side barriers. Cadernos de Saúde Pública 2007;23:2820-2834.

14 Ahmed SM, Alam BB, Anwar I, Begum T, Huque R, Khan JAM, et al., editors. Bangladesh Health System Review. Geneva: WHO 2015.

15 UNDP, editor. Human Development Indices and Indicators: 2018 Statistical Update New York, USA: United Nations Development Programme; 2018.

16 IPCC. Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Groups II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. UK: Cambridge University Press; 2014.

17 Corsel D, Ray-Bennett N, Goaswami N. Research Report: Exploring the challenges and opportunities around reproductive health in disasters in Belkuchi Upazila, Bangladesh; 2019.

18 Huda F, Chowdhuri S, Robertson Y, Islam N, Sarker B, Azmi A, et al. Understanding Unintended Pregnancy in Bangladesh: Country Profile Report. 2013.

19 WHO. Improving Sexual and Reproductive Health services among refugees and internally displaced people. Geneva: World Health Organization; 2020.

the densely populated low-lying basins and flood-plain areas of its major rivers. Climate change makes the timing of flooding more unpredictable and monsoons more extreme, stressing already fragile disaster preparation and services.[20,21] Bangladesh's disaster-induced loss of GDP is around 30 percent annually. Seventy percent of all agricultural land damage is the result of river and coastal bank erosion.[22]

These perennial disasters unevenly affect the most marginalized rural populations, causing internal displacement and migration to other areas of Bangladesh by men in search of work, leaving a mainly female adult population in the affected areas. Disasters also cause homelessness, which has accompanying effects on health, household expenses, and education[23]—linkages that have been closely studied by the Department of Population Sciences at the University of Dhaka.[24] Households living in low-lying riverine areas or who have been displaced experience increased vulnerability due to their loss of homestead land and household assets as well as limited access to food, water, education, and health facilities.[25,26] Previous studies have focused on these populations' socioeconomic impoverishment, health disadvantages, and causes of displacement, as well as their adaptation and livelihood strategies.[27,28,29,30,31] A limited number of studies exist that explore the effects of displacement on the availability, accessibility, and use of health services for children's illness, antenatal, delivery, and postnatal care services have been explored.[32,33,34] There is a scarcity of information about the availability, accessibility, and acceptability of SRH services, including family

20 Corsel D, et al. Research Report: Exploring the challenges and opportunities; 2019.

21 Alam GMM. Livelihood cycle and vulnerability; 2017.

22 Islam M. Bangladesh Disaster-related Statistics 2020: Climate Change and Natural Disaster Perspectives. Dhaka: Bangladesh Bureau of Statistics; 2020.

23 WHO. Improving Sexual and Reproductive Health services among refugees and internally displaced people; 2020.

24 Haque MR, Parr N, Muhidin S. Climate-related displacement, impoverishment and health care accessibility in mainland Bangladesh. Asian Population Studies 2020;16(2):220-239.

25 Alam GMM. Livelihood cycle and vulnerability; 2017.

26 Rahman MM, Ahmad S. Health. Livelihood and well-being in the coastal delta of Bangladesh. Ecosystem Services for Well-Being in Deltas: Integrated Assessment for Policy Analysis. Cham: Springer International Publishing; 2018. p. 131-145.

27 Haque MR, et al. Climate-related displacement, impoverishment and health care accessibility in mainland Bangladesh, 2020.

28 Rahman MA, Islam S, Rahman SH. Coping with flood and riverbank erosion caused by climate change using livelihood resources: A case study of Bangladesh. Climate and Development 2015;7(2):185-191.

29 Arsenault M, Azam M, Ahmad S. Riverbank erosion and migration in Bangladesh's char lands. In: Mallick B, Etzold B, editors. Environment, Migration and Adaptation: Evidence and Politics of Climate Change in Bangladesh 1st ed. Dhaka: AHDPH; 2015. p. 41-62.

30 Haque M, Yamamoto SS, Malik AA, Sauerborn R. Households' perception of climate change and human health risks: A community perspective. Environmental Health 2012;11(1):1.

31 Haque MA, Budi A, Azam Malik A, Suzanne Yamamoto S, Louis VR, Sauerborn R. Health coping strategies of the people vulnerable to climate change in a resource-poor rural setting in Bangladesh. BMC Public Health 2013;13(1):1-11.

32 Haque MR, et al. Parents' health care-seeking behavior for their children; 2019.

33 Haque MA, et al. Health coping strategies of the people vulnerable; 2013.

34 Haque MR, Parr N, Muhidin S. Climate-Related Displacement and Antenatal Care Service Utilization in Rural Bangladesh. International Perspectives on Sexual and Reproductive Health 2020;46:175-185.

planning services, of the displaced people as such services are not widely available for this population.

Given the importance of addressing these barriers, this landscape analysis focuses on the current response by the GOB and other agencies to the frequent flooding and riverbank erosion by identifying the following:

- Issues that negatively impact women's health, especially those related to SRHR.
- Potential areas of multi-sectoral collaboration.
- An intervention approach, strategy, and activities to strengthen SRHR services to achieve targets related to SDG-3.
- Specific women-led community resilience activities.

Urgent and interconnected needs

Climate-related disasters account for more than 90 percent of all major recorded events around the globe between 1998 and 2017.[35] Due to disaster, women and children are 14 times more likely to die or be injured than their counterpart men.[36] Women and girls experience more extensive losses and are subject to several secondary impacts, including GBV and trauma, heightened workloads, and loss of economic opportunities, limited access to family planning and MCH services.[37] Worsening droughts and storms affect agriculture and water resources, which are often the responsibility of women.

According to IPCC, due to climate change, South Asia will suffer the most in 21st century than any other time in history. Changing weather will drive increases in heat waves and heavy precipitation in this region. For example, crop yields are estimated to decrease up to 30 percent in central and south Asia by the mid-21 century.[38] Bangladesh is one of the most climate-vulnerable countries in the world, due to its geographical location and very dense population. About 40 percent of all global storms are recorded in Bangladesh and, in the past 50 years, Bangladesh has faced the world's deadliest cyclones in terms of deaths and casualties.[39]

35 Centre for Research on the Epidemiology of Disasters UN Office for Disaster Risk Reduction, "Economic Losses, Poverty & Disasters 1998–2017," 2018.

36 UN-WOMEN. "Why is climate change a gender issue?" 2014.

37 UN-WOMEN; 2014.

38 Nasreen, M.; Hossain, K.M. Azad, A. K., & Hasan, M. K. (2017) Sexual and Reproductive Health during Emergencies: Situation Analysis of Disaster-Prone Areas of Bangladesh. Dhaka: Institute of Disaster Management and Vulnerability Studies, Bangladesh. ISBN: 978-984-34-2507-2.

39 Bureau DM. National Plan for Disaster Management, 2010–2015. In: Disaster Management & Relief Division Dhaka (Bangladesh); 2010.

Bangladesh's climate is characterized by wide seasonal variations in rainfall, rain-bearing winds, high temperatures, and humidity.[40] Bangladesh experiences subtropical monsoons as well as three distinct seasons: (1) a hot, humid summer from March to June; (2) a cool, rainy monsoon season from June to October; and (3) a cool, dry winter from October to March. In recent years, Bangladesh has experienced several natural disasters—including cyclone Amphan in 2020 and flash floods in 2019, 2020, and 2021—due to extreme variability of climate.

Frequent floods, land erosion, sea-level rise, cyclones, storm surge, waterlogging, and salinity intrusion in soil and water are the most common climate-change-related shocks in Bangladesh.(21) These disasters have enormous negative impacts on the health, livelihood, and wellbeing of the climate-exposed people, both directly and indirectly. The loss of human and animal lives, loss of biodiversity, destruction of standing crops and fisheries, inundation of homes and homesteads, infrastructural damage, economic loss, and devastation of livelihoods of people are common, especially the poor who are living in the environmentally fragile areas.[41] Women and girls are disproportionately affected.

Holistic response to disasters and the climate crisis in Bangladesh

The GOB has launched several initiatives—such as the Flood Response Preparedness Plan of Bangladesh (2014),[42] Bangladesh Climate Change Strategy and Action Plan (2009),[43] Bangladesh Climate Change and Gender Action Plan (2013),[44] National Adaptation Programme of Action (2015),[45] and National Plan for Disaster Management (2016–2020)[46]—to combat the effects of natural disasters and improve climate resilience. These strategies highlight the country's adaptation needs, collective efforts of stakeholders, and main adverse effects of climate change.

Gender

The GOB has emphasized the integration of climate change and gender issues into various other policies and national documents—such as those focused on food security, social protection, and health policy—to ensure women's needs and increase their resilience.[47] In the Bangladesh Climate Change and Gender Action Plan, climate change and gender are integrated into national health

40 Ministry of Environment of Forests. "Bangladesh Climate Change and Gender Action Plan." Dhaka: Ministry of Environment of Forest, Government of the People's Republic of Bangladesh; 2013.

41 Minister of Disaster Management and Relief, Government of the People's Republic of Bangladesh, "Flood Response Preparedness Plan of Bangladesh," 2014.

42 "Flood Response Preparedness Plan of Bangladesh," 2014.

43 Bangladesh Ministry of Environment and Forests, Government of the People's Republic of Bangladesh, "Bangladesh Climate Change Strategy and Action Plan 2009," 2009.

44 Bangladesh Climate Change and Gender Action Plan, 2013.

45 Ministry of Environment and Forests, Government of the People's Republic of Bangladesh, "National Adaptation Programme of Action (NAPA)," 2005.

46 Bangladesh Ministry of Disaster Management and Relief, Government of the People's Republic of Bangladesh, "National Plan for Disaster Management (2016-2020)," 2017.

47 Bangladesh Climate Change and Gender Action Plan; 2013.

policy and programs to support the livelihoods of climate-affected migrant women, emphasize their participation in efforts to increase efficient water management, and better enhance social security/protection of women, adolescents, and children before, during, and after disaster and emergency situations.[48]

Previous studies suggest that social capital; access to information; ownership of assets; diversified livelihood options; support from neighbors and relatives, access to safety net programs, markets, and other government services; increases in women's empowerment, ambitions, and self confidence in relation to adaptive capacity are associated with resilience to climate change.[49]

Food security and poverty

Despite several government and development agency initiatives, achieving universal food security and reducing poverty remains a major challenge in Bangladesh due to the adverse effects of climate change.[50]

Climate change not only affects people who are dependent on agriculture, it also threatens the food security of people living in poverty, contributing to malnutrition, hunger, and household poverty, especially for women and girls.[51,52] Households living in a fragile environment—and exposed to natural disasters frequently—are in the climate-poverty trap.[53,54,55]

Previous studies suggest that increased resilience capacity—the capacity of a community to prevent and mitigate stresses caused by a disaster—is one of the contributing factors in reducing adverse effects of disasters, particularly the effects of floods on food security.

General Health

Disasters also have significant negative impacts on health. For example, extensive waterlogging contributes to outbreaks of pathogen-driven and water-borne diseases. Almost 94 percent of the households in disaster-prone areas are affected by water-borne disease.[56]

48 Bangladesh Climate Change and Gender Action Plan; 2013.

49 Smith LC, Frankenberger TR. Does Resilience Capacity Reduce the Negative Impact of Shocks on Household Food Security? Evidence from the 2014 Floods in Northern Bangladesh. World Development 2018;102:358-376.

50 Nasreen M, et al. Sexual and Reproductive Health During Emergencies: Situation Analysis; 2017.

51 Nasreen M, et al. Sexual and Reproductive Health During Emergencies: Situation Analysis; 2017.

52 Alam K, Rahman MH. Women in natural disasters: A case study from southern coastal region of Bangladesh. International Journal of Disaster Risk Reduction 2014;8(Supplement C):68-82.

53 Alam GMM. Livelihood cycle and vulnerability of rural households to climate change and hazards in Bangladesh, 2017.

54 Haque MR, Parr N, Muhidin S. Climate-related displacement, impoverishment and health care accessibility in mainland Bangladesh, 2020.

55 Haque MR, Parr N, Muhidin S. Parents' health care-seeking behavior for their children among the climate-related displaced population of rural Bangladesh. Social Science & Medicine 2019;226:9-20.

56 Islam M. Bangladesh Disaster-related Statistics 2020: Climate Change and Natural Disaster Perspectives. Dhaka: Bangladesh Bureau of Statistics; 2020.

Vulnerability of women during disasters

Disasters affect all segments of a population adversely. However, during and after disasters, there exists a gender-based vulnerability and resilience variation.[57] Some of the ways climate change contributes to violations of women's rights during disasters are described below.

Even before disaster strikes, women in Bangladesh face disadvantages, marginalization, and discrimination in multiple ways. According to BDHS 2017-18:

- Fifty-nine percent of women ages 20–24 marry before they turn 18.
- Three-fourths of women drop out of school after marriage.
- Sixteen percent of employed women do not receive payment for their work.
- Twenty percent of women agree that wife beating is justified for one of five specified reasons—she burns food, argues with her him, goes out without telling him, neglects children, and refuses sex with him. [58]

Disasters exacerbate these inequities. In disaster-prone areas, poor and marginalized women and girls face multiple challenges in connection with their gender identity, including threats to their basic necessities. For example, a study focused on the coastal areas of Bangladesh[59] revealed 20 percent of women ate raw food during disaster; they could not process or cook the food due the scarcity of fuel, shelter, water, and other necessary items.

Around the world, violence against women is reported during and after a disaster. For example, one study released in 2010 showed found violence against women in Sri Lanka increased after the devastating tsunami in 2004.[60]

In Bangladesh, according to one study,[61] approximately 57 percent women from Gaibandha district reported experiencing sexual harassment during and after disaster. Rape and attempt to rape were identified as the most serious consequence of sexual harassment. Fourteen percent of the women had been raped or experienced attempted rape. Most targeted individuals were from ultra-poor households, female-headed household, or both. Another study reported that around 21% of

57 Nasreen M, et al. Sexual and Reproductive Health During Emergencies: Situation Analysis; 2017.

58 NIPORT, ICF II. Demographic and Health Survey 2017-2018: Key Indicators. Dhaka: Dhaka, Bangladesh, and Rockville, Maryland, USA: NIPORT, and ICF; 2019.

59 Islam M. Vulnerability and coping strategies of women in disaster: A study on coastal areas of Bangladesh. Arts Faculty Journal 2010:147-169.

60 Fisher S. Violence against women and natural disasters: findings from post-tsunami Sri Lanka. Violence Against Women 2010;16(8):902-18.

61 Chowdhury M. Gender and climate change: vulnerability of rural poor women in Bangladesh. Journal of Innovation & Development Strategy 2015;9(2).

disaster-affected women in the coastal areas of Bangladesh faced sexual harassment at the time of disaster and 50% of them experienced physical and mental torture.[62]

Women not only suffer losses of livelihood opportunities, denial of relief materials, increased barriers to skilled SRH care, and greater risk of GBV during a disaster, they have little opportunity to participate in disaster preparedness and response actions, despite the transformative role they could play in disaster management activities. During the post-disaster period, women also suffer from less care (access to shelter, food, water, health services) than people in any other segment.[63]

Poverty, food insecurity, malnutrition, health-related problems, and economic crisis due to environmental degradation affect women more than men. In addition, women are disproportionately affected by political crisis and violence.

SRHR and its components

The issues of SRHR are described as part and principles of human rights in the universal declaration and outlined by the United Nations Population Fund as universal, interdependent, indivisible, and inalienable. To ensure SRH, people need access to accurate information as well as affordable, acceptable, effective, and secure health care services.

In Bangladesh, there exists no specific policy or strategic document on SRHR. However, elements of SRHR—MNCH, family planning, adolescent reproductive health, and menstrual hygiene management, etc.—are included in various other policy documents.[64] Bangladesh also adopted a National Policy on HIV/AIDS and STD-Related Issues in 1996 that emphasized four cross-cutting priority issues: human rights, gender, behavior and information, and education and communication.[65] However, the components of SRHR are not reflected as primary objectives in these policies or documents; rather, SRHR is reflected as a crosscutting issue.

Egregious inequities in the global situation of SRH are documented between developed and developing regions of the world.[66] Most countries are in the process of achieving their targets for the SDGs and, under Goal 3, countries—including Bangladesh—are working to ensure universal access to SRH care services by 2030.[67] However, in many cases, existing health systems and health

62 Islam M. Vulnerability and coping strategies of women in disaster: A study on coastal areas of Bangladesh. Arts Faculty Journal 2010:147-169.

63 Alam K, Rahman MH. Women in natural disasters: A case study from southern coastal region of Bangladesh. International Journal of Disaster Risk Reduction 2014;8(Supplement C):68-82.

64 SRH components are highlighted in various GOB policies, including the 7th Five Year Plan, the National Population Policy (2012), National Health Policy (2011), National Nutritional Policy (2014), Maternal Health Strategy (2011-2016), National Policy for Women's Advancement (2011), Menstrual Regulation Policy (1979), Neonatal Health Strategy (2009), and Adolescent Reproductive Health Strategy (2006).

65 Naripokkho. Country profile on universal access to sexual and reproductive rights: Bangladesh. Dhaka: Naripokkho; 2016.

66 Fathalla MF, Fathalla MM. Sexual and reproductive health: Overview. International Encyclopedia of Public Health 2008;5:695-705.

67 Desa U. Transforming our world: The 2030 agenda for sustainable development. 2016.

workforces are not adequately prepared to combat the effects of climate change associated with SRHR. Bangladesh's progress towards achieving universal SRH service coverage is likely to be adversely affected by the effects of climate change.[68]

From 2012–2016, the International Centre for Diarrheal Diseases Research, Bangladesh (ICDDR,B,) monitored 12,867 women from conception to childbirth. These women were from both coastal and hilly areas of Bangladesh. The study found that women living in coastal areas (within 20 kilometers of the sea) were more likely to miscarry than women living in the highlands.

Moreover, findings from a recent study demonstrate moderate preparedness of the health workforce, particularly nurses, to combat the health-related challenges created by frequent exposure to natural disasters.[69]

Management of SRH in emergencies

Climate change affects health systems' capacity, compromising progress of SRH outcomes, including family planning.[70] An evaluation of the National Adaptation Programs of Action (NAPAs) of forty least developed countries reveals that needs and responses related to family planning and health are missing in the NAPA document.[71]

In 2020 alone, Bangladesh experienced four floods that devastated thousands of settlements, the outbreak of COVID-19, and cyclone Amphan. The National Plan for Disaster Management (NPDM) 2021–25, the revised version of NPDM 2015–2020, is implemented by the Ministry of Disaster Management and Relief (MoDMR) and other relevant ministries and coordinated departments. NPDM 2021-25 is prepared based on the four key principles of disaster risk management—(1) preparedness; (2) early warning and alert; (3) emergency response; and (4) rehabilitation, reconstruction, and recovery—adopted from Sendai Framework for Disaster Risk Reduction and Standing Order on Disaster. There is a dearth of specific United Nations Convention (UNC) on the protection of the rights of the disaster-affected people. The Convention of UN to Combat Desertification (1994), a UN Framework Convention on Climate Change (1992), and the Hyogo Framework for Action (2000-2015) altogether work toward disaster risk reduction.[72] While the Hyogo Framework identifies priority actions before an emergency, the Minimum Initial Service Package (MISP) is recommending priority of SRH activities during an emergency.[73] According to World Health

68 Walker B. Climate change and sexual and reproductive health: impacts and solutions. AMSA Journal of Global Health 2020;14(2).

69 Younos TB, Hasan MK, Nasreen M. Are nurses ready? Bangladeshi nurses' perceived preparedness for disasters: A mixed-methods approach. International Journal of Disaster Risk Reduction 2021;58:102195.

70 Walker B. Climate change and sexual and reproductive health: impacts and solutions; 2020.

71 Lancet. Sexual and reproductive health and climate change. The Lancet 2009;374(9694):949.

72 Krishnamurthy R. Review of sexual and reproductive health and rights in the context of disasters in Asia. In: Asian Pacific resource and research centre for women (ARROW); 2009.

73 WHO. Integrating sexual and reproductive health into health emergency and disaster risk management; 2012.

Organization (WHO),[74] the following SRH issues are recommended to integrate into emergency risk management programs and plans of action:

- Priority 1: Incorporate SRH into multi-sectorial and health emergency risk management policies and plans at national and local levels.
- Priority 2: Integrate SRH into health risk assessment and provide early warning for communities and vulnerable groups
- Priority 3: Create an environment of learning and awareness for vulnerable groups
- Priority 4: Identify and reduce risks for vulnerable communities and SRH services by reducing underlying risk factors
- Priority 5: Prepare existing SRH services to absorb impact, adapt, respond to, and recover from emergencies

Community resilience to disaster and SRHR

During a disaster, health and protection risks of women increase, which, in the long run, generate critical needs for SRH services among the disaster-affected people.[75] In 2011, a study conducted in coastal areas of Bangladesh found inhabitants were ingesting high levels of salt in their water—exceeding the recommended level. Women who used water with excessive saline content were prone to hypertension in pregnancy, uterine inflammation, and uterine ulcers, which, in turn, could lead to cancer.[76,77,78] Saline intrusion into drinking water is likely to worsen further as a result of sea-level rise induced by climate change.[79,80]

Recognizing the intensity and adversity of future disasters, the GOB has developed National Plan for Disaster Management (NPDM) 2021–2025 Action for disaster risk reduction under the leadership of MoDMR.[81] This strategic plan is a milestone, as it integrates climate change and climate resilience at the same time aligned with national, regional and international frameworks (i,e., Delta Plan 2100, 8th 5 Year Plan of GOB, Sendai Framework for Disaster Risk Reduction 2015-2030, etc.). This plan also

74 Haque M, Yamamoto SS, Malik AA, Sauerborn R. Households' perception of climate change and human health risks: A community perspective. Environmental Health 2012;11(1):1.

75 Tanabe M, Building National Resilience for Sexual and Reproductive Health: Learning from Current Experiences. Women's Refugee Commission; 2016.

76 Khan A, Mojumder SK, Kovats S, Vineis P. Saline contamination of drinking water in Bangladesh. Lancet 2008;371.

77 Khan AE, Ireson A, Kovats S, Mojumder SK, Khusru A, Rahman A, et al. Drinking water salinity and maternal health in coastal Bangladesh: Implications of climate change. Environmental Health Perspectives 2011;119(9):1328-1332.

78 Khan AE, Xun WW, Ahsan H, Vineis P. Climate change, sea-level rise, & health impacts in Bangladesh. Environment: Science and Policy for Sustainable Development 2011;53(5):18-33.

79 Khan AE, et al. Drinking water salinity and maternal health in coastal Bangladesh: Implications of climate change; 2011.

80 Khan AE, et al. Climate change, sea-level rise, & health impacts in Bangladesh; 2011.

81 Ministry of Disaster Management and Relief. National Plan for Disaster Management (2021-2025): Action for Disaster Risk Management.

emphasizes the importance of the linkages among disaster risk management, rapid urbanization and climate change, and the SDGs.[82]

Disasters, like humanitarian emergencies, affect women and children disproportionately. WHO report explored that neonatal mortality rate is one of the highest in disaster-affected areas.[83] Since 1997, the Minimum Initial Service Package (MISP) has been taken as the standard of SRH care in humanitarian settings and from the lessons of recent disasters. It also includes preparedness efforts for a timely and adequate SRH response during a crisis.[84] To reduce SRH-related morbidity and mortality in times of emergencies, SRH services need to be integrated and prepared for emergencies in advance with a timely and effective response and recovery services. An integrated approach helps to maximize resources and opportunities during emergencies for improving universal access to SRH in communities.[85]

Frameworks for disaster management and resilience

To continue its remarkable progress in transitioning to middle-income country, Bangladesh must address its climate vulnerabilities. The GOB has developed adaptation and implemented them in cooperation with national and international organizations based on the usual coping mechanisms and practices to address the adversity of climate change and to increase the community resilience to climate change and natural disasters.[86]

The GOB established the Bangladesh Climate Change Trust Fund as a funding hub to implement the Bangladesh Climate Change Strategy and Action Plan, which was developed in 2008 and revised in 2009. Unfortunately very few initiatives took place and in 2015, Bangladesh developed Nationally Determined Contributions focused on climate mitigation and adaptation, and submitted them to the United Nations Framework Convention on Climate Change.[87] In line with the goal of Paris Agreement on Climate Change, Sendai Framework for Disaster Risk Reduction, and the SDGs, Bangladesh has recognized the importance of mainstreaming climate change and climate resilience into the national planning process and incorporated these concepts into the country's 6th and 7th Five Year Plans (2016–2020) as well as the Bangladesh Delta Plan (BDP 2100) to tackle climate risk and increase climate resilience. Climate-affected populations' needs related to SRHR-related services, on the other hand, have not been sufficiently addressed during interventions.

Considering the priorities of the Paris Agreement, Sendai Framework, SDGs, and of Bangladesh's government, several funders and organizations, such as USAID, Care Bangladesh, BRAC, have been

82 MoDMR. National Plan for Disaster Management (2021-2025): Action for Disaster Risk Management.

83 WHO. Integrating sexual and reproductive health into health emergency and disaster risk management; 2012.

84 Tanabe M, Building National Resilience for Sexual and Reproductive Health: Women's Refugee Commission; 2016.

85 WHO. Integrating sexual and reproductive health into health emergency and disaster risk management; 2012.

86 BRAC. Climate Resilience Framework of BRAC. Dhaka: Climate Change Programme, BRAC; 2020.

87 Climate Resilience Framework of BRAC; 2020.

working to reduce the risk of climate change and to increase climate resilience of communities. Most organizations have been implementing programs based on their own resilience frameworks.

For example, the climate resilience frameworks of USAID and BRAC consider three types of capacities—absorptive, adaptive, and transformative—that reinforce households to manage and recover disaster-related shocks.[88,89] Absorptive capacity focuses on the ability to reduce exposure to disasters and quickly recovery from disaster-related shocks. Adaptive capacity focuses on the ability to find alternative livelihood options from informed choices. Transformative capacity focuses on systematic factors, such as public and private support services, individual's social capital, and networks that create an enabling environment to increase community resilience change.[90,91] It is also important to understand context-specific disaster risks, vulnerabilities, and existing resilience strategies (such as personal loan programs from local NGOs) to address disaster-induced uncertainties through collaborative actions between implementing partners and the local community.[92] Both frameworks focus on community resilience to disaster-related shock and recovery strategies in general, but do little to address the SRHR needs of climate-affected populations.

For this landscape analysis of Gaibandha and Satkhira districts, researchers referred to Pathfinder's Women-Led Community Resilience Framework to consider how the framework functions—in relation to building community resilience to disasters, which includes strengthening SRHR services.

Pathfinder's Women-Led Community Resilience Framework

The goal of Pathfinder's framework is to enhance the SRHR ecosystem by advancing a comprehensive, integrated approach where livelihoods, food security, agriculture, education, and health needs are targeted through the leadership of women and girls (See Figure 1).

88 Climate Resilience Framework of BRAC; 2020.

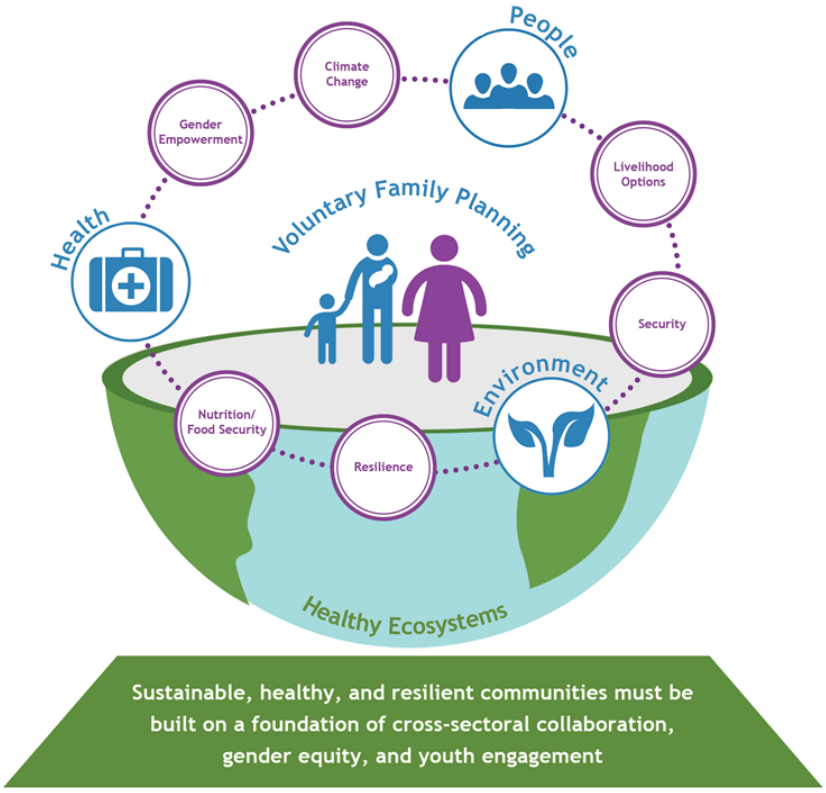
89 TANGO.I. USAID/Bangladesh Comprehensive Disaster Risk and Resilience Assessment Dhaka: TANGO International 2016.

90 Smith LC, Frankenberger TR. Does Resilience Capacity Reduce the Negative Impact of Shocks on Household Food Security? Evidence from the 2014 Floods in Northern Bangladesh. World Development 2018;102:358-376.

91 Béné C, Chowdhury FS, Rashid M, Dhali SA, Jahan F. Dhaka: World Food Programme; 2016.

92 Smith LC, Frankenberger TR. Does Resilience Capacity Reduce the Negative Impact of Shocks on Household Food Security?; 2018.

Figure 1: Pathfinder International's Community Resilience Framework



Pathfinder's model addresses climate change as well as gender empowerment, food security, resilience, and livelihoods. This approach recognizes:

- Single-sector health models are not progressing quickly enough or achieving the broad coverage and efficiency necessary to meet the needs of communities and the women, youth, and other marginalized groups in Bangladesh who are most vulnerable to disasters.
- Building community resilience to climate change requires time, public sector investment, and the engagement of a wide range of stakeholders, including community members and influential local leaders.
- Resilience may vary greatly depending on specific populations' needs and challenges. Understanding the dynamics related to hazards and interventions—by individual and community attributes—is key to developing a comprehensive plan of response.
- The involvement of agriculture and food systems is critical to addressing climate change's negative effects on nutrition, such as the obstruction of various pathways that impact food security; livelihoods; households' access to food, water, and proper sanitation; and MNCH; as well as many socioeconomic factors that determine nutrition security.

- Gender transformative analysis is needed, as environmental pressures affect men and women in distinct ways.
- Gender transformative analysis is needed, as environmental pressures affect men and women in distinct ways.
- Women face an exponential burden during disasters; for example: decreased access to SRH services and information; increased risk of GBV, leading to an increased need for SRH care; dramatic worsening of SRHR and SRH outcomes, which exacerbates existing gender inequity and increases barriers to women's participation in developing with resiliency, mitigation, and re-building solutions.
- Women can play a central role in adaptation to climate change.[93]

Focusing on "women-led"

Pathfinder's work in women-led climate resilience (WLCR) accelerates investments in preventative and adaptive interventions for communities and health systems that promote gender equity and women's agency to increase resilience and decrease vulnerability to disaster-induced shocks and stressors. Pathfinder views WLCR through the lenses of gender and health, focusing on the role that access to contraception and other lifesaving RMNCH interventions play in shaping the future of individuals and the strength of the health systems that support them.

Investments in SRHR can reduce the impacts of climate change on people by building more resilient health systems, improving health, and delivering SRHR-related services in the aftermath of climate change-induced incidents and disasters. Building women's resilience and adaptive capacity to climate change—and improving their engagement in climate action—may increase their community resilience capacity to deal with the impacts of climate change. However, more global evidence and related data are needed.

Through this study, Pathfinder sought to close this evidence gap, prioritizing two types of climate affected regions—flood prone and coastal areas—to conduct a landscape analysis. The overall goal of this study was to better understand the situation of women, girls, and their families during and after disasters, as well as how their essential needs are affected and met during disaster-related shocks, including gaps in SRHR services.

93 A 2015 national-level study recommended that women be involved in emergency planning and disaster management process, ensuring their active participation, as their inclusion in crisis management activities in the long run could help to address disaster risks. For more information, see "Gender Issues in Disaster: Understanding the Relationships of Vulnerability, Preparedness and Capacity" by M. Ashraf and M Azad.

Key study objectives

- Understand communities' needs and perspectives related to resilience and gaps in services.
- Understand the maternal, neonatal, and child health (MNCH) and family planning situation in affected areas.
- Explore the potential of working with the community to participate in the co-management of health facilities, and gain information about SRHR-related service needs and how to best deliver these services to community people during shocks.
- Identify approaches for working through community-based organizations (CBOs) and empowering female champions to increase access to SRHR-related services.
- Explore whether the community sees value in using Pathfinder's Women-Led Community Resilience framework of working with CBOs to integrate SRHR into existing programs.
- Explore whether male engagement approaches, including working with male champions can reduce GBV, early marriage, and teenage pregnancy.
- Identify current programs that address climate change and community resilience in the two districts—Gaibandha and Satkhira.
- Attempt to capture vulnerabilities related to the consequences of salinity intrusion, drought, floods, and other shocks.
- Identify key stakeholders and actors working at the community level to improve their capacity to fight against climate change.

3. RESEARCH METHODOLOGY

Research methods and design

Broadly, this study carried out an analysis of community resilience to disasters and related shocks and vulnerabilities, including SRHR-related service gaps. Researchers used a mixed-methods approach, combining both qualitative and quantitative methods for data collection (survey, IDIs, and KIIs) and analysis to explore activities intended to strengthen women-led community resilience. Such a mix-methods approach is widely recommended to explore climate change and healthcare-seeking behaviors.[94,95] The combination of quantitative (i.e., survey data) and qualitative (i.e., data from IDIs, KIIs, and case study) approaches help sketch a holistic picture of socioeconomic and health stresses associated with disaster-related shocks and of people's decision-making processes and actions towards disaster resilience.

A ***quantitative survey*** was carried out in Gaibandha and Satkhira districts with 645 households. Married women aged 18–47 years old were interviewed from each selected household. In the case of more than one eligible woman of reproductive age in a single household, the woman with the youngest child was approached for an interview. In general, the survey generated information on households' socioeconomic conditions, exposure to natural disasters, and women's family planning and SRH needs, empowerment, social networks, and coping strategies, including those for climate shocks. Additionally, this study provided information on women's perceptions about different stakeholders' support during disasters and the importance of integrating family planning and SRH services with agriculture, nutrition, and other disaster management programs.

KIIs were carried out with relevant persons, such as government officials, service providers, and community leaders responsible for delivering health care, managing disasters, providing disaster-related support, and with local volunteers, particularly young males and females who provided various types of support voluntarily during disasters to disaster-affected people. ***IDIs*** were conducted with vulnerable married women—pregnant women and postpartum mothers who did not participate in the survey. The information obtained through KIIs and IDIs provided researchers with in-depth explanations relating to some research objectives and to develop the narrative understanding of the quantitative results.

94 Miller F, Osbahr H, Boyd E, Thomalla F, Bharwani S, Ziervogel G, et al. Resilience and vulnerability: complementary or conflicting concepts? Ecology and Society 2010;15(3).

95 Stern E, Stame N, Mayne J, Forss K, Davies R, Befani B. Broadening the range of designs and methods for impact evaluations. Department for International Development 2012;Working Paper 38.

Study area and sample

Sample Size

The study's sample size of 645 households (which is marginally higher than the estimated sample size) was equally distributed between Gaibandha and Satkhira districts. Additionally, 28 KIIs (14 for each district) and 16 IDIs (8 for each district) were conducted to generate qualitative information.

Table 1: Sample distribution

Project area	Quantitative Approach	Qualitative Approach	
1. Gaibandha District 2. Sathkhira Districts	**Total sample: 645** - 640 from two districts - 320 from Gaibandha and 325 from Satkhira district - Almost 161 from each sub-district, 80 from each union 40 from each village *A systematic simple random sampling technique adopted*	**Total KIIs/IDIs/Case Study:**	**44**
		KII/Case Study: (sub-total)	***28***
		2 DDFPO; 2 UFPO; 2 MO(MCHFO)	6
		2 UPIO; 2 CDMP Program Officer	4
		Chairman/member 1 from each union	7
		Health care providers 1 from each union	7
		DMC Volunteers 1 from each alter. union	4
		IDIs/Case Study: (sub-total)	***16***
		Male/Female champions (1 from each	8
		Married women (pregnant& postpartum)	8

Sample Size Estimation and Distribution

To estimate the sample size, the team considered the prevalence of women using any contraceptive methods reported in the latest Bangladesh Demographic and Health Survey (2017–18) to get sufficient cases for multivariate statistical analysis.[96] According to the report, the prevalence of using maternal health and family planning services, among the total number of respondents who are pregnant, ranges from 43 percent for attending four or more ANC visits to 51 percent for using any modern contraceptive methods in rural areas. Using the recommended highest prevalence rate (51%) and formula for random sampling, (n=Z2*P(1-P)*/d2, where n= sample size; Z= 1.96 (95% CI); P= 0.51 prevalence of using any contraceptive methods; and d= 0.05, precision) the calculated sample size was 384 women.[97] However, the sample size reached 633 after adding the impacts of 1.5 design effects and a 10% non-response rate. Then it was rounded to 640 for equal distribution among the selected study areas. The research team used purposive sampling to select for disaster-prone subdistricts and unions and random sampling for villages and respondents within these unions. Homogenous attributes of the study populations; sampling types; previous experience of conducting surveys in disaster-affected rural Bangladesh; allocated budget; and time were taken into consideration when using design effects and non-response rate.

96 NIPORT, ICF II. Demographic and Health Survey 2017-2018: Key Indicators. Dhaka: Dhaka, Bangladesh, and Rockville, Maryland, USA: NIPORT, and ICF; 2019.

97 Naing L, Winn T, Rusli B. Practical issues in calculating the sample size for prevalence studies. Archives of Orofacial Sciences 2006;1:9-14.

Study Area and Sample Selection Process

Figure 2: Gaibandha district

The two most climate-vulnerable regions of Bangladesh are the southwestern coastal region and the northwestern mainland region.[98] Districts in both regions are affected by sudden-onset (e.g., cyclone, storm surges, and tidal/flash floods) or slow-onset (e.g., riverbank erosion, drought, sea-level rise, and salinization) disaster events. These disasters can destroy basic amenities related to people's livelihood and well-being, which ultimately force people to relocate from one place to another place, either temporarily or permanently. People in Bangladesh are mainly displaced from 24 districts (12 coastal and 12 mainland) because of frequent exposure to climate-related extreme weathers-events.[99,100]

Data for this research were collected purposively from two districts: one from the mainland region—Gaibandha in the Rangpur division—and one from the coastal region—Satkhira in the Khulna division.

Satkhira is classified as a climate-affected district, with populations experiencing all forms of sudden-onset natural disasters that occur in the coastal region, such as storm surge.[101]

Gaibandha is a highly climate-sensitive district in the mainland region, where human livelihood is adversely affected by a concentration of various types of slow-onset natural disasters, such as riverbank erosion.[102]

98 Haque M. Health Care-Seeking Behaviours of Climate-Induced Internally Displaced People and Non-Displaced People in Bangladesh. In. Sydney, Australia: Macquarie University; 2019.

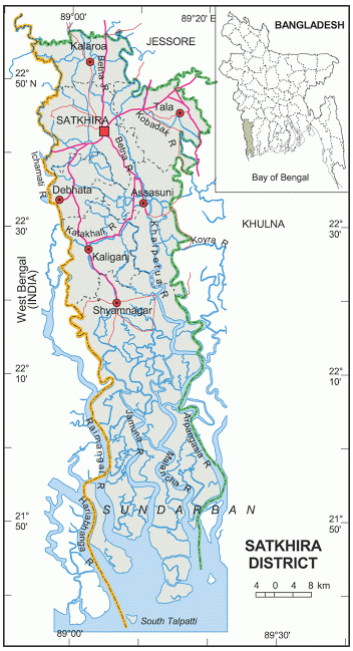
99 Mohammad N. Climate change and displacement in Bangladesh: Issues and challenges. In: Filho WL, editor. Handbook of Climate Change Adaptation. Verlag, Berlin-Heidelberg: Springer; 2015. p. 177-193.

100 MoDMR. Trend and Impact Analysis of Internal Displacement due to the Impacts of Disaster and Climate Change. Dhaka: Ministry of Disaster Management and Relief (MoDMR), Government of Bangladesh; 2014.

101 Ahmed B, Kelman I, Fehr HK, Saha MJS. Community resilience to cyclone disasters in coastal Bangladesh. 2016;8(8):805.

102 Arsenault M, Azam M, Ahmad S. Riverbank erosion and migration in Bangladesh's char lands. In: Mallick B, Etzold B, editors. Environment, Migration and Adaptation: Evidence and Politics of Climate Change in Bangladesh 1st ed. Dhaka: AHDPH; 2015. p. 41-62.

Figure 3: Satkira district



Climate change-related disasters and needs of the displaced and affected people of one district of each region are expected to be representative of the rest of the districts in each region; populations of the selected districts have experienced relatively similar adversity due to the various forms of disasters concentrated in these two regions. Moreover, being located in a similar region, the socioeconomic, cultural, and health-related aspects of the studied population of one district are likely to be similar to other disaster-affected countries located in the same region.[103]

Four subdistricts (two from each district) and eight unions (two from each subdistrict) were selected purposively based on information related to the intensity of floods, riverbank erosion, waterlogging, salinity, drought, and displacement obtained from local government offices, NGOs, and locally elected personnel. Then, villages under the unions were selected randomly. Finally, households from each village (one woman from each household) were selected using a systematic random sampling approach to reach the targeted sample. The sub-districts, unions, and villages were selected after consultation with concerned officials of Pathfinder before starting the fieldwork.

Data collection tools

The University of Dhaka's research team developed the data collection tools, both survey questionnaire and IDI/KIIs guidelines (See Annex 1 and Annex 2). Tools were translated into local language (Bangla). Pathfinder reviewed these tools and guidelines, providing feedback to adjust and revise them as needed to better align with study objectives.

Data analysis plan

The thematic approach was used to analyze the outcomes of qualitative data; all qualitative data were transcribed, read, re-read to develop a coding structured around themes.

Quantitative data were analyzed primarily for frequency distribution using the data analysis package SPSS (version 23). The analysis of qualitative and quantitative data was carried out based on the objectives of this study and shared with Pathfinder.

103 Ahmed SM, Alam BB, Anwar I, Begum T, Huque R, Khan JAM, et al., editors. Bangladesh Health System Review. Geneva: WHO 2015.

Ethical assurance for protection of gender and human rights

The study ensured the ethical issues involved, including the risks and benefits of the respondents. Each study participant's name, address, or any other personal identification obtained during an IDI and survey was not used for analysis and was kept separate from the response data. Written consent was taken before enrollment. Only study personnel have had access to information on personal identification and other sensitive information. Both qualitative and quantitative data were presented in such a way that no names and personal identifications were revealed. The DPS research team obtained ethical clearance from the Institute of Disaster Management and Vulnerability Studies, University of Dhaka (ERC (EXT)-01/092021, date of approval 9 June 2021).

4. FINDINGS

This Landscape Analysis of Community Resilience to Disasters by Addressing Sexual and Reproductive Health and Rights in Gaibandha and Satkhira Districts was conducted to provide an overview of the SRH situations of the married women who live in two disaster-prone areas of Bangladesh. The study examined disaster-related disadvantages and their association with SRH services. The study also aimed to identify activities to strengthen the resilience capacity of participating women and their families, related to their economic, health, and social wellbeing.

The study findings suggest that disasters not only caused socioeconomic disadvantages and food insecurity, but also create barriers in the utilization of SRH-related services for women. Disasters imposed a threat to women and girls in many spheres, including acute vulnerability concerning SRHR, ANC, delivery, and PNC during disasters. Findings further suggest that women and girls endured violence during disasters.

Socioeconomic profile of the respondents and their households

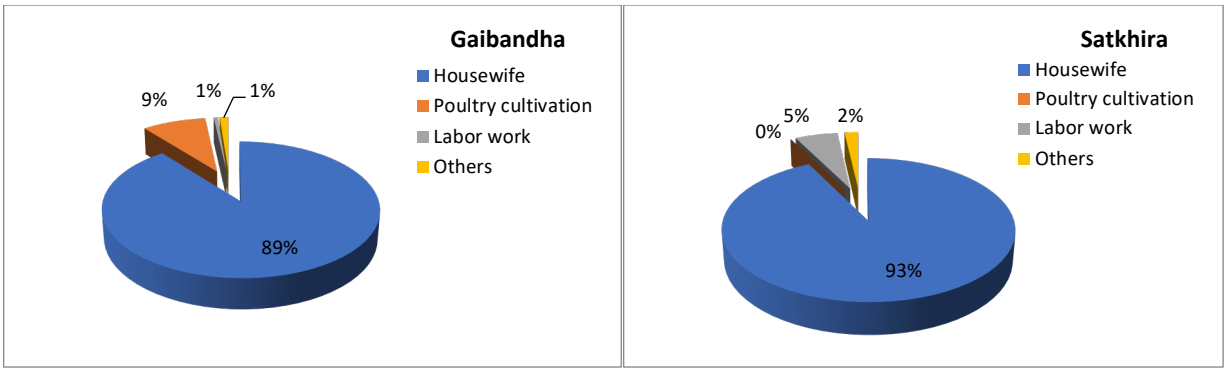
A total of 645 women aged 18–47 were interviewed as respondents in this study. Out of the total sample, 49.6 percent of women were from the Gaibandha district (n=320) and 50.4 percent were from the Satkhira district (n=325). Table 2 presents demographic data related to the respondents (women) and their spouses, by district. The current average age of the interviewed women from the Gaibandha district (30.1) was higher than the average age of interviewed women from the Satkhira district (27.1). Among married women, an almost equal proportion of women (98%)—both in the Gaibandha and Satkhira districts—were currently living with their spouses.

Table 2: Demographic characteristics of the respondents and their spouse by districts

Characteristics	Districts	
	% in Gaibandha	% in Satkhira
Respondents' age	(30.1)	(27.1)
18-22 years	14.4	25.8
23-27 years	22.8	32.0
28-32 years	28.1	20.9
33-37 years	18.1	14.8
38-42 years	14.4	4.9
43-47 years	2.2	1.5
Spousal age ($\bar{x}$)	(35.2)	(34.2)
18-25 years	6.6	10.2
26-33 years	34.2	39.8
34-41 years	43.4	35.4
42-49 years	12.0	10.6
50-57 years	3.8	4.0
Current marital status		
Live with spouse	98.1	97.5
Others (widowed/separated/divorced/husband left)	1.9	2.5

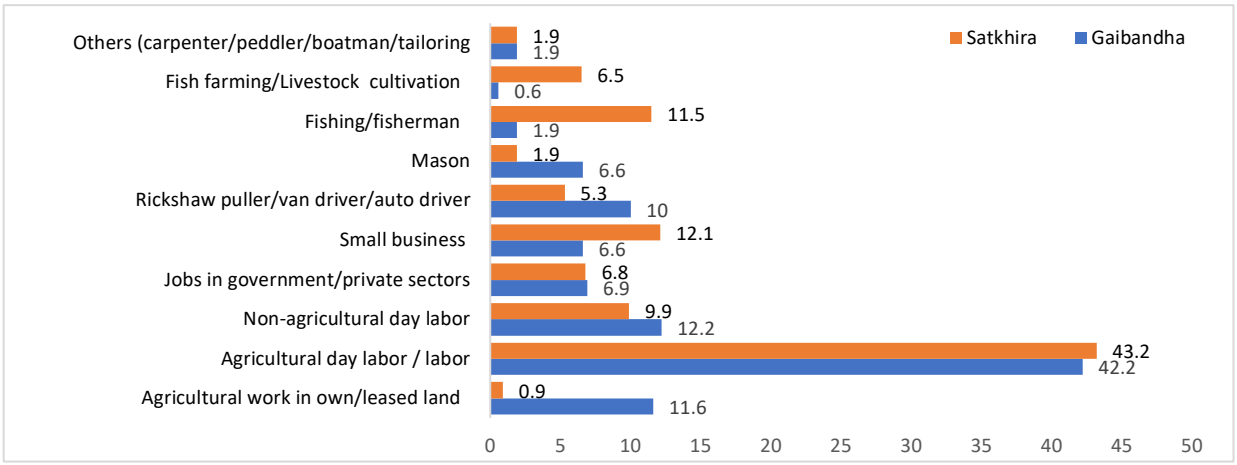
Figure 4 shows the distribution of women by occupation. Most women in both districts were housewives and predominantly involved in household tasks. Around 9 percent of women in Gaibandha were involved with poultry cultivation at the household level, compared to zero percent in Satkhira. Five percent of women in the Satkhira were involved in labor-intensive work in the agricultural, non-agricultural, and fishing sectors, whereas less than 1% of women in the Gaibandha were involved in these sectors. An almost equal proportion of women were found in the 'others category' for both districts, which includes handicraft, small business, and formal wage labor.

Figure 4: Respondents' occupation by districts (%)



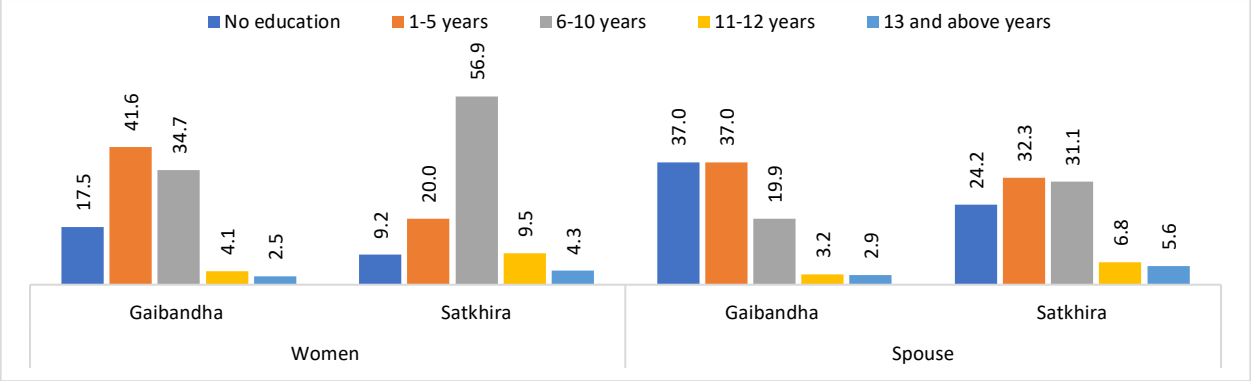
Physical-labor intensive works were predominantly common among spouses of the respondents in both areas (See Figure 5). The highest proportion of the women's spouses were involved in the agricultural sector as day laborers. Agricultural work on the men's own land was substantially higher in Gaibandha than Satkhira, while the reverse situation was found for small business and fishing as primary occupations.

Figure 5: Spousal primary occupation of the respondents by districts (%)



The proportion of women with no education was almost double in the Gaibandha than Satkhira (See Figure 6). Almost 70 percent of the respondents in Satkhira had completed six and above years of schooling. Among them, around 56.9 percent had high school level education, 9.5 percent had a college education, and 4.3 percent had completed graduate or above level education. Similarly, the educational attainment was found lower among the spouses in Gaibandha than Satkhira. The proportion of spouses with no education was almost 13 percentage points higher in Satkhira than Gaibandha.

Figure 6: Education of respondent's and their spouses by districts (%)



The average household size and the average number of male and female members of the household in Satkhira were marginally higher than those in the Gaibandha. Relative to the households of Gaibandha, the average numbers of male and female members of the households involved in income-generating activities were also higher in Satkhira. The number of male and female household members who migrated for work from the villages within the last 12 months was marginally higher in Satkhira than in the Gaibandha (not shown in table).

In Gaibandha, households' ownership of homestead land and agricultural land was very low compared to Satkhira (See Table 3). The proportion of households with no homestead land and agricultural land was also very high in Gaibandha.

Table 3: Household's ownership of homestead and agricultural land by districts

Characteristics	Districts	
	Gaibandha (%)	Satkhira (%)
HHs' ownership of homestead land (decimal) ($\bar{x}$)[104]	(3.6)	(5.6)
No land	41.3	0.3
1-5 decimal	35.6	70.5
6-10 decimal	16.3	16.9
11 and above	6.9	12.3
HHs' ownership of agricultural land (decimal) ($\bar{x}$)	(4.8)	(21.6)
No land	90.3	75.4
1-33 decimal	5.9	12.6

104 Average land ownership calculated based on the total land size divided by total owners.

34-66	2.2	5.5
67 and above	1.6	6.5

Figures 7 and 8 show that both the average income (10,223) and expenditures (8,722) in BDT (Bangladeshi currency) of the households in Gaibandha were relatively lower than the income (11,616) and expenditures (10,580) of households in Satkhira. In both districts, the income and expenditure for most households ranged from BTD 5,001 to 10,000. The proportion of households with income above BDT 15,000 was 10 percentage points higher in Satkhira than Gaibandha.

Figure 7: Households' monthly income (BDT), based on the last 12 months

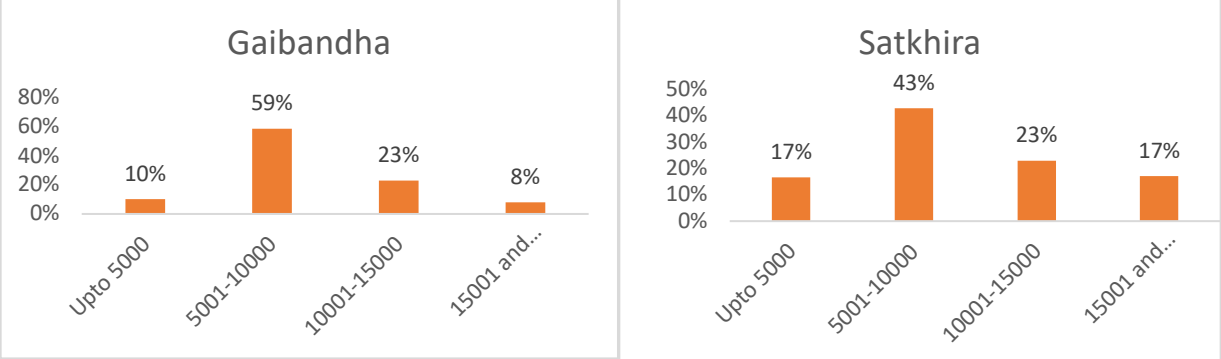
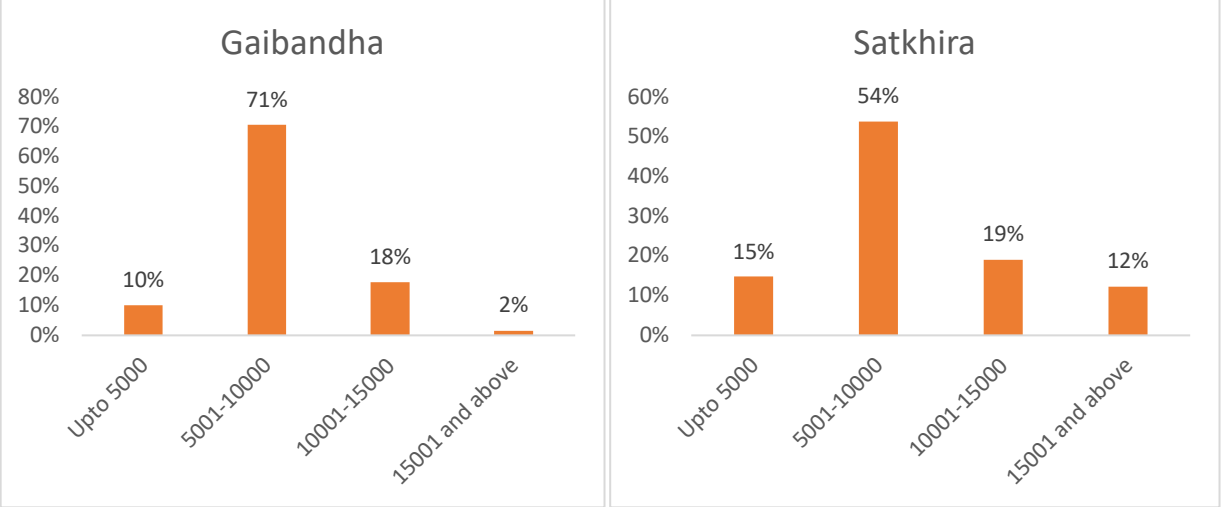


Figure 8: Households' monthly expenditure (BDT), based on the last 12



Most studied households in both districts used pit latrine for their defecation, followed by water-sealed/slab latrine (See Figure 9). However, a greater proportion of households in Gaibandha used hanging latrine/bamboo[105] and open-pit latrine for their defecation than households in Satkhira.

Figure 9: Households' toilet facilities by districts (%)

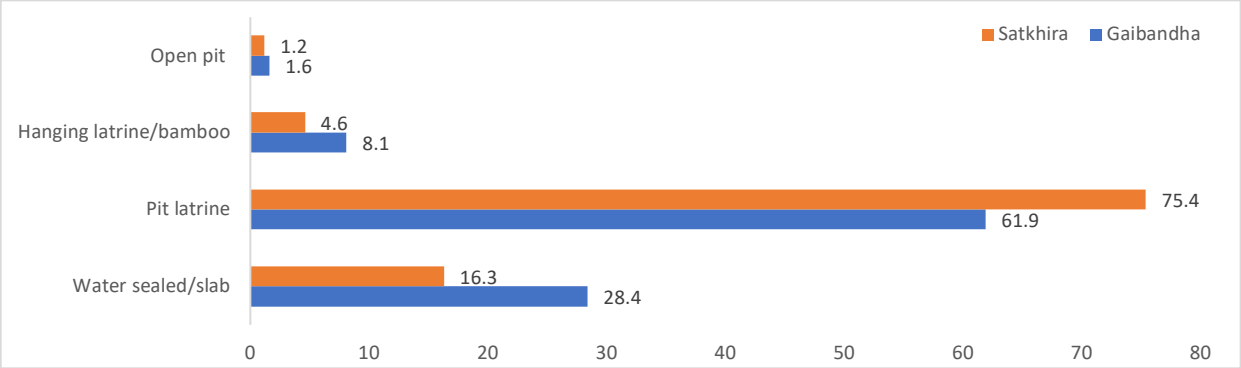
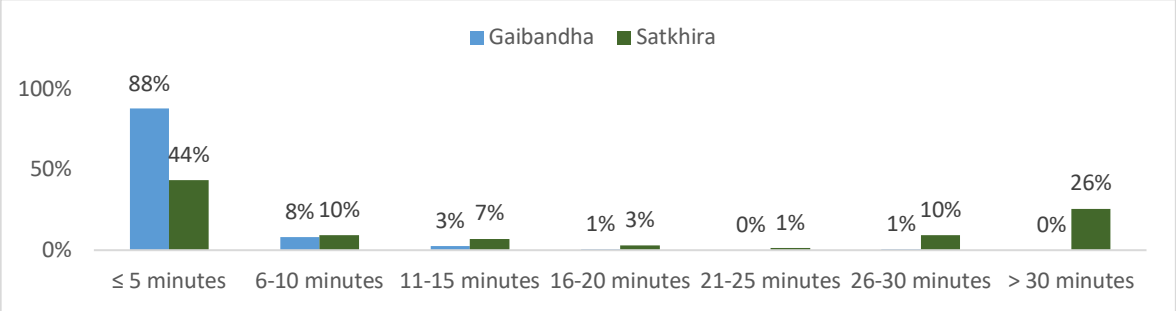


Figure 10 presents the striking scenario regarding the households' required time to collect fresh water. Households in Satkhira experience greater difficulties—as they need to spend on average 27 minutes for each trip to collect fresh water for their household. It takes less than two minutes for households in Gaibandha to complete this task. Around 47 percent of the households in Satkhira spend more than 30 minutes collecting freshwater.

Figure 10: Time (minute) spent each day by the households to collect freshwater by district (% of households)



Households' experience of disasters and disaster preparedness and resilience strategies

Households in both districts—85.6 percent in Gaibandha and 50.8 percent in Satkhira—are predominantly affected by natural disasters and experienced displacement in the past five years. Heavy rainfalls, floods, and riverbank erosion are the most common forms of natural disasters in these districts (See Figure 11). However, the percentage of household reporting incidents of water

105 A latrine consists of a superstructure and floor built over water. A squat hole in the floor allows excreta to fall directly into the water below.

logging is almost 47 percentage points higher for households in Satkhira than Gaibandha. Cyclone, tidal waves, and water salinity experiences were only reported in Satkhira district. A greater proportion of households in Gaibandha, compared to households in Satkhira, experienced drought and cold weather (thought of as a sign of climate change but not necessarily an acute crisis) in the last 5 years.

Figure 11: Households' experience of natural disasters within the previous 5 years (% of households)

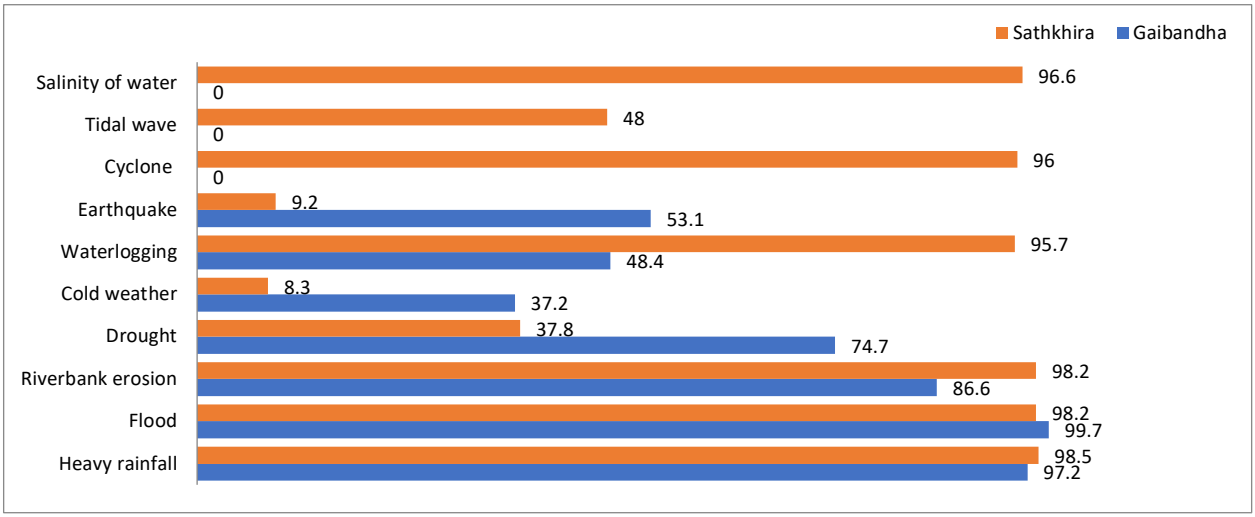


Table 4 presents the effects of the most recent natural disasters on the households by districts. It is evident that, in both study, areas natural disasters have a wide range of negative impacts—stress/anxiety/fear (95% in Gaibandha and 89% in Satkhira), loss of livelihood/income (85.0% in Gaibandha and 91.1% in Satkhira), loss/destruction of home (68% in Gaibandha and 89% in Satkhira), loss of assets (59% in Gaibandha and 53% in Satkhira), loss of water supply (57% in Gaibandha and 63% in Satkhira), reduced access to health care (63% in Gaibandha and 70% in Satkhira), became homeless (43% in Gaibandha and 79% in Satkhira), and communication is down (76% in Gaibandha and 87% in Satkhira).

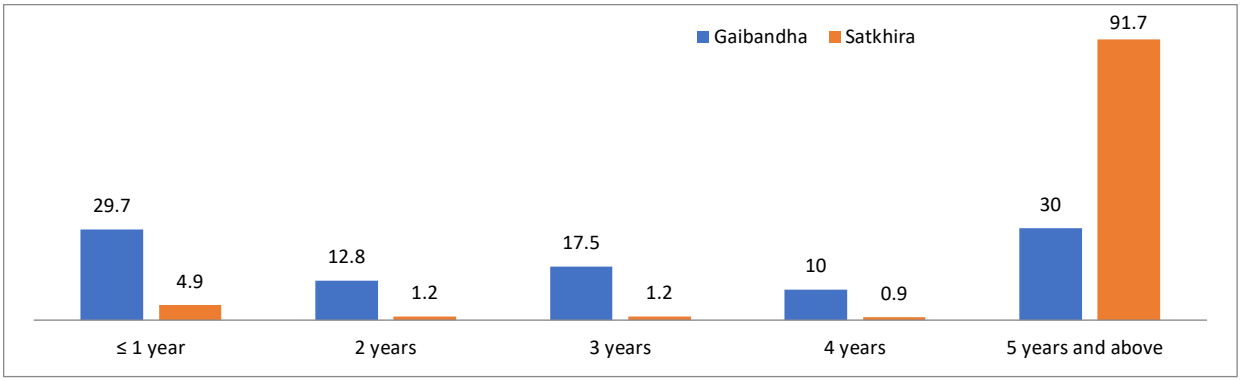
Table 4: Effects of the last natural disasters on households by districts (% households reporting these effects in the most recent disaster)

Characteristics	Districts	
	Gaibandha (%)	Satkhira (%)
Consequences of last natural disasters		
Physical disability/injury	15.9	8.6
Stress / anxiety / fear	95.3	88.9
Loss of livelihood/income	85.0	91.1
Loss/destroy of home	68.1	88.9
Loss of assets	59.4	52.9
Loss of homeland	20.0	24.3
Loss of agricultural land	13.8	14.5
Loss of water supply	57.2	63.1
Discontinuation of education	29.1	37.2

Reduced access to health care	62.8	69.5
Reduced access to other services	65.6	48.0
Became homeless	43.1	79.1
Communication is down	75.6	87.1
No effect)	0.9	0.9

Figure 12 presents the households' duration of residence in their current places. It shows that, in Gaibandha, only 30.0 percent of households have been living in the current place of residence for more than five years, whereas in Satkhira around 91.7 percent of the households are living in the current place of residence for more than five years. Approximately 30.5 percent of the households in Gaibandha have been living in the current place for less than a year, compared to only 4.9 percent in Satkhira. The average duration households have resided in the same residence is around seven years for Gaibandha and almost 60 years for Satkhira.

Figure 12: Length of time that households have lived in their current place of residence, by district (% of households)

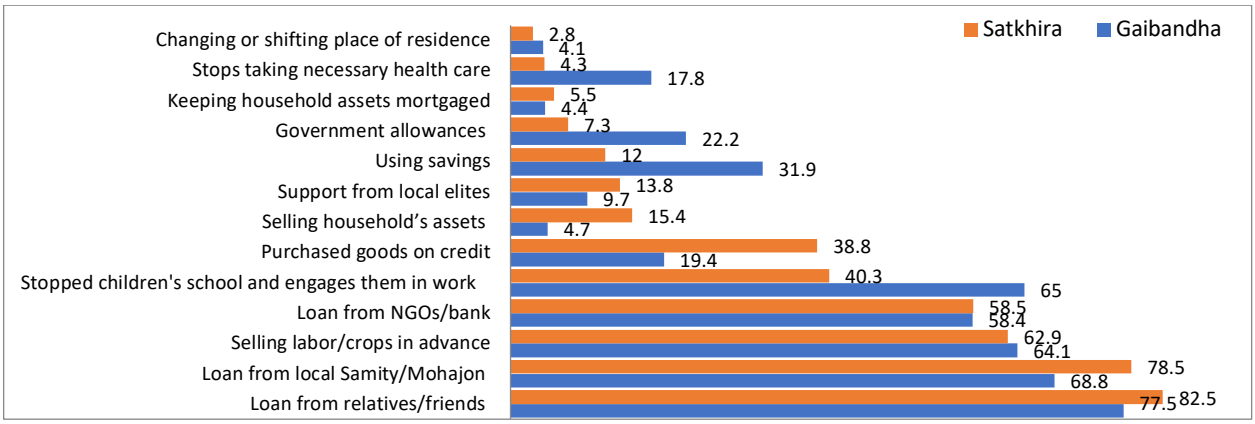


One of the adverse outcomes of frequent exposure to disaster is displacement. The incidence of displacement due to disasters over the previous five years among households in Gaibandha (79%) was significantly higher—almost 35 percentage points—than in Satkhira (43%) (See Table 5). In Gaibandha, more than 28 percent of households were displaced more than once compared to 17 percent in Satkhira. The average relocation cost in Gaibandha was Tk. 64,683, compared to Tk. 37,852 in Satkhira. While more than half of the respondents' households in Gaibandha (56%) who had been forced to relocate had relocation costs of more than Tk. 30,000, this was true of 45 percent of the households in Satkhira that had been forced to relocate.

Table 5: Households' experience of displacement and displacement costs by districts

Characteristics	Districts	
	Gaibandha (%)	Satkhira (%)
Household experienced displacement within 5 years		
Times of displacement within 5 years ($\bar{x}$)	(1.5)	(0.8)
1 time	57.2	8.3
2 times	15.0	16.9
≥3 times	13.4	0.0
Relocation cost for last time displacement ($\bar{x}$)	(64,682.5)	(37,851.8)
15000	16.4	38.2
15001-30000	27.7	22.4
30001-45000	10.2	11.5
45001-60000	18.2	20.6
60001 and above	27.4	14.5

Figure 13: Households' strategy to cope with recent disaster effects by districts (% of households)



Most respondents in both study districts have a clear perception of the adverse effects of disasters. Their households have taken multiple strategies to cope with the effects of recent disasters, including taking a loan from relatives/friends (77.5% in Gaibandha and 82.5% in Satkhira), taking a loan from local Samity/Mohajon[106] (68.8% in Gaibandha and 78.5% in Satkhira), Selling labor/crops in advance (64.1% in Gaibandha and 62.9% in Satkhira), taking a loan from NGOs/bank (58.4% in Gaibandha and 40.3% in Satkhira), and stopping children's school and engaging them in work (65% in Gaibandha and 58.5% in Satkhira). See Figure 11 for a full list of coping strategies, including the proportion of respondents who stopped taking necessary health care (17.8% in Gaibandha and 4.3% in Satkhira).

Results related to income and expenditure show that, in the preceding month, about half of the respondents in Gaibandha (48.8%) and more than two-thirds in Satkhira (68%) had experienced higher household expenditure than their income (See Table 6). Concerning strategies to cope with the income-expenditure imbalance in Gaibandha, the majority of respondents (44.7%) mentioned

106 This includes local formal and informal micro-credit borrow sources.

taking a loan from relative/friends (44.7%), followed by purchasing goods on credit (41.3%), loan from local Samity/Mohajon (30.6%), loan from NGOs/bank (28.7%), using savings (23.8%), selling labor/crops in advance (11.0%), stops taking necessary health care (7.5%), and selling mortgage and household assets (6.9%). Among other category of coping strategies, though, to a lesser extent, respondents had mentioned government allowances, support from local elites, and closing children's schools and engaging them in work. These coping strategies are also mentioned by the respondents in Satkhira, in varying degrees, but the dominant strategies in Satkhira are almost identical to those found in Gaibandha. A greater proportion of households in Satkhira (32%—around 24 percentage points higher than in Gaibandha) stopped taking necessary health care to cope with income-expenditure imbalance.

Table 6: Households' strategies to cope with general income and expenditure imbalance by districts (% of households reporting using these strategies)

Characteristics	Districts	
	Gaibandha (%)	Satkhira (%)
Households' expenditures are higher than household's income	48.8	67.7
HHs coping strategies to income-expenditure imbalance		
Loan from relatives/friends	44.7	58.2
Purchased goods on credit	41.3	59.7
Loan from local Samity/Mohajon	30.6	39.4
Loan from NGOs/bank	28.7	21.8
Using savings	23.8	18.8
Selling labor/crops in advance	11	8.3
Stops taking necessary health care	7.5	31.7
Selling/mortgaged household's assets	6.9	10.4
Support from local elites	5.3	2.5
Stopped children's school and engages them in work	2.5	12
Government allowances	2.5	2.5
Relocated the place of residence	2.2	2.5

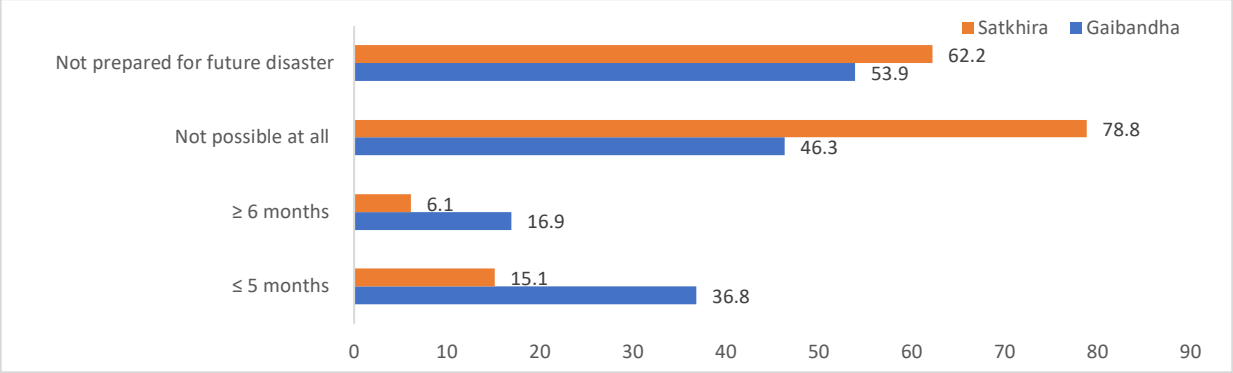
Emergency shelter is available nearby for nearly three-fourths of respondents in both districts—an important finding considering the importance of the availability of shelter houses during an emergency to reduce the effects of disaster. During the most recent disaster, 32 percent of respondents in Gaibandha mentioned using school/college/union offices as shelters, followed by roadside/embankment (18.8%), shelter home (10.3%), and relative's home (8.8%). In contrast, the highest percentage of respondents from Satkhira used their own home as shelter during the recent natural disaster (63.4%), along with the various other options also identified by respondents in Satkhira (See Table 7).

Table 7: Where Households took shelter during recent natural disaster by districts

Characteristics	Districts	
	Gaibandha (%)	Satkhira (%)
Households' place of shelter during recent natural disaster		
Shelter home	10.3	13.8
Own home	27.8	63.4
Neighbor's home	2.2	4.3
Relative's home	8.8	9.5
School/college/union office	32.2	4.6
Roadside/embankment	18.8	4.3

Concerning households' required time to return to the pre-disaster condition, 36.8 percent of respondents in Gaibandha and 15.1 percent in Satkhira reported less than six months. However, most respondents in Gaibandha (46.3%) and Satkhira (78.8%) mentioned that it is not possible at all to return to the pre-disaster condition (See Figure 14). While past disaster-related loss recovery is impossible for many of the households, more than half of respondents—53.9 percent in Gaibandha and 62.2 percent in Satkhira—perceived that their households are not prepared to cope with the effects of future natural disasters.

Figure 14: Households' required time to return to the pre-disaster condition and disaster preparedness (%)



Experience of general illness during the last disaster and their responses to recover illness

Table 8 shows households' experience of general illness during the last disaster and type of illness in Gaibandha and Satkhira. The incidence of reported illness during the last disaster was almost 13 percentage points higher among households in Gaibandha (64.1%) than in Satkhira. The top five illnesses experienced by members of the respondents' households during the last disaster in Gaibandha were Headache/common cold/cough/fever (61.6%), diarrhea (44.1%), dysentery (28.8%),

malnutrition-related diseases (15.9%), and skin diseases (14.7%). Respondents in Satkhira have also reported all these illnesses as dominant categories during the last disaster except for dysentery.

Table 8: Households' experience of general illness during the last disaster and their responses by districts (% of household reporting)

Characteristics	Districts	
	Gaibandha (%)	Satkhira (%)
Type of illness experienced during the last disaster		
Asthma	3.8	1.8
Diarrhea	44.1	23.1
Dysentery	28.8	2.2
Headache / common cold / cough / fever	61.6	48.6
High Blood Pressure	1.3	1.2
Jaundice/Hepatitis B	3.4	0.3
Malnutrition Related Diseases	15.9	8.3
Pneumonia	8.1	1.2
Rheumatism/Aching	2.2	0.3
Skin Burn/Blistering	4.1	0.9
Skin Diseases	14.7	9.5
Typhoid	1.9	1.2
Weight Loss	10.0	8.9
Others (pox, measles, bleeding from nose, malaria)	1.8	0.9

Table 9 shows that most respondents and their families in Gaibandha received care from the pharmacy (70.0%) during the recent disaster, followed by upazila/district/divisional health center (30.0%), NGO health center/workers (27.2%), union health center/community clinic (26.9%), Traditional care provider (23.5%), home service providers (21.6%), Union health centers (16.9%), local NGO health workers (15.6%), and homeopathic health care providers/Kobiraj (14.7%). In Satkhira, 36.3 percent of respondents received care from pharmacies during the recent disaster, and 16.0 percent from local level NGO health workers. The percentage of respondents whose households did not receive any care for illness during the recent disasters is 24 percentage points higher in Satkhira than in Gaibandha.

Table 9: Sources of care for general illness by districts

Characteristics	Districts	
	Gaibandha (%)	Satkhira (%)
Received care from		
Home service providers	21.6	0.6
Union/community health center	26.9	2.5
Pharmacy	70.0	36.3
NGO health center/workers	27.2	2.3
Union Health Center	16.9	4.6
Upazila/district/divisional health center	30.0	3.4
Private clinic	10.3	1.2
Traditional care provider	23.5	16.0
Didn't receive any services	3.6	27.7

Understanding child marriage, family planning, and MCH situation in study areas

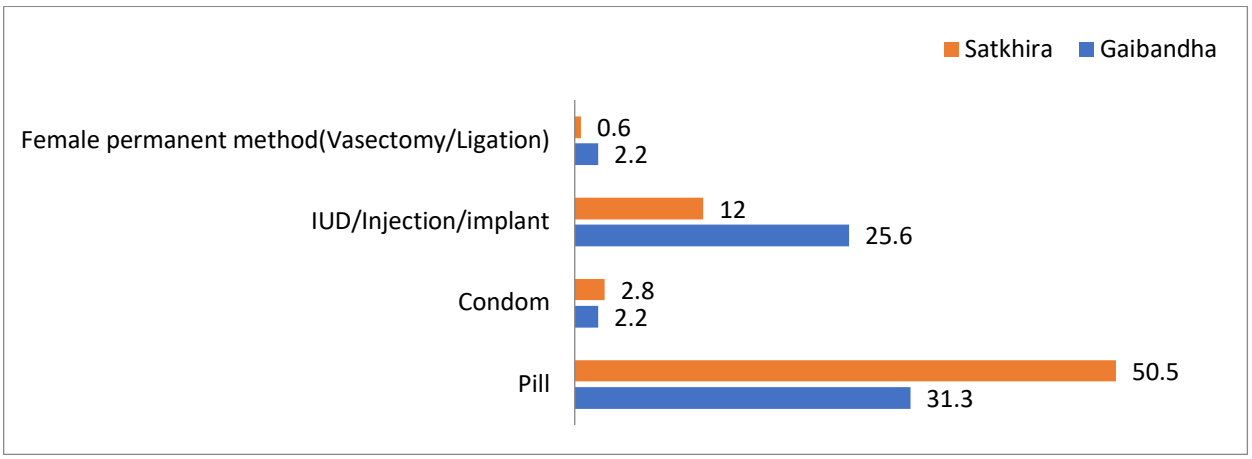
The quantitative results related to the age at first marriage and respondents' perception about their age at marriage by districts are presented in Table 10. The prevalence of child marriage—age at first marriage before age 18 years—was very high both in Gaibandha (73.4%) and Satkhira (72.6%). In Gaibandha, 65.3 percent of respondents perceived their age at first marriage as early marriage, compared to 61.5 percent in Satkhira. Concerning husbands' age at first marriage, 23.1 percent of respondents in Gaibandha and 23.1 percent in Satkhira married before the age of 20 years. The utilization of modern sanitary napkins among the study respondents is very low in both areas. Only 10 percent of respondents in Gaibandha and 15 percent in Satkhira reported that they used modern sanitary napkins for menstrual hygiene practice.

Table 10: Respondents' age at first marriage and perception about age at first marriage by districts

Characteristics	Districts	
	Gaibandha (%)	Satkhira (%)
Respondents' age at first marriage ($\bar{x}$)	(16.1)	(16.3)
≤ 17 years	73.4	72.6
≥ 18 years	26.6	27.4
Respondents' perception of their own age at first marriage		
Early age	65.3	61.5
Right/late age	34.7	38.4
Husband age at marriage ($\bar{x}$)		
≤ 20 years	23.1	23.1
≥ 21 years	77.0	76.9
Utilization of modern sanitary napkin for MHM practices	10.0	15.1

The percentage of respondents using contraceptives at the time of the study to delay/avoid pregnancy is 3 percentage points lower in Gaibandha (62%) than in Satkhira (65%). The highest proportion of respondents using contraceptives used the pill (31% in Gaibandha and 51% in Satkhira) followed by IUD/injection/implant (26% in Gaibandha and 12% in Satkhira), condom (2% in Gaibandha and 3% in Satkhira), permanent methods to delay or avoid pregnancy (2.2 in Gaibandha and 0.6% in Satkhira) (See Figure 15).

Figure 15: Using methods of contraception by districts (%)



A larger proportion of the respondents in Gaibandha reported that they used long-acting or short-term contraceptive methods than Satkhira. In addition, approximately 11 percent of respondents in Gaibandha and 21 percent in Satkhira reported that they used emergency contraceptive pills to avoid pregnancy (not shown in table). The narratives of service provides suggest that, occasionally, family planning clients were not able to get their preferred contraceptive method. In this regard, a 21-year-old married woman from Uttar Dighalkandi village of Gaibandha district who was pregnant for the third time shared her uneven experience of getting family planning services:

> **"Among the services available under the family planning program, I receive birth control pills and condoms from government health workers but not regularly."**

The delivery of family planning services and their utilization were also affected due to fear of Covid-19 infection. Health care service providers from both districts mentioned that, during the initial stage of the Covid-19 pandemic, the delivery of family planning services was disrupted; the campaign for family planning services and door-to-door service visits were not held on a regular a basis and, in many cases, clients did not allow service providers to visit their home. The narrative of a 22-years-old postpartum mother from Satkhira district echoes this sentiment. In her words:

> **"Usually, I take contraceptive from the service providers during home visits. But this time I did not get any post-natal care or post-partum family planning services yet as they could not come due to Covid-19 pandemic and even I could not visit the health center from fear of Covid-19 infection."**

Respondents who were not using contraception reported multiple reasons. Both in Gaibandha and Satkhira, respondents mentioned wanting to get a baby, being currently pregnant, and fear of the side effects. In this regard, a 21-year-old married woman from Uttar Dighalkandi village of Gaibandha district who was pregnant for third time shared her experience of getting family planning services. She said that she delivered her first two children with the help of a midwife. She did not receive any services during or after delivery. However, she had tried to follow the advice she

received from the government health workers. She mentioned that she received a contraceptive pill from a government health worker as a postpartum family planning method. Then she shared that she had been suffering from 'leukorrhea' (white discharge) for a long time but did not get any health care service. She said she contacted a government health worker, who suggested to visit a doctor or hospital for the treatment. But she didn't go to the doctor for a long time because of her fear, shyness, and walking problems. She had borne the condition. She finally managed to visit the doctor when she became pregnant again. However, she kept her suffering from the doctor, mainly due to her shyness. Instead, so she washed the urinary tract with lukewarm water as a local *totka,* trying to stay a little better.

A 25-year-old woman from Kolmakhali village of Satkhira district described how she used to take contraceptive pills after her son's birth (he is now six years of age). She paid a visit to a doctor for genital pain. She believed the pain was due to the oral pills she took. The doctor advised her—if she becomes pregnant again, her suffering will end. In her words:

> **"Even after taking the medicine, the burning and pain did not decrease. So, I am taking this child on the advice of the doctor."**

Researchers also collected qualitative information from service providers to better understand the family planning and maternal health situation in study areas. The analysis of service providers' responses suggest that the health service delivery system prioritized the utilization of family planning services for newly married women. A family welfare visitor (FWV) of Phulcahri Union of Gaibandha district spoke about their family planning services in detail. She said that, for newlyweds and couples interested in family planning, providers offered "Apon Bori," condom, and injection as short-term methods. For long-term methods, they provided implant and IUD services. For permanent methods, they provided tubectomy and no-scalpel vasectomy operation services.

A FWV of Padmopukur Union of Satkhira said that if she found women who faced menstrual problems, she primarily gave folic acid and iron tablets. She also mentioned that, for the last two years, every two to three months, she got sanitary napkins from the government to give free from her clinic.

A family planning inspector (FPI) of Saghata Union of Gaibandha district described their family planning activities as:

> **"Our main and first priority under the family planning program is the newlyweds. Moreover, we consider the parents of one child as the second goal, and thirdly, we advise those who have already adopted two children for a permanent method."**

An FPI of Symnagar Upazila of Satkhira and an FWV of Phulcahri Union of Gaibandha district consistently mentioned that, while providers may recommend certain methods, clients choose based on their own preferences:

"We advise couples to adopt family planning methods according to their type, but in many cases, clients adopt the method as they wish."

Service providers also mentioned the importance of training, particularly for services related to menstrual regulation (MR). Despite having the necessary equipment at the facility, one FWV of Phulcahri Union of Gaibandha mentioned:

"I haven't received MR training yet, so I have all the equipment here but can't provide services."

Narratives about women's understanding of SRHR and strategies to address needs

The narratives of qualitative results suggest that women in both districts have a limited understanding of SRHR in general. For example, a 21-year-old married mother of two from Uttar Dighalkandi village of Gaibandha, who was pregnant at the time of the survey, said that she did not know very much about SRHR. She also mentioned that because she had not studied much and because of her poor financial condition, she did not have the opportunity of thinking about such health and rights. A 22-year-old pregnant woman from Uria village of Gaibandha district stated that she did not know about SRHR. When answering the question, "What do you know about your health?" she said:

"It is difficult for girls to be healthy although I am in good health."

Similarly, a 25-year-old pregnant woman from Kolmakhali village of Satkhira district said that she did not know about SRHR. And a 17-year-old married woman from Uttar Dhighal-kandi village of Gaibandha shared her perspective about SRH. In her words:

"I know little about reproductive health and rights. I learned about this from an NGO called SKS. Moreover, I have learned from textbooks. For example: what kind of hygiene should be followed during menstruation, how to be clean, what to do for maintaining hygiene during menstruation. In addition, an NGO called Friendship holds backyard meetings on these issues, where adolescents and married women are informed about hygiene practices. And, I have also learned that if any health problem occurs, I must visit an MBBS doctor."

Women and girls not only have a limited understanding of SRHR, but they also described their limited use of quality care for SRHR. In terms of affordability, many respondents highlighted accessibility as an issue for getting SRHR services.

A pregnant woman from Uria village in Gaibandha mentioned that she experienced an issue related to genital discharge but did not visit any doctor for this treatment. She took the medicine that her husband brought from the local pharmacy. She said:

"We can't afford to go to the doctor, so the government should make all of these medical services free, including the cost of medicine, for the poor people like us."

A female respondent, aged 22, who was a postpartum mother from Uria village of Gaibandha said she did not know very much about SRHR. Another 22-year postpartum mother from Ashasuni Upazila of Satkhira district said that she was informed about her SRHR by the family welfare assistant (FWA) and FWV of her area. In her words:

"The biggest problem is that in our world of scarcity, we can't afford to spend too much time on getting services. Because it costs money to get health care, even if we get free government services, we can't afford other expenses including travel expense."

She also said, "Menstrual services are not available without the advice of government health workers. In this case, I will be benefited if the pad (sanitary napkin) is given for free."

She also said that, during her menstruation, she used sanitary napkins. Then she added that it would be very beneficial if she could get them free.

A 25-year-old pregnant woman from Kolmakhali village of Satkhira mentioned that she had an unintentional abortion but due to her poor financial condition, she did not get the opportunity to have proper health care services. In her words:

"Every year there is a flood here, we are poor people. We don't have a house; we have to struggle with what we earn. I am very weak since I lost my baby, but we can't afford to visit a doctor again."

Sources of information about the importance of using SRHR-related services

Table 11 presents respondents' sources of information about SRHR-related services. The major sources of information for hygiene practices during menstruation included local level government health workers, friends/relatives/neighbors, backyard meetings/home visits, NGO health workers, and local NGO health centers.

The top five sources of information for using family planning methods were friends/relatives/neighbors (82%), local level government health workers (82%), backyard meetings/home visits (68%), and NGO health workers (66%), and local level government health centers (76%).

The major sources of information related to MR services were friends/relatives/ neighbors (47%), local government health centers (39%), local level government health workers (43%), backyard meetings/home visits (35%), and NGO health workers (39%). These sources of information were also widely used by the respondents for their services on pregnancy registration, ANC check-ups from trained providers, delivery care, and postpartum maternal and family planning services

Table 11: Respondents' source of information about the importance of using SRHR services

Use of following SRHR services	Source of Knowledge															
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Menstrual hygiene practices	12.8	7.8	17.8	75.3	63.1	26.6	76.3	62.8	61.6	15.6	19.1	19.1	15.3	4.1	2.8	2.9
Use of family planning (FP)	14.1	6.6	23.1	82.2	75.6	30.0	82.2	67.8	65.9	14.4	23.4	25.9	17.8	2.8	2.2	2.2
Use of MR services	5.3	3.4	5.9	46.6	39.4	18.4	42.8	34.7	38.8	9.7	18.4	16.9	10.9	1.6	1.9	0.6
Pregnancy registration care	6.6	4.1	21.3	75.9	67.8	26.6	79.1	57.2	64.7	15.6	15.3	19.4	16.9	1.6	1.9	2.2
Trained provider-guided ANC	8.8	5.9	20.0	77.8	71.9	30.6	77.8	63.1	66.3	15.9	19.1	21.9	18.8	3.1	1.9	1.8
Health-center-based delivery	7.5	6.6	21.6	71.6	71.3	29.7	77.8	62.8	64.4	17.2	25.9	29.7	18.8	2.8	2.2	1.2
Trained provider for delivery	6.3	3.8	20.6	72.8	70.0	29.1	73.1	61.9	62.2	18.4	21.3	27.2	16.3	1.9	1.6	1.2
Postpartum maternal care services	7.8	4.7	19.7	71.9	69.1	29.7	71.3	61.6	65.3	17.2	20	24.4	15.9	3.1	1.9	0.9
Postpartum FP services	8.1	4.7	20.9	71.3	67.8	32.2	74.7	60.9	65.6	16.6	22.2	25.9	17.5	3.1	1.6	0.9
STD/HIV/AIDS	18.8	3.4	0.9	18.1	6.9	4.7	8.8	5.6	6.9	0.3	1.3	0.3	0.6	0	1.3	3.8

A. Television
B. Internet/social media
C. Husband
D. Friends/relatives/neighbors
E. Local level govt. health center
F. Local NGO health center
G. Local level government health workers
H. Backyard Meeting/ Home visits
I. NGO Health Workers
J. Homeopathic doctor
K. Pharmacist
L. Kabiraj/Village doctor
M. Upazila/district health center
N. Upazila/district private clinic
O. Volunteers
P. Others (newspapers/posters/ banners)

Knowledge about the service providers responsible to deliver SRHR-related services

Table 12 presents findings related to respondents' knowledge about the service providers responsible for delivering SRHR by districts. In Gaibandha, most respondents know about government health centers (95%), government health workers (92%), NGO health workers (82%), and NGO health centers (56%) who provide SRHR services. In comparison to Gaibandha, respondents from Satkhira were less aware of SRHR service providers. In general, the knowledge level about the availability of all types of health care service providers is low among the respondents in Satkhira compared to respondents in Gaibandha.

Table 12: Knowledge about the service providers/center responsible to provide SRHR services by districts

Service providers	Districts	
	Gaibandha (%)	Satkhira (%)
Know the place/persons who provide SRHR services		
Yes, govt. health center	95.3	69.5
Yes, govt. health workers	91.6	71.1
Yes, NGO health center	55.9	14.8
Yes, NGO health workers	82.2	44.9
Yes, female/male volunteers	12.8	4.6

Figure 16 shows various sources that respondents from both Gaibandha and Satkhira turn to for health care for illness during disasters, such as pharmacy (46% in Gaibandha and 33% in Satkhira),

community clinic (32% in Gaibandha and 7% in Satkhira), rural doctor (37% in Gaibandha and 35% in Satkhira), local government health workers (32.5% in Gaibandha and 46% in Satkhira), private clinic (11% in Gaibandha and 2% in Satkhira), Union health center (22% in Gaibandha and 3% in Satkhira), and local-level NGO Health Workers (BRAC / SMC, etc.) (15% in Gaibandha and 4% in Satkhira). Other sources respondents go for health care services during disasters include NGO health centers, Upazila Health Complex, government district/divisional health centers, homeopathic doctors, and union disaster management committee.

Figure 16: Sources for SRHR-related services during disasters by districts, according to respondents (%)

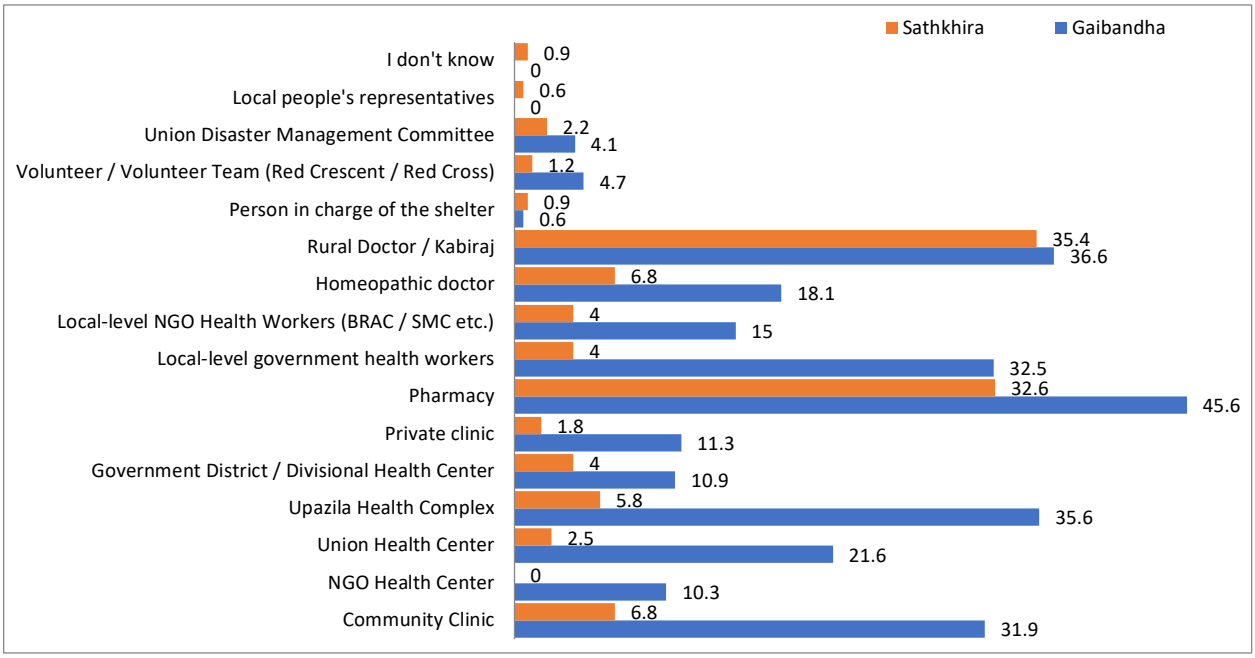
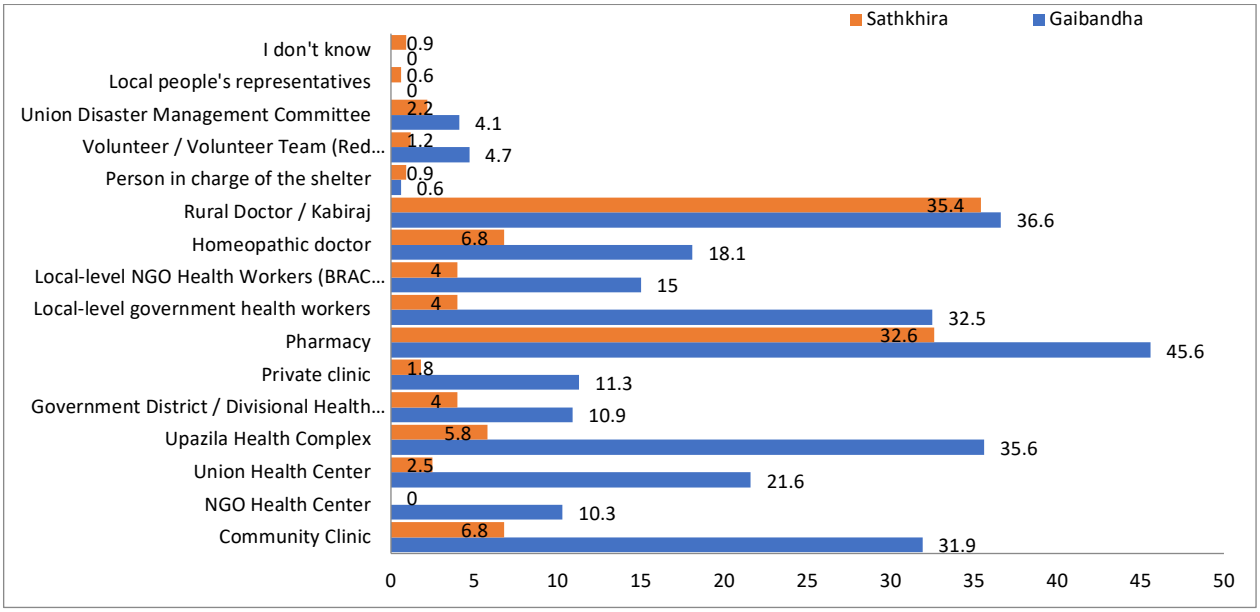


Figure 17 shows that health care providers' availability during is a disaster is greater in Gaibandha than Satkhira, according to respondents. More than 46 percent of respondents from Gaibandha reported that most available of health care providers they have found at the pharmacy followed by rural doctor/Kabiraj (37%), Upazila Health Complex (36%), local-level government health workers (33%), community clinic (32%), Union Health Center (22%), homeopathic doctor (17%) and local-level NGO health workers. In contrast, health care provider's presence in crisis period are much lower compare to Gaibandha, with an exception of pharmacy (33%) and rural doctor/Kabiraj (37%).

Figure 17: Perception about the availability of care providers to health services during disasters (%)



Effects of disasters on the availability and utilization of SRHR services

Perception of the effects of disasters on utilization of SRHR services

Table 13 presents respondents' perceptions about how their utilization of SRHR services was affected by shocks related to climate change and disaster. A vast majority of the respondents (92% in Gaibandha and 89% in Satkhira) reported both their physical and mental health were affected during natural disasters. A large proportion of women in both districts mentioned that disasters affected their utilization of SRHR-related services, though a higher proportion of women in Satkhira reported being affected. Specifically, respondents reported facing disturbances during disasters related to hygiene management—sourcing equipment for menstrual hygiene management—for menstruation time/duration (36% in Gaibandha and 59% in Satkhira) and hygiene practices—getting services from facility or providers (33% in Gaibandha and 56% in Satkhira). Respondents also reported facing difficulty or problems utilizing family planning services due to disasters (3% in Gaibandha and 44% in Satkhira).

Table 13: Respondents' perceptions about how their service utilization on SRHR is affected due to disaster

Characteristics	Disaster affects SRHR service use	
	Gaibandha (%)	Satkhira (%)
Effects of natural disasters on women's health*		
Either physical/mental	7.6	11.4
Both physical and mental	91.6	88.6
Does not have any effects	0.9	0.0
Disasters affect women's reproductive health	74.1	96.3
Disaster affects utilization of SRHR related services	35.6	58.8
Menstruation time/duration	33.4	56.0
Hygiene practices during menstruation	26.6	44.3
Utilization of family planning services	3.1	14.2
Use of menstrual regulation services	9.7	14.8
Use of pregnancy registration services	10.0	18.5
Use of ANC from a trained provider	6.3	15.1
Use of health center for delivery care	5.3	14.2
Use of trained care providers for delivery	5.3	16.3
Use of postpartum maternal care services	7.2	18.5
Use of postpartum family planning services	0.6	9.2
Use/practice of the STD/HIV/AIDS services		
Women who received supports for		
Menstruation time/duration	9.1	7.7
Hygiene practices during menstruation	6.6	4.6
Utilization of family planning services	8.1	9.5
Use of menstrual regulation services	0.0	0.3
Use of pregnancy registration services	0.9	0.6
Use of ANC from a trained provider	0.9	0.6
Use of health center for delivery care	1.9	0.0
Use of trained care providers for delivery	1.6	0.0
Use of postpartum maternal care services	0.6	0.3
Use of postpartum family planning services	2.2	0.9
Use/practice of the STD/HIV/AIDS services	0.0	0.0

**health that does not include MNCH and SRHR-related issues.*

Respondents' actions to access SRHR services during and after the disasters are presented in Table 14. The highest proportion of sanitary napkin users in Gaibandha and Satkhira reported collecting sanitary napkins in advance—from the local level pharmacy—to ensure availability during and after the disasters. Other major strategies respondents used to get sanitary napkins during and after disasters included: collecting in advance from local health care providers and collecting when needed. More advanced collection of sanitary napkins from local health care providers was reported in Satkhira than that in Gaibandha. A similar pattern can be seen in findings related to respondents' actions to get contraceptives during and after the disasters.

Table 14: Respondents' self-reported actions towards access to SRHR and other health services during disasters by districts

Characteristics	During disasters		After disasters	
	Gaibandha(%)	Satkhira(%)	Gaibandha(%)	Satkhira(%)
Actions to get modern sanitary napkin				
Collect in advance from health workers	4.4	1.2	2.8	1.5
Collect in advance from a pharmacy	7.5	8.3	6.9	7.7
Collect from health workers when needed	1.6	0.3	2.2	0.3
Collect from pharmacy/shops when needed	3.1	3.4	3.1	4.3
Others (borrowed from others/use traditional options)	3.4	4.0	3.1	4.0
Actions to get contraceptive methods				
Received from govt./NGO care provider in advance	4.1	2.5	3.4	2.5
Collect in advance from a pharmacy	6.9	5.2	6.6	5.5
Collect from govt./NGO health workers when needed	2.2	1.5	3.1	1.8
Collect from a pharmacy when needed	2.2	1.8	2.8	1.8
Did not use any method during the disaster	1.6	5.2	0.9	4.6
Could not take service due to disaster	0.6	1.6	0.3	5.2
Others (not necessary/borrowed)	3.3	2.1	0.0	1.8
Actions to get post-partum FP services				
Received care from during providers' home visits	25.3	4.9	23.4	4.9
Received care from the local health center	28.8	2.2	28.4	2.5
Received care from the pharmacist/pharmacy	40.7	23.4	54.7	30.2
Received care from the CCs/UHCs	36.2	4.0	41.9	6.5
Received care from NGO Health Center	12.2	1.2	12.2	3.4
Received care from Upazila/district health center	24.1	0.9	24.4	1.2
Received services from a private clinic	6.9	0.9	6.6	0.0
Received care from locally available govt. care provider	28.4	0.0	33.1	6.8
Received care from local level NGO health workers	15.6	3.4	17.5	4.9
Taken care from homeopathic/Kabiraj/village doctor	7.5	76.9	6.3	10.8
Did not receive any care due to disaster/other reasons	46.8	12.6	45.5	70.4

During and after the disasters, respondents who were in postpartum period, both in Gaibandha and Satkhira, relied predominantly on local pharmacy/pharmacists for their postpartum family planning services. The utilization of local care providers and local health facilities was almost equivalent between the two districts. However, the utilization of postpartum family planning services for all types of sources (except local pharmacy and pharmacist) after disasters was significantly low in both areas. In Satkhira, approximately 77 percent of the respondents who were in postpartum period during the most recent disaster stated that they received postpartum family planning services during disasters from the homeopathic/Kabiraj/village doctor. The proportions of respondents who did not receive any care related to health services during disaster (Gaibandha 46.8% and Satkhira 45.5%) and after disaster (Gaibandha 12.6% and Satkhira 70.4%) were also very high.

Availability and utilization of health care services at village and union levels

To understand community-level service availability, see Table 15, which shows statistics for health care sources at village and union levels in the two study areas. In Gaibandha, the top five health care services at the village level are government health care provider (97%), NGO health care provider

(89%), yard meeting (84%), community clinic (59%), and pharmacy (45%). The percentages of respondents who mentioned the availability of the five services at the union level in Gaibandha are slightly higher than those at the village level. Similarly, respondents in Satkhira mentioned the availability of pharmacy, yard meetings, community clinics, govt. satellite clinic, govt. health care provider, and NGOs' health care providers both at village and union levels. However, the availability of services from NGOs' clinic and family welfare center are higher at union level than village level.

Table 15: Health care service source availability at village and union levels during disaster

Service providers	Village		Union	
	Gaibandha (%)	Satkhira (%)	Gaibandha (%)	Satkhira (%)
List of service providers				
Pharmacy	45.0	82.2	97.8	93.5
NGOs' clinic	15.4	1.2	28.7	26.2.4
Yard meeting	84.1	54.8	83.4	59.1
Community clinic	59.1	44.6	90.3	83.1
Govt. satellite clinic	28.1	55.3	48.1	42.2
Family welfare center	5.3	5.8	37.8	32.9
Govt. health care provider	97.2	76.6	99.1	83.4
NGOs' health care provider	89.4	49.2	93.1	56.6

Table 16 shows the frequency of health care services utilization during most the recent disaster disaggregated by frequency and district. The major services that respondents used frequently in Gaibandha were pharmacy (55%), govt. health care provider (36%), community clinic (34%), NGO health care provider (27%), yard meeting (26%), and govt. satellite clinic (14%). The sources that most respondents from Gaibandha never used during disaster included NGO mobile clinic (94%), NGO static clinic (80%), family welfare center (75%), and government satellite clinic (56%).

Most respondents in Satkhira used services—either frequently or sometimes—from these sources: pharmacy, yard meeting, community clinic, govt. health care center, and NGO health care provider. Two sources of services that the vast majority of the respondents in Satkhira did not use were NGO static clinic (94.2%) and NGO mobile clinic (97.2%). Findings indicates that respondents largely depend on pharmacy (nearby), community clinic (close to neighborhood), and community health workers during disaster.

Table 16: Frequency of health care services utilization by districts

Characteristics	Districts					
	Gaibandha (%)			Satkhira (%)		
	Frequently	Sometimes	Never	Frequently	Sometimes	Never
List of services						
Pharmacy	54.7	43.4	1.9	39.1	54.2	6.8
NGO static clinic	3.4	16.9	79.7	0.0	5.8	94.2
NGO mobile clinic	0.3	5.3	94.4	0.3	2.5	97.2
Yard meeting	25.9	56.3	17.8	6.5	44.0	49.5
Community clinic	34.4	53.1	12.5	4.6	59.4	36.0

Govt. satellite clinic	13.8	30.3	55.9	3.1	27.4	69.5
Family welfare center	5.6	19.7	74.7	2.2	14.8	83.1
Govt. health care provider	35.9	61.9	2.2	12.6	66.8	20.6
NGO health care provider	27.2	65.0	7.8	6.2	40.6	53.2

Effects of disasters on SRHR and utilization of SRHR-related care services

Table 17 summarizes respondents' thoughts on how climate change and disaster impact SRHR service delivery systems, service needs, and care received. Disasters pose threats to the SRHR of respondents. The major SRHR-related problems that respondents reported experiencing during most recent disaster are menstruation-related complications, pain/burning at genital, itching at genital, unexpected pregnancy, and abortion. A greater proportion of women in Satkhira than in Gaibandha had experienced these issues.

A greater of proportion women in Satkhira than in Gaibandha also mentioned that they needed care for SRHR-related problems endured during or after disasters. The majority of respondents from Satkhira mentioned that they needed care for menstrual complications (almost 70%) and wounds/other genital problems (61%). Finings reveal that there are gaps between demand and supply of SRHR-related services in both the areas; however, the service gap was higher in Satkhira than Gaibandha during recent most disaster.

Table 17: How climate change and disaster impact SRHR service delivery systems, service requirements, and services received

Characteristics	Disaster affects SRHR services delivery(%)		Care needed for SRHR related problems (%)		Care received for SRHR problems (%)	
	Gaibandha	Satkhira	Gaibandha	Satkhira	Gaibandha	Satkhira
Aspects of SRHR						
Menstrual complications	36.9	55.1	45.6	69.8	29.1	35.1
Pain/burning at genitals	23.4	53.5	34.1	24.6	20.3	36.6
Itching at genital	28.1	58.5	36.3	74.5	23.8	43.1
Wounds /other problems at genital	4.4	0.0	19.4	60.9	4.1	14.8
Unexpected pregnancy	12.8	0.0	18.8	0.0	5.0	7.1
Intentional abortion	7.5	4.6	24.4	40.3	8.8	3.1
STD / HIV / AIDS	0.9	3.4	7.8	46.2	0.3	0.6
Others	2.5	3.1	17.5	48.0	1.9	1.2

Table 18: Causes of not receiving any care by type of SRHR related problems (%)

Cause of not receiving SRHR care	SRHR related problems							
	A.	B.	C.	D.	E.	F.	G.	H.
Don't feel the need of care	56.9	64.3	59.1	89.0	90.9	94.0	98.8	98.1
Can't say anything for shame/fear	10.4	7.1	6.8	2.5	2.8	0.8	0.6	0.8
Religious constraints	3.4	2.9	2.3	0.6	3.3	0.5	0.5	0.5
High transport costs	4.3	3.4	3.4	1.4	.8	0.6	0.5	0.3
High service costs	8.5	5.4	5.4	1.7	1.1	0.6	0.6	0.3
Lack of service information	6.4	4.7	4.5	1.4	1.9	0.3	1.1	0.6
Don't want to go to the service center	2.5	2.5	2.5	0.6	0.2	0.3	0.0	0.2
No one to take to the service center	2.2	1.1	1.1	0.8	0.8	0.3	0.5	0.3
No one to talk about the problem	6.4	4.3	5.3	2.0	3.1	0.5	1.1	0.6
Nobody knows these services	5.0	4.7	4.0	1.7	2.9	0.5	0.9	0.6
Lack of experienced doctors	1.1	0.6	1.2	0.5	0.2	0.3	0.2	0.5
Service center is far away	3.9	4.3	0.8	0.3	0.3	0.6	0.3	0.3
Disaster affects service providers' availability	4.4	4.3	4.1	1.5	1.2	2.5	2.3	1.8
Transport system damages due to disaster	3.8	3.5	3.2	2.0	0.9	0.8	0.0	0.8
Disaster related damages/business	2.7	2.2	2.5	1.1	0.2	0.4	0.3	0.4

A. Menstruation related complication
B. Pain/burning at genitals
C. Itching at genital
D. Wounds / other problems at genital
E. Unexpected pregnancy
F. Intentional abortion
G. STD / HIV / AIDS
H. Others

Respondents from both study areas mentioned various reasons for not receiving any services for SRHR-related problems (See Table 18). Most respondents said they did not feel the need for most of the SRHR-related services. Another major cause of not receiving SRHR-related services was the high cost of services. Other causes of not receiving care were long distance, lack of service information shyness and fear, cost of transportation and religious constraints

A range of sources was used by the respondents in both study areas to receive care for SRHR-related problems (See Table 19). A large proportion of the respondents predominantly relied on the informal sources—such as local pharmacy/pharmacist/alternative care practitioners—for care with their SRHR-related problems.

Table 19: Percent of respondents who indicated sources of care by type of SRHR-related problems

Sources of SRHR care	SRHR related problems (multiple responses)							
	A.	B.	C.	D.	E.	F.	G.	H.
Community Clinic (CC)	11.3	11.3	12.2	13.7	3.7	2.6	0.2	0.8
NGO Health Center	2.6	3.7	4.5	0.3	0.5	0.6	0.2	0.0
Union Health Center (UHC)	9.9	7.8	9.5	1.7	1.9	1.9	0.3	0.8
Upazila Health Complex	11.9	9.9	12.6	2.6	3.1	3.7	0.3	0.6
Govt District / Divisional Health Center	5.7	6.5	3.4	2.6	1.1	1.7	0.2	0.3
Private clinic	8.8	8.1	8.2	1.1	1.9	1.4	0.2	0.5
Pharmacy	22.3	20.6	23.9	6.2	3.7	3.3	0.3	0.6
Local-level government health workers	20.0	11.8	15.7	3.7	1.9	2.5	0.3	0.3
Local-level NGO workers (BRAC/SKS/SM etc.)	6.5	7.1	9.8	2.2	0.6	1.7	0.3	0.2
Homeopathic doctor	10.7	11.8	15.0	3.1	1.7	0.8	0.2	0.5
Other (village doctor/ Kabiraj /	19.7	18.1	25.0	6.7	3.9	2.6	0.3	0.6

A. Menstruation related complication
B. Pain/burning at genitals
C. Itching at genital
D. Wounds / other problems at genital
E. Unexpected pregnancy
F. Intentional abortion
G. STD / HIV / AIDS
H. Others

For example, among respondents experiencing menstrual-related problems, 22.3 percent said their source of getting care was the pharmacy, which was followed by village doctor, Upazila Health Complex, community clinic, homeopathic doctor, and private clinic. For respondents who experienced pain/burning at genitals, the top sources of care were pharmacy, village doctor, local-level government health workers, and community clinic. For respondents experiencing itching at genitals, the top sources of care were village doctors, pharmacy, local level government health workers, and Upazila Health Complex. For those who experienced wounds/other problems at genital, the top sources of care were community clinic, village doctor, pharmacy, and local-level government health workers. In contrast, the District/Divisional Health Center and NGO Health Center were broadly the two least mentioned sources of care for SRHR-related services (See Table 19).

Respondents from both study areas mentioned various reasons for a disruption in receiving SRHR-related services during the last disaster (See Table 20). Across the various types of SRHR-related problems, a large proportion of respondents mentioned that they did not feel the need to use services. Respondents also mentioned the utilization of SRHR-related services were disrupted due to the high cost of services, long distance of service center, disaster and disaster associated business, and broken communications.

Table 20: Reasons for disruption in receiving services in case of disaster by type of SRHR related problems

Reasons for disruption in receiving SRHR services during disaster	SRHR related problems							
	A.	**B.**	**C.**	**D.**	**E.**	**F.**	**G.**	**H.**
Don't feel the need of care	70.5	81.6	81.6	95.3	97.8	99.2	99.2	99.5
Could not talk due to shame/fear	16.4	9.5	9.6	2.5	1.4	0.5	0.9	0.6
Religious constraints	5.6	4.0	3.3	1.4	1.2	0.5	0.8	0.6
High transport costs	15.8	10.1	8.8	3.9	1.4	0.9	0.3	0.6
High service costs	24.2	14.1	12.2	4.5	2.0	0.8	0.5	0.6
Lack of service information	11.6	6.5	8.2	1.6	2.5	0.6	0.9	0.5
Don't want to go to the service center	5.3	3.1	4.5	1.6	0.6	0.6	0.3	0.5
No one to take to the service center	5.0	3.4	6.4	1.7	1.2	0.5	0.6	0.5
No one to talk to about the problem	8.7	4.3	5.7	2.5	2.0	0.8	1.2	0.5
Nobody knows these services	5.7	2.8	1.6	1.6	0.6	1.1	1.6	0.3
Lack of experienced doctors	6.0	4.7	5.3	1.9	0.5	0.3	0.3	0.2
Service center is far away	15.8	11.2	11.5	2.8	1.6	0.8	0.5	0.3
Disaster affects service providers' availability	15.3	16.2	15.8	4.9	1.5	2.0	1.3	1.3
Service center were closed due to disasters	5,4	4.7	5.0	1.1	0.0	0.5	0.0	0.4
Disaster related losses/ business	7.0	6.4	7.3	2.2	0.3	0.4	0.2	0.7
Couldn't visit health center for broken road	14.2	11.4	13.2	3.9	0.5	0.9	0.4	0.8

A. Menstruation related complication
B. Pain/burning at genitals
C. Itching at genital
D. Wounds / other problems at genital
E. Unexpected pregnancy
F. Intentional abortion
G. STD / HIV / AIDS
H. Others

Table 21: Coping strategies to seek care during disasters by type of SRHR-related problems

Coping strategies to seek care during a disaster	SRHR related problems (multiple responses)							
	A.	**B.**	**C.**	**D.**	**E.**	**F.**	**G.**	**H.**
Use telemedicine	2.0	1.7	1.4	0.4	0.0	0.7	0.2	0.2
Care received during home visit	3.4	3.1	3.6	0.5	0.5	0.3	0.2	0.2
Care received from a local health center	5.9	5.1	5.9	1.2	0.5	0.2	0.2	9.8
Homeopathic/Kkabiraj/pharmacy	30.4	22.1	28.3	7.3	3.1	1.9	0.7	0.8
Received care after disaster	8.5	7.4	6.2	1.2	0.5	0.3	0.0	0.0
Didn't receive any services	76.6	81.4	78.3	95.3	98.3	98.6	99.4	99.4
Other (preventives measures at home)	13.0	10.2	13.3	2.5	0.8	0.6	0.5	0.3

A. Menstruation related complication
B. Pain/burning at genitals
C. Itching at genital
D. Wounds / other problems at genital
E. Unexpected pregnancy
F. Intentional abortion
G. STD / HIV / AIDS
H. Others

Table 21 shows respondents' coping strategies in seeking care for their SRHR-related problems during disasters. A significantly high proportion of the respondents—more than three-fourths— did not receive any care for their SRHR-related problems during the last disasters. On the other hand, among respondents who did receive services, most had received health care from alternative health care providers, such as homeopathic/Kabiraj/pharmacist for their SRHR-related problems. Other

important coping strategies respondents identified included: taking preventive measures at home, receiving care after disaster, and receiving care from locally available health care providers.

Pregnant during the last disasters and received antenatal care

Table 22 presents information related to respondents' pregnancy and ANC during the last disaster. About one-fourth of respondents in Gaibandha (24.4%) and one-fifth in Satkhira (19.4%) reported knowing about the WHO-recommended ANC visits. About 19.0 percent of respondents in both study areas received the recommended four or more ANC visits during their last pregnancy. However, 23.1 percent of respondents in Gaibandha and 30.2 percent of respondents in Satkhira reported not attending any ANC visits during their last pregnancy.

Table 22: Respondents who were pregnant during disasters and received ANC by districts

Characteristics	Districts	
	Gaibandha(%)	Satkhira(%)
Knowledge about the WHO-recommended ANC visits	24.4	19.4
Number of antenatal visits during the last pregnancy		
None	23.1	30.2
1	20.0	19.4
2-3	38.8	32.0
≥4	18.1	18.5
Pregnant during the most recent disaster (n=64 & 32)	20.0	9.8
Visited for ANC during the most recent disaster	68.8	50.0
Sources of ANC services		
Doctor	5.3	3.7
Nurse / midwife (trained)	3.1	4.6
Community health workers	7.8	1.2
Local-level govt./non-govt. health workers	10.9	2.1
Untrained providers (pharmacists/Kabiraz/dai)	10.9	1.5
Reasons for not using ANC services		
Health service delivery was affected during the disaster	2.7	3.3
Could not visit health center due to disaster-damages	2.7	3.3
Did not visit health center due to dealing disaster issue	2.5	3.1
Family tradition/barriers	4.7	3.4
Lack of personal security	2.5	2.5
Have previous experience	1.3	1.5
Didn't feel it's necessary	1.9	1.5
Sudden delivery	1.6	0.6
Others (religious/doctor's unavailability/high costs)	1.8	1.5

In Gaibandha, 20.0 percent of respondents were pregnant during the most recent disaster, compared to 9.8 percent of respondents in Satkhira. The percentage of respondents attending ANC visits during the most recent disaster was higher in Gaibandha (68.8%) than Satkhira (50.0%). When asked about the sources of ANC visits, respondents mentioned local level government/non-

government health workers (10.9% in Gaibandha and 2.1% in Satkhira), untrained providers (10.9% in Gaibandha and 1.5% in Satkhira). Other sources for ANC respondents identified included: doctors, nurses, and community health workers. Those who did not attend ANC visits mentioned multiple reasons for not accessing ANC: health service delivery was affected during the disaster, could not visit health centers due to disaster-related damages, family tradition/barriers, lack of personal security, have previous experience, and didn't feel it necessary (See Table 21).

Delivery care during the last disasters

Findings related to delivery care during the last disaster are shown in Table 23. In Gaibandha, 14.7 percent of the total respondents gave birth at home during the last disaster, compared to 12.9 percent in Satkhira, while 8.8 percent of the total respondents in Gaibandha and 5.2 percent in Satkhira gave birth at health centers. Those who gave birth at home received delivery care assistance from relatives/local aged women (19.1% in Gaibandha and 16.7% in Satkhira) and traditional birth attendants (68.1% in Gaibandha and 16.7% in Satkhira). Respondents identified reasons for giving birth at home, including that they didn't feel the need to go to health center, costs beyond capacity, family tradition, family barriers, lack of personal security, and long-distance/travel inconvenience not shown in table.

Table 23: Delivery care during the last disasters by districts

Characteristics	Districts	
	Gaibandha (%)	Satkhira (%)
Place of given birth during last		
Home	14.7	12.9
Health center	8.8	5.2
Not applicable	76.6	81.8
Home delivery care assisted by		
Relatives/local aged women	19.1	16.7
Local trained (FWA/FWV/MA /SACMO/Nurse) provider	12.8	4.8
Traditional birth attendants	68.1	78.6
Received PNC by 7 days of delivery during the last disaster		
Yes	19.4	4.4
No	5.0	8.0
Not applicable	75.6	87.4
Received PNC from		
Discussed with relatives/ aged women/traditional provider	11.0	0.3
Consulted with trained (FWA/ FWV/HA/SACMO/Nurse)	4.7	1.5
Consulted with MBBS doctors	3.8	2.8

With regards to PNC, 19.4 percent of respondents in Gaibandha and 4.4 percent in Satkhira reported receiving PNC within seven days of delivery during the last disaster. These respondents received PNC from trained providers, such as FWA/FWV/HA/Sub Assistant Community Medical Officer (SACMO)/Nurse (4.7% in Gaibandha and 1.5% in Satkhira) and Bachelor of Medicine and Surgery (MBBS) doctors (3.8% in Gaibandha and 2.8% in Satkhira). In addition, some respondents discussed PNC with relatives/aged women/traditional providers. Those who did not receive PNC mentioned

several reasons, including they didn't feel the need, family tradition/religious restrictions, lack of female caregivers/personal security, and could not visit health centers due to disaster (not shown in table).

Narratives about the effects of disasters on health and SRHR service delivery and use

The narratives of the qualitative data show that the delivery of health services and utilization of family planning, MCH, and SRH services were strongly affected in multiple ways due to disaster and disaster-related damages. Multiple female respondents from Gaibandha stated that, during floods, service providers were not able to come to their area due to the poor and broken communication system. During floods or any other disasters, there should be special transportation arrangements for both service providers and villagers so that and they could communicate with each other easily. One such respondent added:

> **"Although they do not come regularly even in normal times."**

A 22-year-old postpartum mother from Uria village in Gaibandha said she experienced floods there every year. She said her household faced issues related to drying clothes used during menstruation, because water all around and there was less sunlight. With a heavy heart, she said:

> **"As a result, I have been forced to live an unhygienic life for a long time."**

She also shared challenges getting service during disasters. In her words:

> **"During the last flood, I was run out of my contraceptive pill and the health workers could not come, so I had to take the risk of an unwanted pregnancy for a long time. Later, a relative from the village went to the Upazila Sadar and brought the pill at my request."**

A 21-year-old pregnant woman from Uttar Dighalkandi village in Gaibandha shared her experience getting services during disasters. In her words:

> **"I could not be able to continue the family planning method despite the desire to do so as the pill ran out during the floods last year. As a result, I am currently going to be the mother of a third child. My husband did not take the issue of conceiving a third child very well, although he himself has always been reluctant to use condoms. It is to be noted that during the floods, the health workers could not come to us due to poor and broken communication system and they do not come very often even during normal times."**

This respondent described how, a few days ago, a government health worker had come and given her vitamins and iron tablets, but they had already run out.

Similarly, a postpartum mother from Ashasuni Upazila of Satkhira district shared her experience of getting FP and SRHR-related services during the most recent disaster. In her words:

"Roads were flooded during the last flood, and even our community clinic was submerged. Many villages were flooded so there was no place for people in the shelters. We then faced a lot of problems getting these services."

Health care providers in both Gaibandha and Satkhira districts echoed the sentiments of service receivers, stating that health care service delivery systems were deeply disrupted due to the effects of disasters. For example, an FPI of Uria village of Gaibandha district said:

"Natural disasters certainly have a negative impact on married women's access to family planning and reproductive health care services, even in normal times, our women do not always receive these services because of our limitations, such as poor manpower. We can't give them all the services all the time. In times of disaster, we try to do our best. However, delivering services during a disaster is a huge challenge. On the other hand, married women, also face a struggle to get services at this time, as they cannot come to the temporary camps themselves, so they collect health equipment or medicine through their husbands or male relatives, or seek advice with a description of the disease."

Echoing sentiments of providers from Gaibandha, an FWV of Padmopukur Union in Satkhira said that her clinic was located right on the banks of the Padma River, and, during the last flood, water entered the clinic. She described how everything had to be moved in a hurry, with many medicines and papers were damaged. She also shared her experience providing services during that critical time:

"I brought all the necessary things like pills, condoms and other medicines to my quarter, and gave them to the women from here. Even here I served a woman's uterine disease (cleaning the uterus with medicine)."

Use of maternal health care services is further affected by the Covid-19 pandemic. A 22-year-old postpartum mother from Satkhira shared her recent delivery experience. She said that, although she had her first delivery in the clinic, she had her next delivery in the house, assisted by a traditional midwife, due to the fear of Covid-19 infection. She said she did not get any ANC or postpartum family planning services for the same reason.

Community involvement with local providers for disaster management and SRHR service delivery

Findings on the involvement of community people in disaster management and SRH services are presented in Table 24. The major sources of help during sudden death/illness, both in Gaibandha and Satkhira, were family members, neighbors, friends, and community leaders. More than one-third of respondents living in Satkhira reported also receiving support from religious leaders.

Respondents in both districts mentioned local outlets for getting help during an economic crisis, including family members living outside the house (52.2% in Gaibandha and 54.2% in Satkhira), neighbors (65.9% in Gaibandha and 47.1% in Satkhira), friends but not a neighbor (47.2% in Gaibandha and 20.6% in Satkhira), and community leaders (14.4% in Gaibandha and 9.8% in Satkhira).

When asked to identify a source of help for a woman during delivery, respondents mentioned three main sources—family members living outside the house (55.3% in Gaibandha and 67.7% in Satkhira), neighbors (85.9% in Gaibandha and 72.3% in Satkhira), and friends but not a neighbor (49.4% in Gaibandha and 29.5% in Satkhira).

Table 24: Percent of respondents believe community peoples' participation in disaster management and SRHR service delivery can be helpful by districts

Characteristics	Districts	
	Gaibandha (%)	Satkhira (%)
A person who could help someone during sudden death/illness		
Family members	62.8	78.2
Neighbors	82.8	86.2
Friends but not a neighbor	59.4	51.7
Community leaders	10.6	16.6
Religious leaders	2.5	38.5
Political leaders	9.1	1.8
Government officials	4.4	0.3
Charitable organizations/NGO	3.1	3.4
Not applicable	6.3	6.2
A person who could help someone during an economic crisis		
Family members live outside the house	52.2	54.2
Neighbors	65.9	47.1
Friends but not a neighbor	47.2	20.6
Community leaders	14.4	9.8
Religious leaders	1.3	2.2
Political leaders	8.8	1.5
Government officials	4.4	3.4
Charitable organizations/NGO	6.3	8.0
Not applicable	10.9	34.8
A person who could help a woman during delivery		
Family members live outside the house	55.3	67.7
Neighbors	85.9	72.3
Friends but not a neighbor	49.4	29.5
Community leaders	4.7	7.4
Religious leaders	0.3	4.3
Political leaders	0.6	0.6
Government official	3.1	0.3
Charitable organizations/NGO	4.1	14.5
Not applicable	2.2	16.9

Narratives about the importance of engaging community people in disaster management and SRHR service delivery

A member of the Shaghata Union in Gaibandha said that theft and robbery increased during floods. At that time, volunteers patrolled the village all night, but they needed to be more active. He also mentioned that these volunteers would be more encouraged if they were supported, such as receiving an honorarium, and recognized. Another member of Uria Union in Gaibandha said that, in times of disaster, recruited volunteers helped officials to distribute relief to disaster-affected people.

An FPI of Shaghata Union talked about the importance of involving community people in the co-management of local health facilities that helped health providers to offer SRH services during flooding. In his words:

"I know a few people in our area who stand by the helpless people affected by floods and river erosion and help them as much as possible. Moreover, there are some teenagers who raise awareness about health among other teenagers and married women through yard meetings. They also help the poor and helpless people affected by floods and river erosion."

An FPI of Syamnagar Union in Satkhira said:

"We have a few people here who work as a volunteer. They work under various NGOs. Some of them also do volunteer as individuals. Due to our lack of government manpower, we provide some services and health equipment (such as pills, condoms, IUDs, injections, etc.) in remote areas through them during any disaster … They distribute these services or equipment as our alternative."

Essential needs and approaches for delivering services during disasters

Table 25 presents the effects of disaster on households' food security by districts to identify the households that need supports by district. In Gaibandha, 94.1 percent of households endured food crises due to disasters, compared to 89.8 percent in Satkhira. In both districts, a vast majority of the respondents' households had food scarcity for their families' needs in the last 12 months (83.1% in Gaibandha and 73.2% in Satkhira). In Gaibandha, 41.3 percent of respondents' households had received disaster relief supports after the most recent disaster, compared to 20.3 percent in Satkhira.

In the last month, due to food scarcity, 20.0 percent of respondents' household members—adult women and girls (>=18 years) in Gaibandha and 25.5 percent of respondents household members in Satkhira had to sleep at night without eating anything in the last month. In addition, 11.6% of respondents in Gaibandha and 17.5% in Satkhira mentioned that their household members—adult men and boys—also slept at night without eating anything. The severity of food scarcity is further reflected in reporting that, in the last month, adult women and girls (10.9% in Gaibandha and 17.2% in Satkhira) passed a day and night without eating anything. Other family members also went through this type of food scarcity, though to a lesser extent.

Table 25: Effects of disaster on households' food security by districts

Characteristics	Districts	
	Gaibandha (%)	Satkhira (%)
HHs' endured food crises due to disasters	94.1	89.8
HHs' have food scarcity for family's needs within 12months	83.1	73.2
HHs' had received supports after the most recent disaster		
Government VGD	5.3	8.6
Disaster relief	41.3	20.3
VGF/aged/widow/mother allowance/kabikha	3.0	4.8
Others (support from non-govt. organization)	0.3	3.3
HHs' members slept at night without eating anything due to food scarcity in the last month		
Children (≤10)	0.6	0.9
Girls (11-17)	3.8	1.2
Boys (11-17)	1.9	0.3
Adult women and girls (≥18)	20.0	25.5
Adult men and boys (≥18)	11.6	17.5
Elderly women	3.8	13.5
Elderly men	1.6	9.2
HHs' member passed a day and night without eating anything due to food scarcity in the last month		
Children (≤10)	0.3	0.0
Girls (11-17)	0.9	0.3
Boys (11-17)	0.6	0.6
Adult women and girls (≥18)	10.9	17.2
Adult men and boys (≥18)	4.4	13.5
Elderly women	2.2	8.3
Elderly men	0.6	5.8

Narratives about the needs of essential services at home

The narratives of qualitative data suggest that special arrangements—both for the service providers and the service receivers—were needed, especially during disaster, to make the services available to disaster-affected people.

A 22-year-old pregnant woman from Uria village in Gaibandha district said that, during the floods, her household could not go to the health workers or the clinic, nor could the people of the clinic come to visit their area, so they had a hard time getting any advice. Then they were forced to communicate on mobile phones, but not everything could be explained on mobile phones. She said:

> **"In my opinion, the government should make special arrangements such as boat and bike services for the movement of health workers during floods so that they can come to our village regularly and contact us and provide health care services. Although, they do not come regularly even in normal times."**

A 22-year-old postpartum mother from Uria village in Gaibandha said that it would be beneficial for them if there was an arrangement for clean water and free health services including antenatal checkups, medical treatment, medicines, and sanitary napkins for poor married women during floods.

Multiple female respondents from Satkhira district also mentioned that the people of Friendship NGO came to their houses and gave them water purification tablets. These respondents said that the NGO should expand the scope of their services, regularly visit the poor people like them, and provide them medicine and food assistance if needed.

Community views on the integration of family planning into agriculture and nutrition programs

The Upazila Program Officer of Phulchori in Gaibandha district said that agriculture and nutrition programs could be integrated with family planning and SRH. In this way, he said, the two programs could help each other. Employers of one program could convey the message of the other program at the same time. In his words:

> **"Moreover, we know that there is not enough manpower to implement the above-mentioned programs, so the integration of family planning and sexual and reproductive health services with agriculture/ nutrition programs can work as supportive manpower for each other. The scope and quality of both services will increase. Individual program workers travel more or less to each area, so where agriculture/ nutrition program workers travel less, family planning and sexual and reproductive health care workers may travel, which will serve as a complementary workforce."**

An elected member (a local representative) of Phulchori union in Gaibandha district said that people in their unions, and even across the country, still have some hesitation and reluctance to accept family planning and RH services. If agriculture or nutrition programs were integrated with these services, this hesitation and reluctance would be removed to some extent.

Multiple respondents from Gaibandha said that the integration of disaster management programs into family planning services would accelerate family planning service quality and acceptability among the people of their area. In this regard, an Upazila Program Officer of Phulchori said:

> **"Integration of family planning services into disaster management programs will be very beneficial for both services providers and receivers. The two programs will be able to help each other by delivering each other the messages."**

Echoing these sentiments from Gaibandha, the Upazila Program Officer of Ashasuni in Satkhira district said there would be benefits to integrating the agriculture and nutrition program into the family planning program. The interest and acceptance among women would increase when the yard

meeting would talk about vegetable cultivation around the house and family planning at the same time.

An FPI of Syamnagar in Satkhira district said that if the family planning program was integrated into the disaster planning program, both programs would benefit. They would be able to play an active role in delivering each other's messages and services to the service receivers.

Effects of working through CBOs and empowering women

Figure 18 presents respondents' perceptions about the role of volunteers and organizations in disaster management by districts. Almost all respondents (92.8% in Gaibandha and 96.4% in Satkhira) mentioned that the risk of climate change for households is either high or very high. For this reason, 38.1 percent of respondents in Gaibandha and 56.0 percent in Satkhira reported that they consider the need for local volunteers in identifying disaster-related needs as "very important." Approximately 58 percent of respondents in Gaibandha and 40 percent in Satkhira consider the need for local volunteers in identifying disaster-related needs as "important."

Figure 18: Perceptions about risk of climate change for households

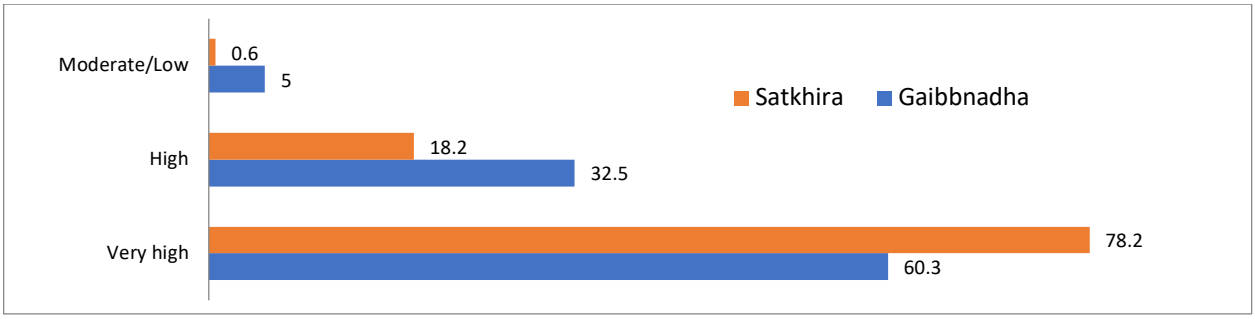


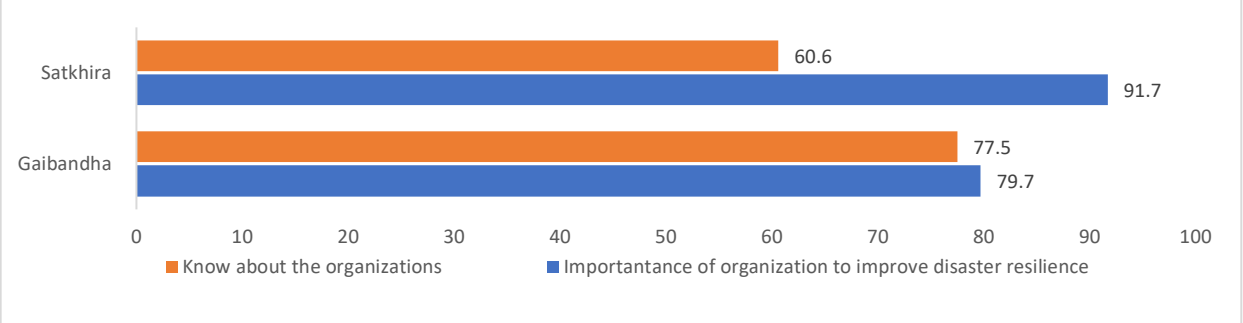
Table 26: Perception about the role of volunteers and organizations in disaster management by districts

Characteristics	Districts	
	Gaibandha (%)	Satkhira (%)
Importance of local volunteers to identify disaster-related needs		
Very Important	38.1	56.0
Important	57.9	40.0
Less/not important	4.1	4.0
Importance of local volunteers in managing disaster effects		
Very Important	40.3	53.2
Important	52.2	42.4
Less/no important	7.5	4.2
Effectiveness of organization's role in disaster management		
Very effective	36.3	29.5
Effective	35.0	28.9
Less effective	6.3	2.2

Table 26 also shows the perception of respondents regarding the importance of local volunteers in managing disaster effects—as "very important" (40.3% in Gaibandha or 53.2% in Satkhira) or "important" (52.2% in Gaibandha and 42.4% in Satkhira). In addition, 36.3 percent of respondents in Gaibandha and 29.5 percent respondents in Satkhira mentioned the role of organization(s) as "very effective" for disaster management. Other respondents in Gaibandha (35.0%) and Satkhira (28.9%) considered the role of the organization either "effective" or "moderately effective."

Figure 19 shows that most respondents in Gaibandha (77.5%) and Satkhira (60.6%) know about the organization that works on disaster management. Respondents from both Gaibandha (79.7%) and Satkhira (91.7%) mentioned that the involvement of organizations is important to improve disaster resilience.

Figure 19: Knowledge and perception about the role of organization in disaster management



Narratives about the role of organizations in disaster management and service delivery

An Upazila Program Officer of Saghata upazila of Gaibandha district said that NGOs (such as ASORD, SKS, Friendship, GUK, Karitas, the Red Cross, and Care) are working on disaster management in Saghata, paying special attention to women, children, and the disabled. He also mentioned:

> **"ASORD, RIMES, and Water Development Board's two-year pilot program ended a few days ago. They are taking initiatives to implement long-term programs. But they have only worked on sending flood messages to four unions whereas they should work on ten unions."**

A Medical Officer (MCH/family planning) of Saghata upazila in Gaibandha discussed the services of various organizations and volunteer teams:

> **"Those organizations and volunteers do some work to identify the needs of married women related to family planning, reproductive health, and rights. They also deserve praise in some cases. Although they work on their agenda, that is, they only do certain things."**

Another FPI of Haldia Union in Gaibandha mentioned four organizations working on SRHR in their area: BRAC, SKS, Gono Unnayan, and Gono Kallyan Trust. He said:

> **"BRAC provides a type of powder called 'Pustikana' which is to be fed to the baby along with rice, the price of each packet is three taka only and it looks like a packet of shampoo."**

An FPI of Phulchori upazila in Gaibandha also mentioned the work of Friendship and PSF NGOs, along with those four organizations.

An FWA of Haldia union in Gaibandha talked about the services of SKS in detail:

> **"SKS has taken up the project of providing 24/7 hours delivery service. They will do this through collaboration with us. They will provide this service at our Family Welfare Center (FWC). Where FWV and SACMO will be on our side along with them."**

An FPI of Syamnagar in Sathkhira district mentioned World Vision and Friendship organizations, which work in the area. He spoke in detail about the World Vision Program. In his words:

> **"Their five-year project ended a few days ago, they provided financial services to the poor helpless mothers. Which proved very effective for our nearly 8,000 poor mothers."**

Then he talked about the services of the Friendship organization:

> **"They work in coordination with us. They work alongside us in the vaccination program. They usually charge 5 Taka to increase its acceptability among the people, because there is an idea among the villagers that free things are not good. They also provide various types of medicine and services."**

An FWV of Padmopukur Union in Satkhira also highlighted the work of World Vision and Friendship organization. She said that World Vision was working for the poor helpless pregnant women and giving them financial assistance.

The Upazila Program Office of Ashasuni in Satkhira spoke about the important work of World Vision, Uttoron, Muslim-Aid, and Friendship organizations:

> **"They play a very important role in times of disaster because we cannot reach all the people at the time of disaster by government manpower alone. Then with their help, we arrange to send services and help to the disaster-affected people."**

Role of volunteers in reducing GBV, early marriage, and teenage pregnancy

Figure 20 and Table 27 show a link between natural disasters and violence against women. Respondents both from Gaibandha (79.4%) and Satkhira (88.9%) mentioned that the risk of violence against women increased during disasters. Specifically, 44.4 percent of respondents in Gaibandha and 41.8 percent in Satkhira reported experienced violence during the most recent disaster.

Figure 20: Link between natural disaster and violence against women by districts

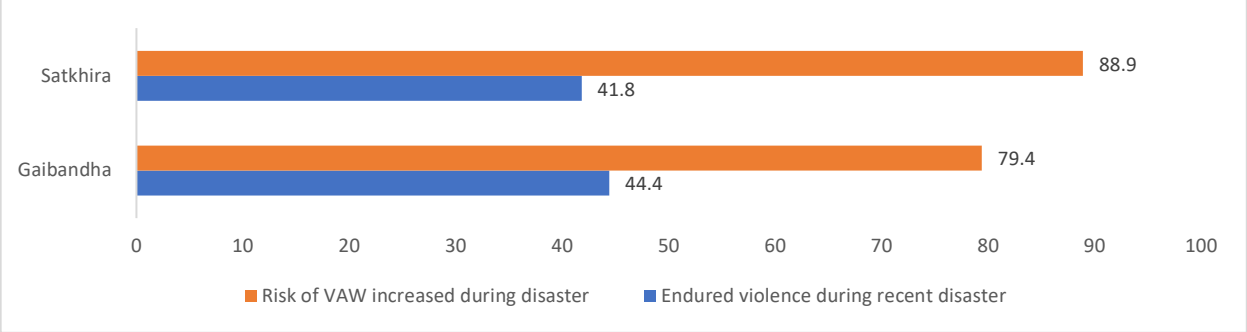


Table 27: Link between natural disaster and violence against women by districts

Characteristics	Districts	
	Gaibandha (%)	Satkhira (%)
Types of violence experienced during the most recent disaster		
Verbal harassment	41.6	40.0
Mental harassment	31.9	26.5
Physical harassment	22.8	20.9
Sexual harassment	7.8	7.7
Frequency of occurring violence		
Occurs regularly	30.0	28.9
Occurs sometimes	4.7	5.8
Occurs rarely	9.7	7.1
Persons responsible for violence		
Husband	42.5	41.8
HH's other members	11.9	16.3
Relatives	9.1	2.8
Neighbors	16.9	4.0
Others	0.6	1.2
Place where respondent experienced violence against women		
Shelter home	4.7	6.8
Own home	30.3	31.7
Relative's home	4.7	3.7
School/college/union office	2.5	1.2
Roadside/embankment	4.4	1.5
Neighbor's home	0.6	1.8

In both study areas, respondents reported experiencing verbal, mental, physical, and sexual harassment during natural disaster—ranging from 20.0 percent to 42 percent (See Table 26). In Gaibandha, 30.0 percent of the respondents mentioned experiencing a regular occurrence of violence against them, compared to 28.9 percent in Satkhira. Only a small percentage of respondents in Gaibandha (9.7%) and Satkhira (7.1%) reported that violence against them occurred rarely (Table 27). Concerning persons responsible for violence against women, 42.5 percent of respondents in Gaibandha and 41.8 percent of respondents in Satkhira have pointed to husbands, while other respondents mentioned other household members, relatives, and neighbors as responsible for the violence. Most respondents have experienced violence at their own home (30.3% in Gaibandha and 31.7% in Satkhira), while a small percentage of respondents also experienced violence against them at the shelter home, relative's home, and roadside/embankments.

Narratives about the role of volunteers in disaster management and SRHR related issues

A Member of Uria Union in Gaibandha district said that he had no idea about the community champions to help organize relief efforts in his area. However, in times of disaster, people are recruited to be volunteers. Teams were formed with healthy and able young men and women of the village. These volunteer teams helped if someone had any health problem. They also took disaster-affected people to the clinic or hospital. The village police assisted the volunteers in these works. He also mentioned that women volunteers worked to prevent violence against women. If they found out that violence was happening or had happened in their neighborhood or in the village, they immediately informed community members and helped the survivor to take action against the violence, as needed.

A Member of Erendabari Union in Gaibandha district said that the Red Crescent had formed a team, which worked in the area as male or female champions. They had become champions because they selflessly assisted people of the area in times of need and disasters. He also mentioned that these champions worked to prevent child marriage, collaborating with eminent personalities of the society and the people's representatives of the area. They explained the risks of getting pregnant at an early age to teenage couples.

Multiple female respondents from Gaibandha district said that they knew a few people in their area who stood by the disaster-affected people during floods and river erosion, helping them as much as possible. Moreover, there were some teenagers who raised awareness about the health and rights of adolescent girls and married women through yard meetings.

A 26-year-old volunteer from Gobindopur village of Gaibandha district said:

> **"Everyone in this area knows and respects me as a dedicated volunteer. Every time people have been displaced due to river erosion and floods in this area in the last 10 years, I have tried to help them as much as I can. I have continued to serve even at the risk of my life. Moreover, along with my fellow volunteers' friends, we have worked to mitigate violence and make a friendly environment here."**

This male volunteer also described his work to prevent child marriage:

> **"I give advice to the people about the disadvantages of child marriage. If it doesn't work, I explain about the legal punishment. If they still don't listen, then I inform the union council, moreover, I inform the NGO (such as 'Friendship') that works to prevent child marriage. I also call the police if necessary."**

The Chairman of Syamnagar union in Satkhira district said that he did not know who were the champions in his area, but knew about some volunteer groups who worked for people in a selfless way. He also mentioned that, at the risk of their own lives during the disaster, these volunteer groups stood by the side of disaster-affected people.

A 40-year-old male volunteer from Podmapukur union in Satkhira said that he informed the locals when and where the satellite clinic would be located during the last disaster. He also announced when and where the satellite clinic would be set up to ensure reproductive health services for married women. He also collected pills, condoms, injections, etc. from health workers during the last disasters and delivered them to married women or their houses.

A 30-year-old female volunteer from Sriula union of Ashasuni upazila in Satkhira said that to prevent violence against women and child marriage she tried to create awareness among the villagers. In her words:

> **"We explain the disadvantages of getting married at an early age. We also tell the parents that it's a criminal offense according to our country's law to marry any girl before 18 years."**

Women's decision-making capacity in disaster-affected areas

Findings on women's decision-making capacity in disaster-affected areas are presented in Table 28. The study found that 9.1 percent of respondents in Gaibandha and 16.6 percent in Satkhira were involved in income-generating activities, but only a small percentage of them—9.4 percent in Gaibandha and 2.8 percent in Satkhira—took the decision by themselves to spend their income. In most cases, the decision to spend the respondents' income was taken by husbands, wife-husband jointly, or by someone else.

Concerning decisions about health care during illness, most respondents in Gaibandha (58.8%) mentioned that wife and husband jointly made the decision, whereas the majority of respondents in Satkhira (64.0%) reported that the husband made the decision. This pattern is also found in the case of making decisions about major household purchases, visiting family or relatives, and the child's health care. Overall, in all cases, respondents alone have a very limited role in the family decision-making.

Table 28: Percent of respondents scopes for decision-making capacity in disaster-affected areas by districts

Characteristics	Districts	
	Gaibandha (%)	Satkhira (%)
Women involved in income-generating activities	9.1	16.6
Decision took to spend women's income		
Respondent	9.4	2.8
Husband	19.1	37.2
Wife and husband jointly	39.1	13.8
Someone else in the household	3.1	3.7
Do not earn money	29.4	42.5
Decision took about health care during an illness of HHs' members		
Respondent	5.3	1.5
Husband	29.4	64.0
Wife and husband jointly	58.8	25.8
Someone else in the household	6.6	8.6
Decision took about the major household purchase		
Respondent	5.0	0.9
Husband	27.2	59.1
Wife and husband jointly	61.3	29.5
Someone else in the household	6.6	10.5
Decision took about visits to your family or relatives		
Respondent	5.3	1.2
Husband	25.9	61.2
Wife and husband jointly	63.1	27.1
Someone else in the household	5.6	10.5
Decision took about child's health care		
Respondent	3.1	1.5
Husband	23.4	55.4
Wife and husband jointly	66.6	34.5
Someone else in the household	6.9	8.6

Respondents' perceptions of physical violence by husbands

Table 29 presents respondents' perceptions about physical violence by husbands by districts. In Gaibandha, respondents mentioned several situations in which they considered physical violence by husbands against women to be justified—not obeying older people (55.6%), arguing against him (53.4%), neglecting the children (44.4%), going outside without telling him (37.5%), refusing to have sex with him (31.9%), and burning the food (12.2%). These factors were also mentioned by

respondents in Satkhira to justify physical violence by husbands, with varying degrees but similar patterns.

Table 29: Respondents' perception about physical violence by husbands by districts

Characteristics	Districts	
	Gaibandha (%)	Satkhira (%)
Physical violence by husbands is justified when women		
Goes out without telling him	37.5	32.0
Neglects the children	44.4	41.2
Argues with him	53.4	47.4
Refuses to have sex with him	31.9	35.7
Burns the food	12.2	21.8
Does not obey elders	55.6	45.5

Sources of learning about information, education, and communication (IEC) and behavior change communications (BCC) specific to SRHR issues

Findings related to the source of information about IEC and BCC—specific to SRHR of the community people—are presented in Table 30. A relatively small percentage of women both in Gaibandha (25.6%) and Satkhira (28.3%) knew about women's reproductive health and rights. Major sources that respondents mentioned for gaining knowledge about SRHR information include friends/relatives/neighbors, local-level government health centers, local-level health workers, backyard meeting/service staff home inspection, and local-level NGO health workers.

Table 30: Source of information about IEC and BCC to relates to SRHR by districts

Characteristics	Districts	
	Gaibandha (%)	Satkhira (%)
Know about women's reproductive health and rights	25.6	28.3
Source of knowledge about women's SRHR		
Radio/Television	12.8	20.0
Newspapers / Magazines	1.6	7.4
Internet/social media	7.8	12.6
Husband	17.8	22.2
Friends / relatives / neighbors	75.3	65.8
Local-level government health center	63.1	28.9
Local-level NGO Health Center	26.6	5.5
Local-level government health workers	76.3	50.2
Backyard Meeting / Service Staff Home Inspection	62.8	40.9
Local-level NGO Health Workers (BRAC / SMC)	61.6	34.5
Local homeopathic doctor	15.6	11.7
Local Kabiraj/Village Doctor	19.1	23.1
Local-level pharmacist	19.1	8.0
Upazila/district level health center	19.4	21.0
Volunteer/Volunteer Team	3.5	0.3
Others (poster/workshop/leaflet/banners)	1.9	2.2

Narratives about learning on IEC and BCC specific to SRHR issues

A 22-year-old pregnant woman from Uria village in Gaibandha shared her opinion about a beneficial and easy way for people to know about SRHR and services related to SRHR:

> **"Health workers of government and non-government organizations should hold regular yard meetings in every neighborhood of every village to openly discuss women's menstrual issues. Things to do during menstruation should be discussed. If there is any problem related to menstruation; what to do; where to go, should be discussed openly. The role of men in solving the problems of girls and women should also be discussed, if necessary, men should be informed through special meetings with the participation of men."**

A 30-year-old female volunteer from Sriula Union in Satkhira:

> **"We hold yard meetings, through which we inform women about various issues such as SRHR, violence against women, disadvantages of early marriage and teenage pregnancy, and so on. Later they came to us and said that we have benefited from the advice you have given us."**

A 22-year-old pregnant woman from Syamnagar Upazila in Satkhira said that her neighbor was a health worker—and she could learn a lot from her.

Programs and actions to address disaster effects and shortcomings of existing efforts

Findings related to programs, organizations, services, or community people that address vulnerabilities related to natural disasters, disaster-related problems, and SRHR are presented in Table 31. In Gaibandha, 34.1 percent of respondents received support from outside the household during a disaster, compared to 30.2 percent in Satkhira. During disaster, most respondents in Gaibandha received physical support, mental support, food and water, and space for a living. Most respondents in Satkhira had received financial support, food and water medical support, and space for a living.

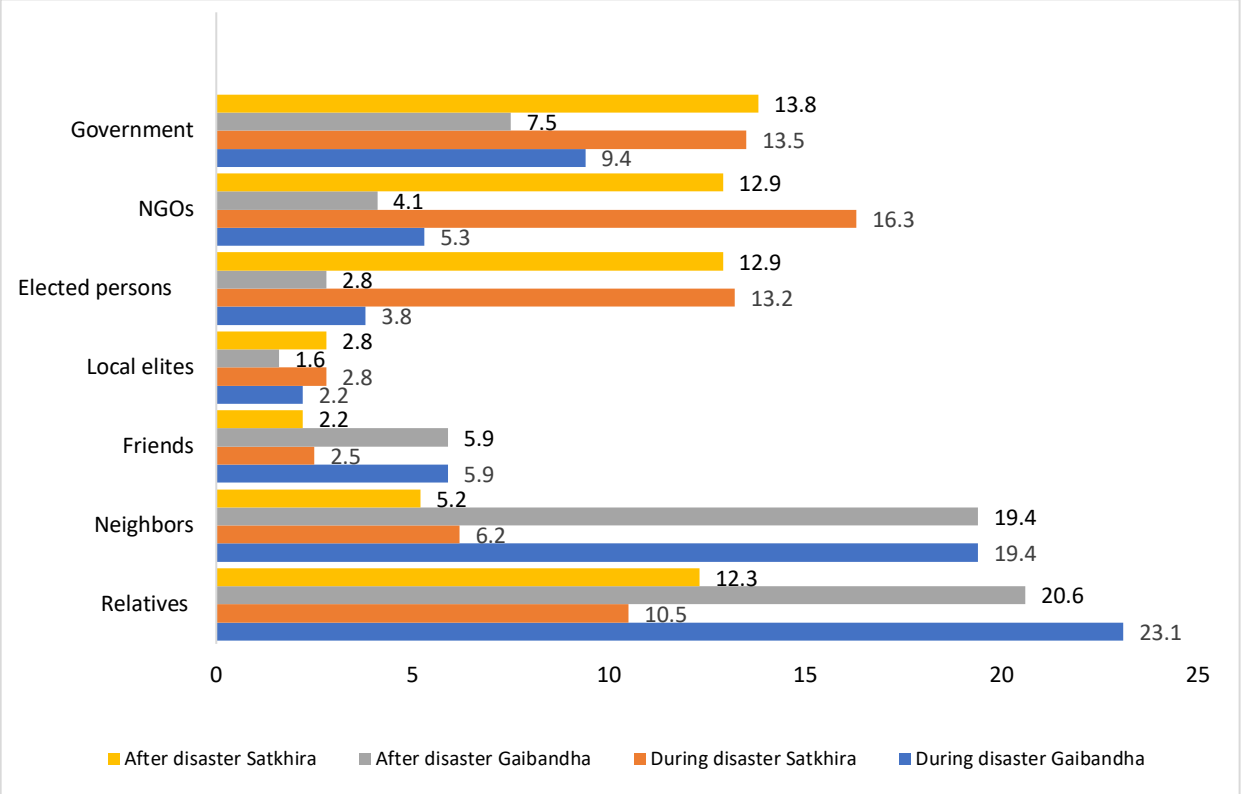
After disaster, respondents in Gaibandha received financial support, physical support, food and water, social safety net, and space for a living. These supports were also received by respondents in Satkhira after disaster, but the major supports were financial, food and water, medical support, and space for living.

Table 31: Percent of respondents received support from programs/organizations/services/community people to address disaster vulnerabilities by districts

Characteristics	Districts	
	Gaibandha (%)	Satkhira (%)
Received support during a disaster from outside the HHs' members	34.1	30.2
Supports during the disaster		
Financial support	8.4	18.2
Physical support	14.1	5.5
Mental support	22.5	8.9
Food and water	17.8	26.2
Medical support	0.6	11.7
Employment support	0.3	2.2
Social safety net	7.5	0.9
Space for living	12.2	14.2
Supports after the disaster		
Financial support	9.1	18.2
Physical support	11.6	6.2
Mental support	22.5	8.3
Food and water	13.8	23.4
Medical support	1.6	10.2
Employment support	0.6	2.5
Social safety net	7.8	0.9
Space for living	9.1	12.3

Concerning the sources of support during disaster, 23.1 percent of respondents in Gaibandha received support from relatives followed by neighbors, government, friends, elected personnel, and local elites. In Satkhira, respondents also received support from these sources, but the major sources were relatives, local elites, elected representatives, NGOs, and the Government. After disaster, these supports were provided by relatives, neighbors, NGOs, and the Government (See Figure 21).

Figure 21: Sources of relief and other supports during disaster and after disaster by districts



Narratives to capture disaster-related vulnerabilities and the short-comings of efforts

An FPI of the Uria Union in Gaibandha talked about the consequences of the most recent disasters in his area. He said that there were some changes in the demand and supply of family planning methods during and after the disaster—as many people ran out of pills or condoms. He said health workers were unable to deliver their services due to the broken and poor transportation system and that village people were also not able to receive their necessary services and medicines. He said he contacted a health worker and arranged for the distribution of pills and condoms.

Another FPI of Haldia Union from the same district said that the number of intentional or unintentional abortions could increase during a natural disaster, as a woman might be anxious during a disaster due to poor financial condition which could lead to miscarriage. Accidental miscarriages could also occur, such as slipping, bumping into something, sinking, etc. Moreover, many people faced unwanted pregnancies during this time, so they were forced to have an abortion if they did not want to have a child.

Multiple female respondents from Gaibandha district also said that, during floods, there was a severe shortage of drinking water, which was a threat to both the mother and the baby. Drinking contaminated water caused diarrhea; it also could be harmful to the baby if the mother had an infection. These respondents also mentioned that violence against women could be related to natural disasters, because during natural disasters such as floods, men did not have jobs and

money, even there was not enough food in the house, so generally, men were in a bad mood. Moreover, at this time old issues—such as non-payment of dowry—came to the fore again and, at that time, men usually hurt women physically and mentally.

A 22-year-old pregnant woman from Uria village of Satkhira shared her experience of GBV during the most recent disaster:

> **"I, myself, have been a victim of such violence. During the floods last year, my husband asked me to bring money from my father's house due to lack of money, but my father's house also had financial problems at that time. When I did not agree to bring money, my husband slapped me a lot and said that if I could not bring money from my father's house, I should go to my father's house and did not have to stay here."**

An FPI of Syamnagar upazila of Satkhira district said that women faced problems with saline water when they took IUDs. He also mentioned that, in his union of Gabura, there was no doctor available even in normal times. So, during a disaster, it became very hard to get services for the women regarding SRH. Then he said:

> **"When men are in a bad mood due to various reasons including the financial crisis, anxiety for near future, and so on during disasters, they abuse women."**

Multiple female respondents from Satkhira district said that, during the last flood, they did not receive any health care services. However, in some cases, they got medicine from the village pharmacy. These respondents also mentioned that, during the flood, they were only able to collect contraceptive methods once the health worker came and left some pills, condoms, etc., in a home.

A pregnant woman from Syamnagar upazila in Satkhira district said:

> **"I was pregnant during the last flood, but I could not go to the clinic due to travel problems. It was risky to travel in a trawler in heavy rains, so I contacted on the phone, but it was not possible to get the service properly."**

5. CONCLUSIONS

Due to its geographic location, Bangladesh experiences multiple natural disasters—cyclones, sea-level rise, floods, and riverbank erosions, etc.—almost every year, particularly in coastal and low-lying riverine areas. Findings of this landscape analysis align with previous studies' findings—that households' experience frequent exposure to disasters, multiple displacements, and socioeconomic impoverishment.(11) Findings from this study also reveal that households in Gaibandha experience a significantly greater prevalence of displacement than households in Satkhira. In both districts, more than half of respondents' households are not prepared to cope with future natural disasters. The effects of such displacement are prolonged, cyclical, and unrecoverable in many cases, as found in this study and through previous research.[107,108,109] According to the findings of this study, most of the respondents' households do not feel they are able to return to the pre-disaster condition at all.

While Bangladesh has made remarkable progress in improving health indicators and economic status—ensuring equity in access to and utilization of SRH, including family planning services—significant needs remain, especially for women displaced by climate-related disasters and for climate-affected non-displaced people who live in the disaster-prone areas of the country.

Findings from this study align with the Bangladesh Demographic and Health Survey 2018–19[110] showing that almost seven in ten respondents were married before age 18 years, and almost two-thirds of them perceived that their marriage happened at early ages.[111] This study also identified that the utilization of modern sanitary napkins for menstrual hygiene practices is alarmingly low in both districts.

Among study respondents, the prevalence of using contraceptives—63.3 percent—to delay or avoid pregnancy with lesser variation by the district is broadly found consistent with national level data.[112] The utilization of female contraceptive methods over male methods is significantly higher among couples. Despite having such a prevalence of using contraceptive methods, almost 10–20 percent of the study respondents used emergency contraceptive pills to avoid pregnancy. The qualitative findings suggest that the availability of desired contraceptives and the delivery of health providers' services were disrupted during disasters and the Covid-19 pandemic.

---

107 Alam GMM. Livelihood cycle and vulnerability of rural households to climate change and hazards in Bangladesh. Environmental Management 2017;59(5):777-791.

108 Haque MR, Parr N, Muhidin S. Climate-related displacement, impoverishment and health care accessibility in mainland Bangladesh. Asian Population Studies 2020;16(2):220-239.

109 Alam G, Alam K, Mushtaq S, L. Clarke M. Vulnerability to climatic change in riparian char and river-bank households in Bangladesh: Implication for policy, livelihoods and social development. Ecological Indicators 2017;72:23-32.

110 As of the Bangladesh Demographic Health Survey 2018-19, approximately 59% of women aged 20–24 years marry before age 18 in Bangladesh.

111 NIPORT, ICF II. Demographic and Health Survey 2017-2018. Dhaka: Dhaka, Bangladesh, and Rockville, Maryland, USA: NIPORT, and ICF; 2019.

112 Bangladesh Demographic and Health Survey 2017-2018.

The qualitative findings of this study also suggest that women in both districts have a limited understanding of SRHR in general, and they received SRHR information from multiple sources. However, a large proportion of respondents relied upon friends, relatives, and untrained or alternative care providers for such information. For example, only around one-fifth of the respondents have a clear understanding of the recommended number of ANC visits. This study revealed that around 60 percent of the respondents who were pregnant during the last disasters received at least one ANC visit from any type of care provider, which is significantly lower than the national coverage 82 percent.[113] However, this finding broadly aligns with other studies conducted in similar situations.[114] The broader reasons for poor utilization of ANC services include a lack of perception about the importance of care, household-level poverty, poor transportation, long-distance, and fear of Covid-19 infection.

The study also found that less than 10 percent of respondents gave birth during the last disasters in a health center, while, at the national level, almost half of the deliveries took place in a center.[115] The finding of this study is broadly found consistent with the pattern of other studies conducted in disaster-affected riverine areas of Bangladesh.[116] An almost similar pattern is also identified in this study in terms of health care service utilization for PNC. The major causes of poor utilization of health services for delivery and PNC are lack of understanding about the importance of hospital-based delivery, poverty, lack of information, high service costs, poor transportation, fear of Covid-19 infection, and disaster-related disadvantages.

Women who are living in disaster-prone areas are more vulnerable and often suffer from SRH-related problems, such as menstrual complications, pain/burning at genitals, itching at genital, and unexpected pregnancy. This study found that a vast majority—around 90 percent—of respondents have reported physical and mental health effects of natural disasters. Disasters also affect the utilization of SRHR services in both districts.

In addition, respondents experienced GBV during disasters. This study identified that almost 43 percent of respondents have experienced various forms of violence, such as verbal, mental, physical, and sexual harassment during the recent disaster, mostly by their intimate partner in their own home. These findings are consistent with findings from previous studies conducted in flood-affected areas of Bangladesh.[117]

113 BDHS 2017-2018.

114 Haque MR, Parr N, Muhidin S. Climate-Related Displacement and Antenatal Care Service Utilization in Rural Bangladesh. International Perspectives on Sexual and Reproductive Health 2020;46:175-185.

115 BDHS 2017-2018.

116 Haque MR, Parr N, Muhidin S. Climate-Related Displacement and Antenatal Care Service Utilization in Rural Bangladesh.

117 Chowdhury M. Gender and climate change: vulnerability of rural poor women in Bangladesh. Journal of Innovation & Development Strategy 2015;9(2).

This study also explored the effects of disasters on food security and found that almost 90 percent of households perceived the adverse effects of disasters, leading to food scarcity in both districts. More specially, more than one-fourth of the respondents' households experienced food scarcity in the last 12 months. The study also identified that disaster-related food insecurity affects women more than men. The study further explored the importance of support from relatives, neighbors, community members, the government, and NGOs—to help households cope with the effects of disasters.

The qualitative findings of this study also revealed that the involvement of volunteers could play vital roles in reducing GBV, early marriage, and teenage pregnancy. Moreover, the local volunteers are effective at identifying health needs and disadvantages of the disaster-affected people and delivering services at home during disasters. According to the narratives of the qualitative findings, involvement of local organizations and the integration of agriculture and nutrition programs into health and family planning activities would be an effective strategy to address SRHR needs and challenges.

Moreover, to improve SRH and strengthen services for improving community resilience to disasters, this study identified that coordinated efforts between the government and NGOs—and involving local communities—would be vital. An interrelated model following the Disaster Risk Reduction (DRR) approach could also help local communities and institutions be responsive during an emergency and be prepared to mitigate the adverse impact of disasters. It would be also beneficial to strengthen the linkages between humanitarian and development workers, as well as programs for emergency and development issues facilitated by a public-private partnership, NGOs (such as Friendship, World Vision, SKS, ASCORD, RIMES, GUK, Karitas, Red Cross, Care, BRAC, Gono Unnayan, Gono Kallyan, PSF) and development partners.

6. RECOMMENDATIONS

Based on these findings—which demonstrate the adverse effects of disasters in Gaibandha and Satkhira districts on women's SRHR, their health care service utilization, their coping strategies, and their households—the research team provides the following recommendations for partners, implementers, funders, and other stakeholders interested in advancing women-led climate resilience programs:

Enhance collaboration across the SRHR ecosystem

The integration of agriculture, nutrition, and local government programs with health and FP programs may effectively increase health care coverage and make SRHR services available to all. This is particularly true in disaster-affected areas that face shortages in health workforces, where coordination is possible between various government agencies and NGOs—including civil society organizations (CSOs) and CBOs.

For future interventions, Pathfinder recommends efforts to enhance collaboration between advocacy communities focused on climate change, health, and women's rights. The establishment of a dedicated network of actors—focusing on SRHR and climate change—can strengthen dialogue, collaboration, activities, and processes among diverse stakeholders, including women-led CSOs and CBOs. Pathfinder recommends developing a comprehensive plan that includes a mechanism for coordination before, during, and after disasters.

Preparation, training, and coordination to maintain access to skilled GBV-response services through disaster and recovery is critical to protecting women and girls and building the resiliency of communities' SRHR systems. Pathfinder recommends leveraging the high levels of continuous access to pharmacies during disaster periods by working intra-crisis to strengthen first-line response capacity of pharmacists as well as referral mechanisms between pharmacies and advanced care sites, such as designated hospitals or one-stop crisis centers supported by the Ministry of Women and Child Affairs.

It is important to recognize and advance a full range of SRH services to prepare for, respond to, and recover from climate-related disasters. More attention to SRHR in disaster risk management (DRM) processes is needed. This includes addressing both the process of DRM planning and the practicalities of preparing for, responding to, and recovering from disasters.

Advance gender-responsive and -transformative climate action

Where communities experience a high prevalence of child marriage, have a limited understanding of SRHR, and are dependent on informal channels for SRHR-related information, social awareness and media campaigns may prove beneficial. Pathfinder recommends involving local volunteers; youth champions; influential local, political, and religious leaders; and services providers of government and nongovernmental agencies in campaigns focused on the adverse effects of child marriage and GBV.

To reduce baseline levels of GBV—and the overall prevalence of violence against women—intra-crisis action is needed. Consider creating opportunities to increase women's role in family decision-making, offering ecologically supportive income-generating activities that involve women and girls, and raising awareness about the effects of GBV and solutions for addressing it.

Promote gender-transformative climate action by addressing the linkages between climate change and SRHR. Seize opportunities to strengthen these linkages within the Gender Action Plan under the United Nations Framework Convention on Climate Change (UNFCCC), the Women and Gender Constituency (of the UNFCCC), and through the climate National Adaptation Plans development process.

Set targets for inclusive, gender-balanced, multi-sectoral stakeholder participation in climate policy. Use gender-responsive climate action as the starting point for addressing SRHR. It is essential to include women-focused CSOs and people in all their diversity in participatory policy processes.

Build resilient health systems

Due the alarmingly low utilization of quality ANC, delivery services, PNC, and other SRHR-related care during disasters, consider making special arrangements to increase RMNCH coverage and use of services.

A lack of transportation and geographic access emerged as key barriers to health care during disasters. Pathfinder recommends investing in multi-option response systems to ensure continuous access to essential services. Examples include delivering SRHR services at home, through telemedicine, and by boats, and by involving trained birth attendants based in communities. In addition, high-impact community distribution practices, such as the advanced distribution of misoprostol for prevention of postpartum hemorrhage and the advanced distribution of chlorhexidine for neonatal cord care, may be valuable when a climate event is forecasted.

Considering disaster-affected populations' increased dependency on pharmacies and alternative care providers, taking steps to involve and build the capacity of drug sellers at pharmacies may prove beneficial for improving the quality and utilization of basic health services, especially in disaster-prone areas.

Invest in health systems to address the underlying causes of vulnerability to climate change. Investments in resilient health systems—with a focus on SRHR—provide opportunities to address persistent barriers to the realization of the right to health while addressing underlying causes of vulnerability to climate change.

Close remaining evidence gaps

Invest in research to address evidence gaps and integrate the analysis of SRHR and climate data. Greater investment in research, with an intersectional lens, on the social and gender dimensions of climate change and action is needed, so the evidence base and argument can be strengthened and

incorporated in global policies, plans, and programs. Climate-related sex-disaggregated data need to be systematically collected and analyzed.

Promote resilient livelihoods and nutrition

Due to households' frequent exposure to disasters and the adverse effects on livelihoods, Pathfinder recommends working to provide alternative income opportunities at the local level—to minimize disaster disadvantages and socioeconomic impoverishment. In addition, governments and relevant NGOs should consider developing a compressive workplan involving volunteers and community members to address economic hardship as part of its emergency response during disasters.

7. REFERENCES

Ahmed B, Kelman I, Fehr HK, Saha MJS. Community resilience to cyclone disasters in coastal Bangladesh. 2016;8(8):805.

Ahmed SM, Alam BB, Anwar I, Begum T, Huque R, Khan JAM, et al. Bangladesh Health System Review. Geneva: WHO 2015.

Ahmed B, Kelman I, Fehr H, and Saha M. (2016). Community Resilience to Cyclone Disasters in Coastal Bangladesh. Sustainability 8.

Alam G, Alam K, Mushtaq S, L. Clarke M. Vulnerability to climatic change in riparian char and river-bank households in Bangladesh: Implication for policy, livelihoods and social development. Ecological Indicators 2017;72:23-32.

Alam GMM. (2017). Livelihood Cycle and Vulnerability of Rural Households to Climate Change and Hazards in Bangladesh. Environmental Management, Volume 59, 777-791.

Arsenault M, Azam M, Ahmad S. Riverbank erosion and migration in Bangladesh's char lands. In: Mallick B, Etzold B, editors. Environment, Migration and Adaptation: Evidence and Politics of Climate Change in Bangladesh 1st ed. Dhaka: AHDPH; 2015. p. 41-62.

Arsenault M, Azam M, and Ahmad S. (2015). Riverbank Erosion and Migration in Bangladesh Char Lands. Environment, Migration and Adaptation: Evidence and Politics of Climate Change in Bangladesh, 41-62.

Ashraf MA, Azad AK. Gender Issues in Disaster: Understanding the Relationships of Vulnerability, Preparedness and Capacity, Environment and Ecology Research 3(5): 136-142, 2015.

Bangladesh Ministry of Disaster Management and Relief, Government of the People's Republic of Bangladesh, "National Plan for Disaster Management (2016-2020)," 2017.

Bangladesh Ministry of Environment and Forests, Government of the People's Republic of Bangladesh, "Bangladesh Climate Change Strategy and Action Plan 2009," 2009.

Béné C, Chowdhury FS, Rashid M, Dhali SA, and Jahan F. Dhaka: World Food Programme; 2016.

BRAC. Climate Resilience Framework of BRAC. Dhaka: Climate Change Programme, BRAC; 2020.

Brammer H. Floods, cyclones, drought and climate change in Bangladesh: a reality check. International Journal of Environmental Studies 2016;73(6):865-886.

Bureau DM. National Plan for Disaster Management, 2010–2015. In: Disaster Management & Relief Division Dhaka (Bangladesh); 2010.

Centre for Research on the Epidemiology of Disasters UN Office for Disaster Risk Reduction, "Economic Losses, Poverty & Disasters 1998–2017," 2018.

Chowdhury M. Gender and climate change: vulnerability of rural poor women in Bangladesh. Journal of Innovation & Development Strategy 2015;9(2).

Corsel D, Ray-Bennett N, Goaswami N. Research Report: Exploring the challenges and opportunities around reproductive health in disasters in Belkuchi Upazila, Bangladesh; 2019.

Desa U. Transforming our world: The 2030 agenda for sustainable development. 2016.

Eckstein D, Künzel V, and Schäfer L. (2021). Global Climate Risk Index 2021. Berlin: Germanwatch.

Fathalla MF, Fathalla MM. Sexual and reproductive health: Overview. International Encyclopedia of Public Health 2008;5:695-705.

Fisher S. Violence against women and natural disasters: findings from post-tsunami Sri Lanka. Violence Against Women 2010;16(8):902-18.

Haque M, Yamamoto SS, Malik AA, Sauerborn R. Households' perception of climate change and human health risks: A community perspective. Environmental Health 2012;11(1):1.

Haque M. Health care-Seeking Behaviours of Climate-Induced Internally Displaced People and Non-Displaced People in Bangladesh. In. Sydney, Australia: Macquarie University; 2019.

Haque MA, Budi A, Azam Malik A, Suzanne Yamamoto S, Louis VR, Sauerborn R. Health coping strategies of the people vulnerable to climate change in a resource-poor rural setting in Bangladesh. BMC Public Health 2013;13(1):1-11.

Haque MR, Parr N, and Muhidin S. Climate-Related Displacement and Antenatal Care Service Utilization in Rural Bangladesh. International Perspectives on Sexual and Reproductive Health 2020;46:175-185.

Haque MR, Parr N, and Muhidin S. Climate-related displacement, impoverishment and health care accessibility in mainland Bangladesh. Asian Population Studies 2020;16(2):220-239.

Haque MR, Parr N, and Muhidin S. Parents' health care-seeking behavior for their children among the climate-related displaced population of rural Bangladesh. Social Science & Medicine 2019;226:9-20.

Harmeling S, editor. Who suffers most from extreme weather events? Weather-related loss events in 2009 and 1991 to 2010 Bonn, Germany: Germanwatch 2012.

Huda F, Chowdhuri S, Robertson Y, Islam N, Sarker B, Azmi A, et al. Understanding Unintended Pregnancy in Bangladesh: Country Profile Report. 2013.

IPCC. Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Groups II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. UK: Cambridge University Press; 2014.

Islam M. Bangladesh Disaster-related Statistics 2020: Climate Change and Natural Disaster Perspectives. Dhaka: Bangladesh Bureau of Statistics; 2020.

Islam M. Vulnerability and coping strategies of women in disaster: A study on coastal areas of Bangladesh. Arts Faculty Journal 2010:147-169.

Karim MF and Mimura N. Impacts of climate change and sea-level rise on cyclonic storm surge floods in Bangladesh. Global Environmental Change 2008;18(3):490-500.

Khan A, Mojumder SK, Kovats S, and Vineis P. Saline contamination of drinking water in Bangladesh. Lancet 2008;371.

Khan AE, Ireson A, Kovats S, Mojumder SK, Khusru A, Rahman A, et al. Drinking water salinity and maternal health in coastal Bangladesh: Implications of climate change. Environmental Health Perspectives 2011;119(9):1328-1332.

Khan AE, Xun WW, Ahsan H, Vineis P. Climate change, sea-level rise, & health impacts in Bangladesh. Environment: Science and Policy for Sustainable Development 2011;53(5):18-33.

Kreft S, Eckstein D, Dorsch L, Fischer L, editors. Who suffers most from extreme weather events? Weather-related loss events in 2014 and 1995 to 2014. Bonn, Germany: Germanwatch 2016.

Krishnamurthy R. Review of sexual and reproductive health and rights in the context of disasters in Asia. In: Asian Pacific resource and research centre for women (ARROW); 2009.

Lahiri-Dutt K and Samanta G. 2007 ''Like the Drifting Grains of Sand': Vulnerability, Security and Adjustment by Communities in the Charlands of the Damodar River, India', South Asia-Journal of South Asia Studies, vol. 30, no. 2, pp. 327-349.

Lancet. Sexual and reproductive health and climate change. The Lancet 2009;374(9694):949.

Miller F, Osbahr H, Boyd E, Thomalla F, Bharwani S, Ziervogel G, et al. Resilience and vulnerability: complementary or conflicting concepts? Ecology and Society 2010;15(3).

Ministry of Disaster Management and Relief, Government of the People's Republic of Bangladesh, "Flood Response Preparedness Plan of Bangladesh," 2014.

Ministry of Disaster Management and Relief. National Plan for Disaster Management (2021-2025): Action for Disaster Risk Management.

Ministry of Environment and Forests, Government of the People's Republic of Bangladesh, "National Adaptation Programme of Action (NAPA)," 2005.

Ministry of Environment of Forests. "Bangladesh Climate Change and Gender Action Plan." Dhaka: Ministry of Environment of Forest, Government of the People's Republic of Bangladesh; 2013.

Ministry of Disaster Management and Relief. Trend and Impact Analysis of Internal Displacement due to the Impacts of Disaster and Climate Change. Dhaka: Ministry of Disaster Management and Relief (MoDMR), Government of Bangladesh; 2014.

Mohammad N. Climate change and displacement in Bangladesh: Issues and challenges. In: Filho WL, editor. Handbook of Climate Change Adaptation. Verlag, Berlin-Heidelberg: Springer; 2015. p. 177-193.

Naing L, Winn T, and Rusli B. Practical issues in calculating the sample size for prevalence studies. Archives of Orofacial Sciences 2006;1:9-14.

Naripokkho. Country profile on universal access to sexual and reproductive rights: Bangladesh. Dhaka: Naripokkho; 2016.

Nasreen M, Hossain KM, Azad AK, and Hasan MK (2017) Sexual and Reproductive Health during Emergencies: Situation Analysis of Disaster-Prone Areas of Bangladesh. Dhaka: Institute of Disaster Management and Vulnerability Studies, Bangladesh. ISBN: 978-984-34-2507-2.

NIPORT, ICF II. Demographic and Health Survey 2017-2018: Key Indicators. Dhaka: Dhaka, Bangladesh, and Rockville, Maryland, USA: NIPORT, and ICF; 2019.

O'Donnell O. Access to health care in developing countries: Breaking down demand side barriers. Cadernos de Saúde Pública 2007;23:2820-2834.

Rahman MA, Islam S, and Rahman SH. Coping with flood and riverbank erosion caused by climate change using livelihood resources: A case study of Bangladesh. Climate and Development 2015;7(2):185-191.

Rahman MM and Ahmad S. Health. Livelihood and well-being in the coastal delta of Bangladesh. Ecosystem Services for Well-Being in Deltas: Integrated Assessment for Policy Analysis. Cham: Springer International Publishing; 2018. p. 131-145.

Sarker N, Wu M, Alam G, and Shouse R. (2020). Livelihood diversification in rural Bangladesh: Patterns and determinants in disaster prone riverine islands. Land Use Policy, Volume 96.

Smith LC and Frankenberger TR. Does Resilience Capacity Reduce the Negative Impact of Shocks on Household Food Security? Evidence from the 2014 Floods in Northern Bangladesh. World Development 2018;102:358-376.

Stern E, Stame N, Mayne J, Forss K, Davies R, and Befani B. Broadening the range of designs and methods for impact evaluations. Department for International Development 2012;Working Paper 38.

Tanabe M, Building National Resilience for Sexual and Reproductive Health: Learning from Current Experiences. Women's Refugee Commission; 2016.

TANGO.I. USAID/Bangladesh Comprehensive Disaster Risk and Resilience Assessment Dhaka: TANGO International 2016.

UN-WOMEN. "Why is climate change a gender issue?" 2014.

UNDP, editor. Human Development Indices and Indicators: 2018 Statistical Update New York, USA: United Nations Development Programme; 2018.

Walker B. Climate change and sexual and reproductive health: impacts and solutions. AMSA Journal of Global Health 2020;14(2).

WHO. Improving Sexual and Reproductive Health services among refugees and internally displaced people. Geneva: World Health Organization; 2020.

WHO. Integrating sexual and reproductive health into health emergency and disaster risk management: policy brief: World Health Organization; 2012.

Younos TB, Hasan MK, and Nasreen M. Are nurses ready? Bangladeshi nurses' perceived preparedness for disasters: A mixed-methods approach. International Journal of Disaster Risk Reduction 2021;58:102195.

8. ANNEXES

Annex 1: Survey questionnaire in English

Landscape Analysis of Community Resilience to Disasters by Addressing Sexual and Reproductive Health and Rights of Married Women in Satkhira and Gaibandha Districts

Introduction and consent of the respondent

Greetings!

My name is _____ (Show ID card). I am working with the Department of Population Sciences, University of Dhaka, Bangladesh. We are conducting research on the "*Landscape Analysis of Community Resilience to Disasters by Addressing Sexual and Reproductive Health and Rights in the Sathkhira and Gaibandha Districts of Bangladesh"* in cooperation with Pathfinder International. The collected information will help the government and development partners to plans the community's resilience (capacity of a community to prevent and mitigate stresses caused by a disaster) to climate change and health services during and after natural disasters. Your household was selected randomly for the survey. I would like to ask you some questions about your household's exposures to disaster, coping strategies with disaster effects, and health care needs. The questions usually take s 45 to 60 minutes. All of the answers you give will be confidential and will not be shared with anyone others than members of the survey team. Your participation in the survey is completely voluntary and we hope you will kindly agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time. Some questions may make you feel uncomfortable, you can also let any others member of the household answer on behalf of you. In case you need more information about the survey, you may contact Dr. Md. Rabiul Haque, Professor & Chairman, Department of Population Sciences, 3rd floor, Arts Building, University of Dhaka, Dhaka-1000, Bangladesh. Telephone number: 01705531207

If randomly selected married woman agrees to participate in the study, start the interview by circling the "Yes" option otherwise proceed to the next household.				Yes No
Do you currently have any children under the age of 10?				Yes No (next household)
(Use a pencil to write or circle the appropriate answer)				
Date of interview				----/----/----
HOUSEHOLD ID				
Location	Division: 1. Rajshahi 2. Khulna		district: 1. Gaibandha 2. Satkhira	

	Upazilas: 1. Fulchhari 2. Saghata 3. Shyamnagar 4. Asashuni Unions: 1.Erendabari; 2. Uriya; 3. Shahghata; 4. Holdiya; 5. Gabura; 6. Paddma pukur; 7. Protap Nagar; 8. Shriuli Villages: 1. Hasil Kandi; 2. Harichandi; 3. Ratnpur; 4. Uria; 5. Gobindi; 6: Uttar Safalia; 7. Dighol Kandi; 8. Nolchia; 9. Tinthopa; 10. Gobindopur; 11. Kolpatuya; 12. Kholisha Buniya; 13. Ghor Khumarpur; 14. Jhapa; 15. Chakla; 16. Kuri kahaniya; 17. Kalim Khali; 18. Nasimabad; 19. Others (Specify……)			
Name of informant	----------			
Sex of household head	Male=	1	Female=	2
Education of household head	Education in complete years			

Qn.	Questions	Response/Code	Response
101.	What is your current age?	Age (in completed years)	
102.	How many years have you studied?	Education in complete years	
103.	What is your main occupation (women)?	1. Housewife 2. Housekeeper / housekeeper in another household 3. Animal husbandry/ Livestock cultivation 4. Poultry / Poultry / Pigeon keeping 5. Crab farming 6. Government service 7. Private job 8. Teacher 9. Small business 10. Agriculture day labor / labor 11. Non-agricultural day labor 12. Fisherman 13. Potter 14. Handicrafts 15. Weaving 16. Peddler 88. Others (Specify ……..)	
104.	What was your age at first marriage?	Age (in completed years)	
105.	Do you think, you got (first) marriage early, late, or at the right age?	1. Early age 2. Right age 3. Late age 97. Do not know	
106.	What was your spouse age at the time of your first marriage?	Age (in completed years)	
107.	Was your first marriage registered?	1. Yes 2. No	

		97. Do not know	
108.	What is your current marital status?	1. Currently married 2. Separated 3. Husband left 4. Widowed skip to 112 5. Divorced skip to 112	
109.	How many years has your husband studied?	Education in complete years	
110.	What is the current age of your husband?	Age (in completed years)	
111.	What is your husband's main occupation?	1. Cultivation of own land 2. Barga/ Sublease cultivation 3. Fish farming 4. Animal husbandry/ Livestock cultivation 5. Poultry / Poultry / Pigeon keeping 6. Crab farming 7. Government service 8. Private Job 9. Teacher 10. Small business 11. Agriculture day labor / labor 12. Non-agricultural day labor 13. Fisherman 14. The boatman 15. Mason 16. Painter 17. Blacksmith 18. Potter 19. Rickshaw / van driver / auto driver 20. Handicrafts 21. Weaving 22. Peddler 88. Others (Specify ……)	
112.	What is your religion?	1. Muslim 2. Hindu (Sanatan) 3. Buddhist 4. Christian 88. Others (Specify: ……)	
113.	Total number of family members who live with you?	113.1 Male in numbers 113.2 Female in numbers	
114.	How many members of your household involve with income generating activities?	114.1 Male in numbers 114.2 Female in numbers	

115.	How many female and male members of your household have migrated from this village for income in the last 12 months?	115.1 Male in numbers 115.2 Female in numbers	
116.	What is the average monthly expenditure of your household (based on last 12 months)?	Amount in Bangladeshi taka	
117.	What is the average monthly income of your household (based on last 12 months)?	Amount in Bangladeshi taka	
118.	Do you think, your households' expenditures are higher than your household's income?	1. Yes 2. No **>>Skip to Q 120**	
119.	If the **answer is Yes to Q-118,** then how do you cope with that differentiation? **(Multiple Responses)**	1. Using savings 2. Selling household's assets 3. Keeping household assets mortgaged 4. Selling labor in advance 5. Selling crops in advance 6. Loan from bank 7. Loan from NGOs 8. Loan from local Samity/Mohajon 9. Loan from relatives/friends 10. Government allowances 11. Support from local elites 12. Changing or shifting place of residence 13. Purchased goods on credit 14. Stops taking necessary health care 15. Closes the children's school and engages them in work 88. Others (Specify: ……..)	
120.	What is the main source of drinking water of your present household?	1. Tube well 2. Supply / pipeline water 3. Locally purified water 4. River / pond / sink water 5. Rain water 6. Purchased water 88. Others (Specify: ……..)	
121.	What is the main source of cooking water of your present household?	1. Tube well 2. Supply / pipeline water 3. Locally purified water 4. River / pond / sink water 5. Rain water 6. Purchased water 88. Others (Specify: ……..)	

122.	How long does it take to travel to the source of water/ collect water for a day and return to the household?	Minutes in total	
123.	What kind of toilet facility do members of your household usually use?	1. Flush latrine 2. Water sealed/slab 3. Pit latrine 4. Open pit 5. River/canal/open field 6. Hanging latrine/bamboo 88. Others (Specify: ……)	
124.	What is the type of your current tenancy?	1. Own house on own land 2. Own house on rented land 3. Rented house 4. Shelter in someone else's home 5. Govt. and non govt. shelter 6. Rent free public places/land 7. Govt khas land but pay bribe 8. Relatives' house/land, 88. Others (Specify: ……)	
125.	What is the main material for building the walls of your dwelling house?	1. Brick / Cement / Concrete 2. Tin 3. Wood / bamboo 4. Soil 5. Polythene / jute sticks / golpat 88. Others (Specify….)	
126.	What is the roof of your house made of?	1. Brick / Cement / Concrete 2. Tin 3. Wood / bamboo 4. Soil 5. Polythene / jute sticks / golpata 88. Others (Specify….)	
127.	What is the floor of your house made of?	1. Brick / Cement / Concrete 2. Tin 3. Wood / bamboo 4. Soil 88. Others (Specify….)	
128.	How much land does your household own?	128.1 Homestead land (decimal) 128.2 Agricultural land (decimal)	

129.	Does your present household have the following items?	**Code for Q128.1 to 128.24** 1. Yes 2. No	

128.1.	Electricity	
128.2.	Solar Panel	
128.3.	IPS/Generator	
128.4.	Almirah/Wardrobe	
128.5.	Radio	
128.6.	Television	
128.7.	Mobile Phone	
128.8.	Computer/Laptop	
128.9.	Refrigerator	
128.10.	Electric fan	
128.11.	Gas Cylinder for cooking	
128.12.	Car/Truck/Microbus	
128.13.	Auto rickshaw/Auto bike	
128.14.	Tempu/CNG/Easy bike	
128.15.	Rickshaw/Van/horse driven van	
128.16.	Boat	
128.17.	Motor cycle	
128.18.	Boat with engine	
128.19.	Cow/Buffalo/Goat /Sheep	
128.20.	Tractor for agriculture work	
128.21.	Tube well at dwelling	
128.22.	Water pump at dwelling	
128.23.	Bicycle	

SECTION 2: CLIMATE CHANGE, NATURAL DISASTERS, AND DISPLACEMENT			
Qn.	**Questions**	**Response/Code**	**Response**
201.	For how long have your household been living in this place?	Years in total	
202.	What natural disasters have happened in your village / area in the last 5 years? **(Multiple Responses)**	1. Heavy rainfall 2. Flood 3. River bank erosion 4. Heatstroke 5. Drought 6. Cold weather 7. Cyclone 8. Tidal wave 9. Waterlogging 10. The salinity of water 11. Wildfire 12. Earthquake 88. Others (Specify: .....)	
203.	What natural disasters have your household faced in the last 5 years? **(Multiple Responses)**	1. Heavy rainfall 2. Flood 3. River bank erosion 4. Heatstroke 5. Drought 6. Cold weather 7. Cyclone 8. Tidal wave 9. Waterlogging 10. The salinity of water 11. Wildfire 12. Earthquake 88. Others (Specify: .....)	
204.	What was the most recent natural disaster your household experienced? **(Multiple Responses)**	1. Heavy rainfall 2. Flood 3. River bank erosion 4. Heatstroke 5. Drought 6. Cold weather 7. Cyclone 8. Tidal wave 9. Waterlogging 10. The salinity of water 11. Wildfire 12. Earthquake	

		88. Others (Specify: ……	
205.	Have your any household members get sick from the latest natural disaster?	1. Yes 2. No **>> Skip Q-208**	
206.	If the **answer is Yes to Q-2**05, then what kind of disease?	1. Headache / common cold / cough / fever 2. Dysentery 3. Diarrhea 4. Skin Diseases 5. Burning Sensation 6. Conjunctivitis 7. Jaundice/Hepatitis B 8. High Blood Pressure 9. Skin Burn/Blistering 10. Asthma 11. Psychological Disorders 12. Typhoid 13. Pox 14. Weight Loss 15. Malnutrition Related Diseases 16. Rheumatism/Aching 17. Pneumonia 18. Measles 19. Bleeding From Nose 20. Heatstroke 21. Malaria 22. Dengue 88. Others (Specify……)	
207.	If the **answer is Yes to Q-2**05, then from where did you get the health care services?	1. Took/have taken the advice of MBBS doctor on the phone 2. Took/have taken the advice of the local government health workers on the phone 3. Took/have taken the advice of NGO health workers on the phone 4. Took/have taken the advice of a health worker while inspecting the house 5. Took/have taken advice from the local health center 6. Took/have taken the service from the pharmacist 7. Took/have taken services from the community clinic 8. Took/ have taken services from NGO Health Center	

		9. Took/have taken services from Union Health Center 10. Took/have taken service from Upazila Health Complex 11. Took/have taken services from government district / divisional health centers 12. Took/have taken services from a private clinic 13. Took/have taken services from the pharmacy 14. Took/have taken services from local level government health workers 15. Took/have taken services from local level NGO health workers 16. Took/have taken services from Homoeopathic Doctor / Kabiraj 17. Took/have taken services from untrained local health workers 18. The service provider could not come due to the disaster 19. The service activities of the health center were closed due to the disaster 20. The communication system of the health center was broken due to the disaster 21. Busy in dealing with the disaster and did not go 22. Took/have taken the service after overcoming the disaster 23. Didn't receive any services 88. Others (Specify……..)	
208.	How did the most recent disaster affect your household? **(Multiple Responses)**	1. Loss of family member 2. Physical disability/injury 3. Stress / anxiety / fear 4. Loss of livelihood/income 5. Loss/destroy of home 6. Loss of assets 7. Loss of homeland 8. Loss of agricultural land 9. Loss of water supply 10. Discontinuation of education 11. Reduced access to health care 12. Reduced access to others services 13. Became homeless 14. Communication is down	

		15. No effect 88. Others (Specify: ……)	
209.	Has your household ever been displaced by a natural disaster?	1. Yes 2. No	
210.	If the **answer is Yes to Q-2**09, then how many times in the last 5 years your family has been displaced due to natural disaster?	Numbers in total	
211.	If **displaced more than once,** then how many years ago were you most recently displaced?	Year	
212.	If your family has been displaced, how much did the latest relocation cost?	Amount of money (in Bangladeshi Taka)	
213.	Have you received support from anyone others than your family members during and after the displacement?	1. Yes 2. No **>> Skip to Q-215**	
214.	If **the answer is Yes to Q-213**, then complete the following matrix to note what type of supports and from where?		

Supports by time	**Type of support/s**						**Support/s provider/s**					
During displacement												
After displacement												

Support/s code: 1=Financial support, 2= Physical support, 3= Mental support, 4= Food and water, 5= Medical support, 6=Employment support, 7=Social safety net, 8=Space for living, 88=Others (Specify: …….)

Providers' code:1=Relatives, 2=Neighbors, 3=Friends, 4=Local elites, 5.elected public representatives 6.=NGOs, 7.=Government, 88=Others (Specify……)

215.	Have you/your household had to borrow money within the last 12 months?	1. Yes 2. No	
216.	Do you know any formal place from where you/your household can borrow money if needed?	1. Yes 2. No	
217.	Do you/your household have its own transportation facility during disaster?	1. Yes 2. No	
218.	What was your main source of information about the most recent disasters?	1. Radio 2. Television 3. Newspaper/Magazine 4. Internet/social media 5. FP/Health care workers 6. Friends/relatives 7. Billboard/Nionsign/tri-vision, etc. 8. Poster/leaflet/flyer/ /festoon, etc. 9. Workshop/seminar, etc. 10. Volunteers group 11. Union Council 12. Elected public representatives 13. Union Disaster Management Committee	

		14. Through Upazila Parishad / Administration 15. Through local clubs / associations 88. Others (Specify: ……)	
219.	Did you receive any warning information about the most recent disaster in advance?	1. Yes 2. No	
220.	Do you think that the local government is well prepared for any natural disasters?	1. Yes 2. No	
221.	Do you think that the national government is well prepared for any natural disasters?	1. Yes 2. No	
222.	How long does it take to travel to the nearest govt. shelter house during the disaster?	Minutes in total	
223.	Do you have trained volunteers in your village to help in times of natural disasters?	1. Yes 2. No	
224.	How much (cash / any kind) financial loss have you / your household (family) suffered during the most recent natural disaster?	Amount of money (in Bangladeshi Taka)	
225.	Have you or your household had a discussion to deal with the most recent natural disaster?	1. Yes 2. No	
226.	Have you or your household prepared to move to another place in case of an emergency?	1. Yes 2. No	
227.	How prepared would you say your household is to respond to a natural disaster in the near future?	1. Well prepared 2. Prepared 3. Not prepared 4. Do not know	
228.	How long did it take for your household to return to the pre-disaster condition after the most recent disaster?	Number of months	
229.	What is your opinion on the importance of involving local volunteers to identify the needs of disaster-affected people?	**Code for Q 229 to Q230** 1. Very Important 2. Important 3. Moderately important 4. Less important 5. Not important at all	
230.	In your opinion, to what extent is it important to involve local volunteers to cope with disaster-related effects?		
231.	Do you know any organization/group who works on disaster management?	1. Yes 2. No skip to 233	
232.	If the **answer Yes to Q 231**, then to what extent the efforts of different organizations are effective	1. Very effective 2. Effective 3. Moderately effective	

	to increase household resilience to natural disaster	4. Less effective 5. Not effective at all	
233.	Can various organizations be involved to increase the resilience of the houshold (family) to the disaster?	1. Yes 2. No	☐
234.	Do you think that the level of disaster is changing in your area in the most recent times?	1. Yes 2. No 97. Do not know	☐
235.	**If the answer is Yes to Q-234**, in what ways do you think it is changing? **(Multiple Responses)**	1. Extreme heat wave than earlier 2. Extreme cold wave than earlier 3. Extreme wetter than earlier 4. Unpredictable rains 5. Unpredictable drought 6. Excessive rainfall/floods 7. Decreasing rainfall 8. Excessive riverbank erosion 9. Later/earlier monsoon 10. Frequent storm surges 11. Excessive waterlogging 12. Excess salinity in freshwater 88. Others (Specify: ……)	☐ ☐ ☐ ☐
236.	**If the answer is Yes to Q-234,** to what extent climate change poses risk for your household?	1. Very high 2. High 3. Moderate 4. Low 5. Very low	☐
237.	What were the actions of your household to cope with the most recent disaster effects? **(Multiple Responses)**	1. Using savings 2. Selling household's assets 3. Keeping household assets mortgaged 4. Selling labor in advance 5. Selling crops in advance 6. Loan from bank 7. Loan from NGOs 8. Loan from local Samity/Mohajon 9. Loan from relatives/friends 10. Government allowances 11. Support from local elites 12. Changing or shifting place of residence 13. Purchased goods on credit 14. Stops taking necessary health care 15. Closes the children's school and engages them in work 88. Others (Specify: ……)	☐ ☐ ☐ ☐

238.	What steps can be taken to reduce the impact of natural disasters for your community (village/area) in the near future? **(Multiple Responses)**	1. Structural development of the house 2. Shelter construction 3. Development of the Roads and bridges 4. Implementation of social forestry / tree planting program 5. Adopting disaster management plans at the union level 6. Engage volunteers at the union level 7. Keep stock of necessary food / water in each house 8. Keep stock of medical supplies 9. Provide first aid training to volunteers 10. Raise awareness among local people 11. Increase the alliance of government and non-government organizations (NGOs) 12. Provide advance warning in case of disaster 13. Creating income opportunities at the local level 14. Involve local people in the transferring process of the government in times of disaster 15. Arranging loans at local level 16. Increase the communication (mobile / SMS) of government representatives with local people 88. Others (Specify ……..)	

SECTION 3: NATURAL DISASTER AND FOOD SECURITY			
QN.	**Questions**	**Response/Code**	**Response**
301.	Have you / your family ever had a food crisis due to a natural disaster?	1. Yes 2. No	
302.	Did any member of your household receive any support during/after the most recent disaster?	1. Yes 2. No **>> Skip to Q304**	
303.	If the **answer is Yes to Q-302,** from which of the programs your household has received supports after the most recent disaster?	1. Government VGD 2. Government VGF 3. Govt. cash-for-work 4. "100 days work" program 5. Aged allowance 6. Widow allowance 7. Disability allowance 8. Non-govt. cash-for-work 9. Non-govt. food-for-work 10. Kabikha (Government Food Program for Work) 11. Mothers' allowance program 12. Community-based savings 13. OMS (sale of rice / flour in open market) 14. Disaster relief 88. Other (Specify: ……..)	
304.	Were there any months in the last 12months, in which you did not have enough food for your family's needs/ household?	1. Yes 2. No **>> Skip to Q-306**	
305.	**If the answer is Yes to Q-304**,, which were the months in the last 12 months in which you did not have enough food to meet your family's needs? **(Multiple months)**	1. January 2. February 3. March 4. April 5. May 6. June 7. July 8. August 9. September 10. October 11. November 12. December	
306.	In the last month, was there a time when there was no food to eat in the house?	1. Yes 2. No **>> Skip to Q-308**	
307.	If the **answer is Yes to Q-306,** then how often did this happen within the last 1 year?	1. Never 2. Rarely (1-6 times) 3. Sometimes (7-12 times) 4. Often (A few times each month) 5. Regularly (almost every day)	
308.	In the last month, was there a time when any of your household members slept at night without eating anything due to the scarcity of food?	1. Yes 2. No **>> Skip to Q-311**	

309.	If the **answer is Yes to Q-308**, which member of your household (generally) slept at night without eating anything due to the scarcity of food? **(Multiple Responses)**	1. Child (Girls≤10) 2. Child (Boys≤10) 3. Girls (11-17) 4. Boys (11-17) 5. Adult women and girls (≥18) 6. Adult men and boys(≥18) 7. Elderly women 8. Elderly men	
310.	If the **answer is Yes to Q-308,** then how often did this happen within the last 1 year?	1. Never 2. Rarely (1-6 times) 3. Sometimes (7-12 times) 4. Often (A few times each month) 5. Regularly (almost every day)	
311.	In the last month, was there a time when any of your household members passed a day and night without eating anything due to food scarcity?	1. Yes 2. No **>> Skip to Q-314**	
312.	If the **answer is Yes to Q-311**, which member of your household (generally) passed a day and night without eating anything due to food scarcity?	1. Child (Girls≤10) 2. Child (Boys≤10) 3. Girls (11-17) 4. Boys (11-17) 5. Adult women and girls (≥18) 6. Adult men and boys(≥18) 7. Elderly women 8. Elderly men	
313.	If the **answer is Yes to Q-311,** then how often did this happen within the last 12 months?	1. Never 2. Rarely (1-6 times) 3. Sometimes (7-12 times) 4. Often (A few times each month) 5. Regularly (almost every day)	

314. In your opinion, to what extent the availability, affordability, and consumption of the following products were affected in your household due to the natural disaster?

	Questions	**Availability** 1= Yes; 2= No; 3= DNK	**Affordability** 1= Yes; 2= No; 3= DNK	**Consumption** 1= Frequently; 2= Sometimes; 3= Never
A.	Any cereals (rice/wheat)			
B.	Any vegetables			
C.	Any fruits			
D.	Any meats			
E.	Any eggs			
F.	Any fresh or dried fish			
G.	Any pulses			
H.	Any milk or milk products			
I.	Any type of groceries			
J.	Any other foods (tea, sugar)			

SECTION 4: NATURAL DISASTER AND WOMEN'S SEXUAL AND REPRODUCTIVE HEALTH SERVICES			
Qn.	**Questions**	**Response/Code**	**Response**
401.	Are you currently using any method to delay or avoid getting pregnant?	1. Yes 2. No **>> Skip to 403**	
402.	If the **answer Yes to Q 401**, then which method are you using?	1. Pill 2. Condom 3. IUD 4. Injection 5. Implant 6. Permanent method (female) vasectomy 7. Permanent methods (female) ligation 8. Lactational period 9. Safe period / periodic break 10. Withdrawal method 88. Other (Specify: .....)	
403.	If the **answer No to Q 401**, then what are the reasons for not using any methods? **(Multiple Responses)**	1. Want to get baby 2. Currently pregnant 3. Have no trust in FP methods 4. Have no access to FP methods 5. Side effects of the FP methods 6. Not necessary to use 7. Husband lives elsewhere 88. Other (Specify: .....)	
404.	Have you ever used emergency contraception pills (ECP) after unprotected sexual intercourse to prevent pregnancy?	1. Yes 2. No 97. Did not know about ECP	
405.	What are the impacts of natural disasters on women's health?	1. Physical 2. Mental 3. Both physical and mental 88. Other (Specify: .....)	
406.	From where do you know about women's reproductive health and rights? **A.** The importance of following proper hygiene during the period (menstruation) **B.** The importance of using family planning methods **C.** Use of menstruation control (MR) services **D.** Use of pregnancy registration services	1. Radio 2. Television 3. Newspapers / Magazines 4. Internet / social media 5. Husband 6. Friends / relatives / neighbors 7. Local level government health center 8. Local level NGO Health Center 9. Local level government health workers	

	E. The importance of using ANC (antenatal) services from a trained care provider **F.** Use of health care center for delivery **G.** Use of trained care providers for delivery **H.** Use of postpartum maternal services **I.** Use of postpartum family planning services **J.** STD / HIV / AIDS	10. Backyard Meeting / Service Staff Home Inspection 11. Local level NGO Health Workers (BRAC / SMC) 12. Local homeopathic doctor 13. Local Kabiraj / Village Doctor 14. Local level pharmacist 15. Upazila / district level government health center 16. Upazila / district level private health center 17. Posters / billboards / liftlets / banners 18. Workshop / Seminar 19. Volunteer / Volunteer Team 88. Other (Specify: ……)	
407.	In your opinion, how effective is the knowledge gained from different sources in your use of reproductive health services?	1. Very effective 2. Effective 3. Fairly effective 4. Not so effective 5. Not effective at all	☐
408.	Does natural disaster have any effects on women's reproductive health?	1. Yes 2. No	

409.	Do you think the use/practice of the services below were affected during the recent natural disasters (floods, riverbank erosion, drought, cyclone, salinity, etc.)?	Did service use affected?	Did you received any support?
A.	Period / Menstruation	1. Yes 2. No	1. Yes 2. No
B.	Hygiene Practice For Period (Menstruation)	3. Yes 4. No	3. Yes 4. No
C.	Utilization Of Family Planning Services	1. Yes 2. No	1. Yes 2. No
D.	Use Of Menstrual Control (MR) Services	1. Yes 2. No	1. Yes 2. No
E.	Use Of Pregnancy Registration / Registry Services	1. Yes 2. No	1. Yes 2. No
F.	Utilization Of Antenatal Care (ANC) From A Trained Care Provider	1. Yes 2. No	1. Yes 2. No
G.	Utilization Of Health care Centre Services For Delivery	1. Yes 2. No	1. Yes 2. No

H.	Use Of Trained Care Providers For Delivery	1. Yes 2. No	1. Yes 2. No
I.	Utilization Of Postpartum Maternal Services	1. Yes 2. No	1. Yes 2. No
410.	Where you can go for support, if there is a health challenge during disaster? **(Multiple Responses)**	1. Community Clinic 2. NGO Health Center 3. Union Health Center 4. Upazila Health Complex 5. Government District / Divisional Health Center 6. Private clinic 7. Pharmacy 8. Local level government health workers 9. Local level NGO Health Workers (BRAC / SMC etc.) 10. Homeopathic doctor 11. Rural Doctor / Kabiraj 12. To the person in charge of the shelter 13. Volunteer / Volunteer Team (Red Crescent / Red Cross) 14. Union Disaster Management Committee 15. Local people's representatives 16. I don't know 88. Other (Specify.)	
411.	Who is available to provide health care, if there is a health challenge during natural disaster? **(Multiple Responses)**	1. Community Clinic 2. NGO Health Center 3. Union Health Center 4. Upazila Health Complex 5. Government District / Divisional Health Center 6. Private clinic 7. Pharmacy 8. Local level government health workers 9. Local level NGO Health Workers (BRAC / SMC etc.) 10. Homeopathic doctor 11. Rural Doctor / Kabiraj 12. To the person in charge of the shelter 13. Volunteer / Volunteer Team (Red Crescent / Red Cross) 14. Union Disaster Management Committee 15. Local people's representatives	

		16. I don't know 88. Other (Specify……)	
412.	Have any member of your household been ill during the most recent disaster?	1. Yes 2. No **>> Skip to Q-416**	
413.	If the answer is **Yes to Q-412,** then, what did you do to seek care for illness?	1. Wait for natural recovery 2. Start preventive care at home after illness perceived 3. Treated outside home immediately after illness perceived 4. Start treatment outside home after 3 days latter 5. Start treatment outside home after 7 days latter 88. Others (Specify)----------	
414.	If the answer is **Yes to Q-412, from** where did you get service for any member of your household during the most recent disaster?	1. Community Clinic 2. NGO Health Center 3. Union Health Center 4. Upazila Health Complex 5. Government District / Divisional Health Center 6. Private clinic 7. Pharmacy 8. Local level government health workers 9. Local level NGO Health Workers (BRAC / SMC etc.) 10. Homeopathic doctor 11. Rural Doctor / Kabiraj 12. To the person in charge of the shelter 13. Volunteer / Volunteer Team (Red Crescent / Red Cross) 14. Union Disaster Management Committee 15. Local people's representatives 16. I don't know 88. Other (Specify……)	
415.	If the answer is **Yes to Q-411,** who took steps, if there is a health challenge during the most recent disaster?	1. The respondent herself 2. Husband 3. Other members of the household exept the husband 4. Friend 5. Neighbor 6. Relatives 7. Government health care providers	

		8. NGO workers 9. Volunteer Team (Red Crescent / Red Cross) 10. Member of the Union Disaster Management Committee 11. Local people's representatives 88. Other (Specify ……)	
416.	What strategy do you follow before natural disaster to manage your menstrual hygiene?	1. Mange by sanitary napkin 2. Always use self-made pad cloths/cotton etc. >> Skip to Q====	
417.	What actions have you taken during and after the most recent disaster to get modern sanitary napkin? **(Multiple Responses)**	1. Collect in advance from govt./NGO health workers 2. Collect in advance from a pharmacy 3. Collect from govt./NGO health workers when needed 4. Collect from pharmacy/shops when needed 5. Borrowed from others for the time being 6. Managed by traditional way 7. Always use self-made pad cloths/cotton etc. 8. Not application as not menstruating 88. Other (Specify: ……)	**During Disaster** **After Disaster**
418.	What actions have you been taken before, during and after the most recent disaster to ensure access to contraceptive methods that you need? **(Multiple Responses)**	1. Received from govt/NGO health care provider in advance 2. Collect in advance from pharmacy 3. Collect from govt./NGO health workers when needed 4. Collect from pharmacy when needed 5. Borrowed from others for the time being 6. Not application as not menstruating 7. Could not take service due to disaster 8. Due to the disaster, the service activities of the health center were closed so I could not take the service 9. The communication system of the health center was broken due to the disaster so I could not take the service 10. I was busy dealing with the problem of disaster so I could not take the service	**Before Disaster** **During Disaster** **After disaster**

		11. I took the service after overcoming the disaster 12. Did not use any method during disaster 88. Other (Specify: ……..)	
419.	What strategies have you been taken during and after the most recent disaster to get post-partum services? **(Multiple Responses)**	1. Took/have taken the advice of MBBS doctor on the phone 2. Took/have taken the advice of the local government health workers on the phone 3. Took/have taken the advice of NGO health workers on the phone 4. Took/have taken the advice of a health worker while inspecting the house 5. Took/have taken advice from the local health center 6. Took/have taken the service from the pharmacist 7. Took/have taken services from the community clinic 8. Took/ havetaken services from NGO Health Center 9. Took/have have taken services from Union Health Center 10. Took/have taken service from Upazila Health Complex 11. Took/have taken services from government district / divisional health centers 12. Took/have taken services from a private clinic 13. Took/have taken services from the pharmacy 14. Took/have taken services from local level government health workers 15. Took/have taken services from local level NGO health workers 16. Took/have taken services from Homoeopathic Doctor / Kabiraj 17. Took/have taken services from untrained local health workers 18. The service provider could not come due to the disaster 19. The service activities of the health center were closed due to the disaster	

		20. The communication system of the health center was broken due to the disaster 21. I was busy dealing with the disaster but did not go 22. Took/have taken the service after overcoming the disaster 23. Didn't receive any services 88. Other (Specify: ……..)	
420.	Do you know any organizations/persons who are/were working in your community to delivering SRHR services for women and girls? **(Multiple Responses)**	1. Yes, govt. health center 2. Yes, govt. health workers 3. Yes, NGO health center 4. Yes, NGO health workers 5. Yes, female volunteer 6. Yes, male volunteers 88. Others (Specify: ……..) 97. Did not know	

421. In your opinion, to what extent the availability of health care providers and their utilization was affected your household due to the most recent natural disasters?

	Questions	Available in village 1= Yes; 2= No; 3= DNK	Available in Union 1= Yes; 2= No; 3= DNK	Utilization 1= Frequently; 2= Sometimes; 3= Never
A.	Pharmacy			
B.	NGO static clinic			
C.	NGO satellite clinic (mobile)			
D.	Community clinic			
E.	Govt satellite clinic			
F.	Family welfare center			
G.	Upazila Health Complex			
H.	Govt health care provider			
I.	NGO's health care provider			
J.	Trained health care provider			

422. Complete the following matrix for a specific problem(s) regarding sexual and reproductive health-related problems? ? **(Multiple Responses)**

Problem	Experience any problem?	Need any care?	Used any care?	If no, why?	Source of care?	What are the reasons for disruption in receiving services in case of disaster?	Coping strategy?

	A	B	C	D	E	F	G
Menstruation/ discharge problem	1. Yes 2. No	1. Yes 2. No	1. Yes 2. No				
Pain/burning at genitals	1. Yes 2. No	1. Yes 2. No	1. Yes 2. No				
Itching at genital	1. Yes 2. No	1. Yes 2. No	1. Yes 2. No				
Wounds/other genital problems	1. Yes 2. No	1. Yes 2. No	1. Yes 2. No				
Unintentional abortion	1. Yes 2. No	1. Yes 2. No	1. Yes 2. No				
Intentional abortion	1. Yes 2. No	1. Yes 2. No	1. Yes 2. No				
STD / HIV / AIDS	1. Yes 2. No	1. Yes 2. No	1. Yes 2. No				
Others	1. Yes 2. No	1. Yes 2. No	1. Yes 2. No				

Code: For Column (D) and (F)

1. Don't feel the need
2. Can't say anything for shame / fear
3. Religious constraints
4. The cost of transportation is high
5. The cost of the service is high
6. Lack of service information
7. Don't want to go to the service center
8. There is no one to take you to the service center
9. There is no one to talk to about the problem
10. Nobody knows these services
11. Lack of experienced doctors
12. The service center is far away
13. The yard meeting was not held due to the disaster
14. Health workers did not come home due to the disaster
15. NGO health workers did not come due to the disaster
16. Health workers were not contacted due to the disaster
17. Untrained local health workers did not come
18. Health care activities were closed due to the disaster
19. Homoeopathic doctor / Kabiraj did not come
20. The communication of the health center was lost due to the disaster
21. The health sector could not spend as the cost of dealing with the disaster was high
22. Couldn't go to the local health care center
23. Couldn't go to the doctor's chambers
24. The pharmacy was closed
25. Could not go pharmacy
26. Was busy dealing with the disaster and didn't go
88. Other (specify …… ..)

Code: For Column (E)

1. Community Clinic
2. NGO Health Center
3. Union Health Center
4. Upazila Health Complex

Code: For Column For G

1. Took/have taken the advice of MBBS doctor on the phone
2. Took/have taken the advice of the local government health workers on the phone
3. Took/have taken the advice of NGO health workers on the phone
4. Took/have taken the advice of a health worker while inspecting the house

5. Government District / Divisional Health Center 6. Private clinic 7. Pharmacy 8. Local level government health workers 9. Local level NGO Health Workers (BRAC / SMC etc.) 10. Homeopathic doctor/ Kabiraj 11. Rural/untrained survice provders 88. Other (Specify: ……..)	5. Took/have taken advice from the local health center 6. Took/have taken the service from the pharmacist 7. Took/have taken the service after overcoming the disaster 8. Homeopathic doctor 9. Rural doctor/kabiraj 10. Took/ have taken advice from local untrained service providers 11. Took/ haven taken precautions at home 12. After disaster took/ have taken service 13. Didn't receive any services 14. 88. Other (Specify: ……..)

SECTION 5: CARE DURING PREGNANCY, DELIVERY, AND POST-DELIVERY PERIOD			
Qn.	**Questions**	**Response/Code**	**Response**
501.	Are you currently pregnant	1. Yes 2. No	
502.	What is the age of your youngest child?	Age in exact years	
503.	During the recent most recent disaster, were you pregnant?	1. Yes 2. No **>>Skip to Q-506**	
504.	If the **answer Yes to Q504**, had you visited anyone for ANC?	1. Yes 2. No **>>Skip to Q-507**	
505.	If the **answer No to Q504**, no, what are the reasons for not using ANC services? **(Multiple Responses)**	1. Yard meeting was not held due to disaster 2. Health workers did not come home due to the disaster 3. NGO health workers did not come due to the disaster 4. Could not able to contact with health workers due to the disaster 5. Health care activities/services were closed due to the disaster 6. The local homeopathic doctor did not come due the disaster 7. The local Kabiraj did not come due to the disaster 8. The communication of the health center was lost due to the disaster 9. Could not able to spend on the health sector as the cost of dealing with the disaster was high 10. Could not go to the health center due to the disaster 11. Could not go to the doctor's chambers because of the disaster 12. The pharmacy was closed due to the disaster 13. Could not go to the pharmacy due to the disaster	

		14. Was busy in dealing with the disaster and did not go 15. Didn't feel the need 16. Family tradition 17. Religious restrictions 18. Have previous experience 19. Family barriers 20. Costs beyond capacity 21. Lack of MBBS doctor 22. Lack of female care givers (doctors) 23. Sudden delivery 24. Lack of personal security 25. Lack of confidence on MBBS doctors 26. For long distance / travel inconvenience 27. Untrained local health workers did not come 88. Other (Specify …….)	
506.	If the **answer Yes to Q506**, whom did you visit?	1. Doctor 2. Nurse / midwife (trained) 3. Community health workers 4. Untrained midwife 5. Local level government health workers 6. Local level NGO Health Workers (BRAC / SMC etc.) 7. Homeopathic doctor 8. Rural Doctor/Kabiraj 9. Other (Specify.)	
507.	How many antenatal check-ups are recommended to avoid pregnancy complications?	Number of visits 97. Do not know	
508.	How many antenatal check-ups have you had during your last pregnancy?	Number of visits 97. Do not know	
509.	During your pregnancy, is/was there any change in food consumption?	1. Food intake increased 2. Food intake reduced 3. Remain unchanged	
510.	During your pregnancy, do/did you take as much daytime rest as you usually take?	1. Take more rest 2. Take less rest 3. Remain unchanged	
511.	During the disaster, where did you give birth?	1. Home	

		2. Health center } **>>Skip to Q-516** 99. Not applicable	
512.	If the answer is **Home**, then who assisted with delivery care?	1. Relatives/local aged women 2. Local trained (FWA/FWV/MA /SACMO/ Nurse) provider 3. Traditional birth attendants 88. Other (Specify: ……)	
513.	If the answer is **Home,** then what were the main reasons for delivering/giving birth at home? **(Multiple Responses)**	1. The yard meeting was not held due to the disaster 2. Health workers did not come home due to the disaster 3. NGO health workers did not come due to the disaster 4. Could not able to contact with health workers due to the disaster 5. Health care activities/services were closed due to the disaster 6. The local homeopathic doctor did not come due the disaster 7. The local Kabiraj did not come due to the disaster 8. The communication of the health center was lost due to the disaster 9. Could not able to spend on the health sector as the cost of dealing with the disaster was high 10. Could not go to the health center due to the disaster 11. Could not go to the doctor's chambers because of the disaster 12. The pharmacy was closed due to the disaster 13. Could not go to the pharmacy due to the disaster 14. Was busy in dealing with the disaster and did not go 15. Didn't feel the need 16. Family tradition 17. Religious restrictions	

		18. Have previous experience 19. Family barriers 20. Costs beyond capacity 21. Lack of MBBS doctor 22. Lack of female care givers (doctors) 23. Sudden delivery 24. Lack of personal security 25. Lack of confidence on MBBS doctors 26. For long distance / travel inconvenience 27. Untrained local health workers did not come 88. Others (Specify: ……)	
514.	Did you receive any postnatal care (PNC) during the disaster within seven days of delivery?	1. Yes 2. No **>>Skip to Q-518** 99. Not applicable	
515.	If the answer is **Yes to Q516**, then from whom did she receive postnatal care?	1. Discussed with relatives/local aged women 2. Consulted with trained (FWA/ FWV/HA/ SACMO/Nurse) 3. Consulted with non-trained traditional birth attendants 4. Consulted with MBBS doctors 88. Others (Specify: ……)	
516.	If the answer is **No to Q516**, then what were the main reasons for not receiving PNC? **(Multiple Responses)**	1. The yard meeting was not held due to the disaster 2. Health workers did not come home due to the disaster 3. NGO health workers did not come due to the disaster 4. Could not able to contact with health workers due to the disaster 5. Health care activities/services were closed due to the disaster 6. The local homeopathic doctor did not come due the disaster 7. The local Kabiraj did not come due to the disaster	

		8. The communication of the health center was lost due to the disaster 9. Could not able to spend on the health sector as the cost of dealing with the disaster was high 10. Could not go to the health center due to the disaster 11. Could not go to the doctor's chambers because of the disaster 12. The pharmacy was closed due to the disaster 13. Could not go to the pharmacy due to the disaster 14. Was busy in dealing with the disaster and did not go 15. Didn't feel the need 16. Family tradition 17. Religious restrictions 18. Have previous experience 19. Family barriers 20. Costs beyond capacity 21. Lack of MBBS doctor 22. Lack of female care givers (doctors) 23. Sudden delivery 24. Lack of personal security 25. Lack of confidence on MBBS doctors 26. For long distance / travel inconvenience 27. Untrained local health workers did not come 88. Others (Specify: ……..)	

SECTION 6: WOMEN'S EMPOWERMENT AND GENDER-BASED VIOLENCE DURING DISASTER			
Qn.	**Questions**	**Response/Code**	**Response**
601.	Are/were you involve/d in income-generating activities?	1. Yes 2. No	
602.	How did you get paid for the last 12 months?	1. Yes, cash only 2. Yes, in-kind only 3. Both in cash and kind	
603.	Who usually decides how the money you earn will be used?	**Code for Q 603 to Q607** 1. Respondent 2. Husband 3. Wife and husband jointly 4. Someone else in the household 88. Other (Specify: ……..)	
604.	Who usually makes decisions about health care for household members?		
605.	Who usually makes decisions about making major household purchases?		
606.	Who usually makes decisions about visits to your family or relatives?		
607.	Who usually makes decisions about your child's health care?		
608.	Do you go to a health center or hospital alone or with your children? **(Multiple Responses)**	1. Yes, alone 2. Yes, with children 3. No	
609.	In your opinion, is a husband justified in hitting or physically abusing his wife in the following situations? **A.** She goes out without telling him **B.** She neglects the children **C.** She argues with him **D.** She refuses to have sex with him **E.** She burns the food **F.** She does not obey elders	**Code for Q 609=(A to F)** 1. Yes 2. No	
610.	Are there any shelters near your area/village for shelter during natural disasters?	1. Yes 2. No	
611.	Where did you take shelter during the most recent natural disaster?	1. Shelter home 2. Own home 3. Neighbor's home 4. Relative's home 5. School/college/union office 6. Roadside/embankment 88. Others (Specify: ……..)	
612.	In your opinion, how was the quality of the shelter home?	1. Very good 2. Good 3. Average 4. Bad 5. Very bad	
613.	In your opinion What are the reasons for the poor quality of the shelter home?	1. Unable to do daily activities 2. Discomfort to stay with men	

		3. Poor sanitation and toilet 4. No separate bath and toilets for women 5. Lack of health care services 6. Lack of maternal health care 7. Lack of emergency medicine / kits 8. Lack of security people 9. Lack of privacy 1. Other (Specify: ……..)	
614.	Do you think that the risk of violence against women increased during the disaster?	1. Yes 2. No	
615.	Have you ever been experienced violence against women during the recent disaster?	1. Yes 2. No	
616.	If the **answer Yes to Q-615**, what type of violence you have experienced during the most recent disaster?	1. Verbal harassment 2. Physical harassment 3. Sexual t harassment 4. Mental harassment 88. Other (Specify: ……..)	☐
617.	If the **answer Yes to Q-615**, what was the frequency?	1. Occurs sometimes 2. Occurs regularly 3. Occurs rarely	☐
618.	If **answer Yes to Q-615**, who was responsible for that? **(Multiple Responses)**	1. Husband 2. Others members of the household 3. Relatives 4. Neighbors 5. Elder persons 6. friends 7. Shelter home authorities 8. Security personnel (any) 9. Local influential persons 10. Volunteer 88. Others (Specify: ……)	☐ ☐ ☐ ☐
619.	If **answer Yes to Q-61**5, in which place have you been experienced violence? **(Multiple Response)**	1. Shelter home 2. Own home 3. Neighbor's home 4. Relative's home 5. School/college/union office 6. Roadside/embankment 88. Others (Specify: ……..)	☐ ☐ ☐ ☐
620.	If **answer Yes to Q-615**, what type of steps have you been taken to address the violence? **(Multiple Responses)**	1. No step taken 2. Shared with relatives silently 3. Managed by husband 4. Managed by family members 5. Managed by community people 6. Received help from union office	☐ ☐ ☐ ☐ ☐ ☐

		7. File case at Thana/Court 8. Seek help from neighbor/friend 9. Keep silent for the family future 10. Trying to solve my own 11. Make arrange for separation 12. Leave home and went to parents home 13. Help from one-stop crisis center 88. Others (Specify: ……..)	
621.	What type of measures/steps do you usually take to avoid the violence against women? **(Multiple Responses)**	1. Seek help of relatives & elderly 2. Maintained purdah 3. Develop mutual understanding 4. Tried to secure self by awareness 5. Move with others as a group 6. Make arrange for separation 7. Leave home and went to parents home 8. Listen to family members 9. Involve in income activities 10. Do no take any steps 88. Others (Specify: ……..)	

SECTION 7: SOCIAL CAPITAL AND DISASTER RESILIENCE			
Qn.	**Questions**	**Response/Code**	**Response**
701.	In the past 12 months, in any way have you been involved with the following types of groups in your community?	**Code for Q 701 to Q704** 1. Work-related union 2. Local association/samity 3. Women's group 4. Political group 5. Religious group 6. NGO/Credit/funeral group 7. Sports group 8. Water group 9. Did not involve 88. Other (Specify: ……)	
702.	In the past 12 months, did you receive any emotional help from the following types of groups in your community?		
703.	In the past 12 months, did you receive any economic help from the following types of groups in your community?		
704.	In the last 12 months, did you receive any assistance to do anything from the following types of groups in your community?		
705.	In the last 12 months, which of the following people have you involved/ connected with in this area?	**Code for Q 705 to Q708** 1. Family members live outside the house 2. Neighbors 3. Friends but not a neighbor 4. Community leaders 5. Religious leaders 6. Politicians 7. Government officials 8. Charitable organizations /NGO 9. Not applicable 88. Other (Specify: ……)	
706.	In the past 12 months, did you receive any emotional help from the following people in your community?		
707.	In the past 12 months, did you receive any economic help from the following people in your community?		
708.	In the last 12 months, did you receive any assistance to do anything from the following people in your community?		
709.	In your opinion, if someone had something unfortunate (sudden death/illness) in your community who could help him/her in this situation?	**Code for Q709-Q711** 1. Family members 2. Neighbors 3. Friends but not a neighbor 4. Community leaders 5. Religious leaders 6. Political leaders 7. Government officials 8. Charitable organizations /NGO 88. Other (Specify: ……)	
710.	In your opinion, if someone suffered from economic loss who would assist/help him/her family?		
711.	If a woman is preparing to give birth to her first child who would advise/assist her in that situation?		
712.	In the last 12 months, have you participated with others in your community to identify or solve any problem of your locality?	1. Yes 2. No	

713.	In the last 12 months, have you talked with a local authority/governmental organization about problems in your area?	1. Yes 2. No	
714.	In general, can the majority of your neighbors be trusted or reliable?	1. Yes 2. No	
715.	In your opinion, can leaders in this community be trusted or reliable?	1. Yes 2. No	
716.	In your opinion, can strangers in this community be trusted or reliable?	1. Yes 2. No	
717.	In your opinion, do the majority of people in this *village* would try to take advantage of you if they got the chance?	1. Yes 2. No	
718.	In your opinion, do the majority of people in this *village* generally *have good relationships* with each other?	1. Yes 2. No	
719.	Do you feel that this area is yours?	1. Yes 2. No	
720.	In your opinion, with whom can you share your important matters (good/bad experiences)?	1. Family members 2. Neighbors 3. Friends but not a neighbor 4. Local elder people 5. Religious leaders 6. Matabbar of the village 7. Political leaders 8. Government officials 9. Charitable organizations /NGO 88. Others (Specify: ……)	

Complete the interview by giving thanks!

Annex 2: Guidelines for in-depth interviews and key informant interviews

Landscape Analysis of Community Resilience to Disasters by Addressing Sexual and Reproductive Health and Rights of Married Women in the Satkhira and Gaibandha Districts of Bangladesh

Introduction and consent of the respondent

Greetings!

My name is _____ (Show ID card). I am working with the Department of Population Sciences, University of Dhaka, Bangladesh. We are conducting research on the "*Landscape Analysis of Community Resilience to Disasters by Addressing Sexual and Reproductive Health and Rights in Sathkhira and Gaibandha Districts*" in cooperation with Pathfinder International. The collected information will help the government and development partners to plans the community's resilience (capacity of a community to prevent and mitigate stresses caused by a disaster) to climate change and health services during and after natural disasters. Your household was selected randomly for the survey. I would like to ask you some questions about your household's exposures to disaster, coping strategies with disaster effects, and health care needs. The questions usually take 45 to 60 minutes. All of the answers you give will be confidential and will not be shared with anyone others than members of the survey team. Your participation in the survey is completely voluntary and we hope you will kindly agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time. Some questions may make you feel uncomfortable, you can also let any others member of the household answer on behalf of you. In case you need more information about the survey, you may contact Dr. Md. Rabiul Haque, Professor & Chairman, Department of Population Sciences, 3rd floor, Arts Building, University of Dhaka, Dhaka-1000, Bangladesh (Cell: 01705531207).

If randomly selected married woman agrees to participate in the study, start the interview by circling the "**Yes"** option otherwise proceed to the next household.	Yes No
Do you currently have any children under the age of 10?	Yes No (next household)

Respondents details	----------
Interviewer Name	
Date of interview	----------/○6/2021

Section 01: Service Providers
1) Please tell us in detail about what types of services do you usually provide as a health worker in your area regarding the following issues related to reproductive health and rights: a) What kinds of services do you provide for menstruation? b) To whom do you provide services under the family planning program and when? c) What kinds of services do you provide regarding intentional / unintentional abortion?

d) What kinds of services do you provide for antenatal care / delivery service / postpartum care and when do you provide the services?
e) Whom do you provide the postpartum family planning services, which method is provided and why?
f) What types of services do you provide for cervical cancer, reproductive and others health problems of women and to whom do you provide the services?

2) In your opinion, during and after the most recent natural disaster (such as floods, river erosion, increased water salinity, waterlogging, droughts, cyclones, etc.) what kinds of SRHR emergencies/needs were created? Please tell us in detail about the services you provided in the following areas:
   a) What kinds of menstruation regulation services were needed during and after the disaster and what kind of services were provided?
   b) What kind of changes occurred in the demand and supply of family planning methods during and after the disasters, why did it change and how did you deal with it?
   c) Was there any change in the number of intentional and unintentional abortions during and after the disaster, why did it happen and what kind of services did you provide then?
   d) What kinds of health care facilities were needed for married women during and after the disaster to received antenatal care (ANC), delivery service and postpartum (PNC) services and what kinds of services did you provide then and how?
   e) How did the use of postpartum family planning services changed during and after the disaster and what kind of services did you provide then?
   f) What kinds of services were needed for cervical cancer, reproductive and others health problems of women during and after the disaster and what kind of services did you provide then?

3) Please tell us in detail, to what extent and how natural disasters affect the delivery of FP and SRHR related services to married women during natural disasters?

4) Please tell us in detail have you noticed any effects of natural disasters (such as floods, river erosion, increased water salinity, waterlogging, droughts and cyclones) on health and fertility outcome of married women? If so, please describe us with your reasoning what kind of affects you have noticed in the following areas:
   a) What kinds of effects does a natural disaster have on intentional / unintentional abortion?
   b) During and after a disaster, does the problem of premature delivery and postpartum complications increase, and if so, why?
   c) Does natural disaster increase infertility or pregnancy problems, and if so, why?
   d) What are the complications or operations of the reproductive system (such as-at uterus/ genital parts) during and after a disaster?

5) Please tell us in detail as a service provider, what kinds of problems did you face in providing family planning and reproductive health care to married women in the affected areas during and after the recent natural disaster?

6) Please tell us in detail what strategies did you follow as a health worker to communicate with married women (clients) in your area during and after the recent natural disaster and to provide family planning and reproductive health care services?

7) During and after the disasters, what types of complains did you get from the service receivers (married women)? Please tell us in detail about what kinds of interventions/advices you gave them as a health worker to overcome those problems.

8) How important is the role of volunteer teams (e.g., community emergency response team, American Red Cross, Red Crescent, Medical Reserve Corps, Disaster Management Committee, etc.) in identifying needs related to family planning, reproductive health and rights of married women? Explain the reasons for holding your opinion?

9) Please tell us in detail why do you think violence or abuse against married women increases due to natural disasters and how much it increases?

10) Please tell us in detail how and to what extend male or female champions play a role in the areas of following below:
    a) Who are the male or female champions in your area and why do you think they have become champions?
    b) What kind of work does a male champion and a female champion do to prevent violence against women and how?
    c) What kind of work does a male champion and female champion do to prevent child marriage and how?
    d) What kind of work does a male champion and a female champion do to prevent adolescence pregnancy and how?
    e) How important is the role of male champion or female champion in preventing violence against women / preventing child marriage / preventing teenage pregnancy / family planning and providing emergency services related to reproductive health and other emergency issues and why?

11) Do you know of any other organizations / NGOs who are working to provide family planning and reproductive health care services for married women and for disasters affected people? If you know, tell us about them regarding the following issue:
    a) What are the names of different organizations / NGOs?
    b) On what the organizations / NGOs are working and what are their limitations?
    c) What kinds of works do different organizations / NGOs do to provide family planning and reproductive health care services and to ensure reproductive rights?
    d) How can different organizations / NGOs be coordinated with you and work with you, and in which sectors?

12) Please tell us in detail, how does climate change affects food supply and resource scarcity and so on the utilization of FP and SRHR services?

13) Please tell us in detail what do you think if agriculture and nutrition programs are integrated into SRHR services then how it will affect in delivering SRHR services to women and girl in your area?

14) Please tell us in detail what do you think if disaster management programs are integrated into SRHR services then how it will affect in delivering SRHR services to women and girl in your area?

15) Based on your previous experiences please tell us, what kinds of strategies you suggest to ensure their rights and to increase the use of family planning and reproductive health care among married women in your area during and after natural disasters.

Section 02: Elected Chairman/Members

1. In your opinion, how important is the reproductive health and rights of married women and why?

2. Please tell us id detail who does usually provide family planning and reproductive health care services for married women in your union or ward?

3. Please tell us in detail how satisfied or dissatisfied you are with the quality of service provided to family planning and reproductive health care providers (both public and private) and the reasons for your feedback.

4. Please tell us in detail what do you think if agriculture and nutrition programs are integrated into SRHR services then how it will affect in delivering SRHR services to women and girl in your area?

5. Please tell us in detail what do you think if disaster management programs are integrated into SRHR services then how it will affect in delivering SRHR services to women and girl in your area?

6. How important is the role of volunteer teams (e.g., community emergency response team, American Red Cross, Red Crescent, Medical Reserve Corps, Disaster Management Committee, etc.) in identifying needs related to family planning, reproductive health and rights of married women? Explain the reasons for holding your opinion?

7. Please tell us in detail why do you think violence or abuse against married women increases due to natural disasters and how much it increases?

8. Please tell us in detail how and to what extend male or female champions play a role in the areas of following below:
    a. Who are the male or female champions in your area and why do you think they have become champions?
    b. What kind of work does a male champion and a female champion do to prevent violence against women and how?
    c. What kind of work does a male champion and female champion do to prevent child marriage and how?
    d. What kind of work does a male champion and a female champion do to prevent adolescence pregnancy and how?
    e. How important is the role of male champion or female champion in preventing violence against women / preventing child marriage / preventing teenage pregnancy / family planning and providing emergency services related to reproductive health and other emergency issues and why?

9. How satisfied or dissatisfied were the married women of the area with the services provided during and after the recent natural disaster? Explain the reasons for holding your opinion?

10. Please tell us what role does the Union Council play or can play in providing family planning and reproductive health care to married women during and after natural disasters?

11. Does the union council provide any assistance to health workers or service providers during and after the disaster? If so, what kind of help and how?

12. Has the Union Council taken or can it take any steps to protect family planning, reproductive health care and rights, to deal with the effects of natural disasters, and to make married women aware and prepared for disasters? If steps have been taken or can be taken, what are they?

13. Do you know of any organizations / NGOs who are working to provide family planning and reproductive health care services for married women and for disasters affected people? If you know, tell us about them regarding the following issue:
    a) What are the names of different organizations / NGOs?
    b) On what the organizations / NGOs are working and what are their limitations?
    c) What kinds of works do different organizations / NGOs do to provide family planning and reproductive health care services and to ensure reproductive rights?
    d) How can different organizations / NGOs be coordinated with you and work with you, and in which sectors?

16) Please tell us your opinion, what kinds of strategies do you suggest to ensure their rights and to increase the use of family planning and reproductive health care among married women in your area during and after natural disasters.

Section 03: Female Respondents

1) Can you please share your understanding/knowledge about your Sexual and Reproductive Health and Rights (SRHR) and the source/s from where you know about?
2) Are you currently using / receiving any type of family planning and reproductive health care services? If so, please tell us in detail from where you are getting those services and what kinds of problems you are facing to get those services.
    a) What kinds of services do you get regarding your menstruation and from whom/where?
    b) What kinds of services do you get under the family planning program and from whom/where?
    c) What kinds of services do you get about intentional / unintentional abortion and from whom/where?
    d) What kinds of antenatal care (ANC) / Delivery service / Postpartum (PNC) services do you get and from whom/where?
    e) What kinds of postpartum family planning services are available and where?
    f) What kinds of services do you get for cervical cancer / reproductive system and other problems related to gynecological problem and from whom/where?

3) Please tell us in detail what kind of problems natural disasters (e.g. flood, river bank erosion, increased salinity of water, waterlogging, drought, cyclones, etc.) cause in accessing and using your reproductive health care. What kinds of reproductive health care services do you need during and after a disaster?

4) Please tell us in detail about the types of family planning and reproductive health supports you received from service providers / volunteers / organizations during and after the recent natural disaster. Are you satisfied or dissatisfied with those services and why?

5) Tell us about any problems you may have faced during your period due to natural disasters and how you have dealt with them. Do you feel the need for any help in this regard? Is so, then from whom?

6) Have you had any pregnancy related problems during the recent natural disaster? If so, please tell us in detail how did you deal with this issue?
7) Please tell us in detail what kinds of services did you receive during your pregnancy and from whom did you receive those services? Please tell us in detail if you were satisfied or dissatisfied with the services and why?

8) Have you ever had an abortion during a natural disaster? If so, please tell us in detail how you dealt with it.

9) Please tell us in detail did you face any post-delivery problems during or after a natural disaster? If so, how did you deal with that problem?

10) Please tell us in detail do you think violence or abuse against married women increases due to natural disasters? Have you ever faced any types of violence during a natural disaster? If so, please tell us in detail why and by whom.

11) Did you receive any assistance to protect you from violence or abuse? Please tell us if so, where and how did you get help? Are you satisfied with the services? If not satisfied then why?

12) In your opinion, how does a male or female champions play a role in the following areas given below:
    a) Who are the male or female champions in your area and why do you think they have become champions?
    b) What kind of work does a male champion and a female champion do to prevent violence against women and how?
    c) What kind of work does male champion and female champion do to prevent child marriage and how?
    d) What kind of work does a male champion and a female champion do to prevent adolescence pregnancy and how?
    e) How important is the role of male or female champions in preventing violence against women / preventing child marriage / preventing teenage pregnancies / family planning and in providing emergency services related to reproductive health and other issues and why?

13) In your opinion, tell us how satisfied or dissatisfied you are with the type of health care services provided to you during and after the recent natural disaster. Please explain the reasons for holding your opinion?

14) Please tell us in detail what strategies you think service providers should adopt to improve the quality of family planning and reproductive health care services.

Section 04: Volunteer

1) Please tell us in detail what do you do as a volunteer to help people in the area? What have motivated you to be a volunteer?

2) In your opinion, during and after the most recent natural disaster (such as floods, river erosion, increased water salinity, waterlogging, droughts, cyclones, etc.) what kinds of SRHR emergencies/needs were created? Please tell us in detail about the services you provided in the following areas:

- What kinds of menstruation regulation services were needed during and after the disaster and what kind of services were provided?
- What kind of changes occurred in the demand and supply of family planning methods during and after the disasters, why did it change and how did you deal with it?
- Was there any change in the number of intentional and unintentional abortions during and after the disaster, why did it happen and what kind of services did you provide then?
- What kinds of health care facilities were needed for married women during and after the disaster to received antenatal care (ANC), delivery service and postpartum (PNC) services and what kinds of services did you provide then and how?
- How did the use of postpartum family planning services changed during and after the disaster and what kind of services did you provide then?

- What kinds of services were needed for cervical cancer, reproductive and others health problems of women during and after the disaster and what kind of services did you provide then?

3) How satisfied are you with the quality of your own volunteer work? Explain the reasons for holding your opinion?
   - ❖ What kinds of problems did you face in your volunteering work during the recent natural disaster? What strategies did you follow to deal with the problems?
   - ❖ What kinds of steps do you take to make married women in the area aware of natural disaster preparedness and response and reproductive health services?
   - ❖ Have you ever felt the need for assistance while volunteering? If so, please tell us from whom you think you can get that assistance.
   - ❖ Tell us about your experiences working as a volunteer? Do you face any problems because of your gender identity? How your gender identity influences service recipients to receive your services?
   - ❖ Please tell us in detail why do you think violence or abuse against married women increases due to natural disasters and how much it increases?
   - ❖ In your opinion, how do you (male or female champions) play a role in the following matters?
     - Why are you male or female champion?
     - What kind of work do you do to prevent violence against women?
     - What kind of work do you do to prevent child marriage and how do you do it?
     - What kind of work do you do to prevent pregnancy and how do you do it?
     - How important is your role in preventing violence against women / preventing child marriage / preventing adolescent pregnancies / family planning, reproductive health related emergency services and other issues and why?

4) Please tell us in detail what do you think if agriculture and nutrition programs are integrated into SRHR services then how it will affect in delivering SRHR services to women and girl in your area?

5) Please tell us in detail what do you think if disaster management programs are integrated into SRHR services then how it will affect in delivering SRHR services to women and girl in your area?

6) How satisfied or dissatisfied are people in your area with the services you provided during and after the recent natural disaster? Please explain the reasons for their satisfaction or dissatisfaction.

7) Please tell us, what kinds of strategies you suggest to ensure their rights and to increase the use of family planning and reproductive health care among married women in your area during and after natural disasters.

Section 05: Officers District / Upazila Family Planning Office, Upazila Program Implementation Officer

1) In your opinion, how important is the reproductive health and rights of married women and why?
   - What kinds of services do the people in your office provide for the following issues related to reproductive health and rights?
   - What kinds of services do you provide for menstruation?
   - To whom do you provide services under the family planning programs and when?
   - What kinds of services do you provide regarding intentional / unintentional abortion?
   - What kinds of services do you provide for antenatal care / delivery service / postpartum care and when do you provide the services?
   - Whom do you provide the postpartum family planning services, which method is provided and why?

- What types of services do you provide for cervical cancer, reproductive and others health problems of women and to whom do you provide the services?

2) In your opinion, during and after the most recent natural disaster (such as floods, river erosion, increased water salinity, waterlogging, droughts, cyclones, etc.) what kinds of SRHR emergencies/needs were created? Please tell us in detail about the services you provided in the following areas:
    - What kinds of menstruation regulation services were needed during and after the disaster and what kind of services were provided?
    - What kind of changes occurred in the demand and supply of family planning methods during and after the disasters, why did it change and how did you deal with it?
    - Was there any change in the number of intentional and unintentional abortions during and after the disaster, why did it happen and what kind of services did you provide then?
    - What kinds of health care facilities were needed for married women during and after the disaster to received antenatal care (ANC), delivery service and postpartum (PNC) services and what kinds of services did you provide then and how?
    - How did the use of postpartum family planning services changed during and after the disaster and what kind of services did you provide then?
    - What kinds of services were needed for cervical cancer, reproductive and others health problems of women during and after the disaster and what kind of services did you provide then?

3) Please tell us in detail, to what extent and how natural disasters affect the delivery of FP and SRHR related services to married women during natural disasters?

4) In your opinion, during and after the most recent natural disaster (such as floods, river erosion, increased water salinity, waterlogging, droughts, cyclones, etc.) what kinds of SRHR emergencies/needs were created? Please tell us in detail about the services you provided in the following areas:
    - What are the effects of natural disasters on intentional / unintentional abortion?
    - During and after a disaster, does the problem of premature delivery and postpartum complications increase, and if so, why?
    - Does natural disaster increase infertility or pregnancy problems, and if so, why?
    - What are the complications or operations of the reproductive system (eg uterus) during and after the disaster?
    - Does reproductive and gynecological problems increase during and after disasters, and if so, why?

5) How important is the role of volunteer teams (e.g., community emergency response team, American Red Cross, Red Crescent, Medical Reserve Corps, Disaster Management Committee, etc.) in identifying needs related to family planning, reproductive health and rights of married women? Explain the reasons for holding your opinion?

6) Please tell us in detail why do you think violence or abuse against married women increases due to natural disasters and how much it increases?

7) Please tell us in detail how and to what extend male or female champions play a role in the areas of following below:
    - Who are the male or female champions in your area and why do you think they have become champions?

- What kind of work does a male champion and a female champion do to prevent violence against women and how?
- What kind of work does a male champion and female champion do to prevent child marriage and how?
- What kind of work does a male champion and a female champion do to prevent adolescence pregnancy and how?
- How important is the role of male champion or female champion in preventing violence against women / preventing child marriage / preventing teenage pregnancy / family planning and providing emergency services related to reproductive health and other emergency issues and why?

8) Please tell us in detail what do you think if agriculture and nutrition programs are integrated into SRHR services then how it will affect in delivering SRHR services to women and girl in your area?
9) Please tell us in detail what do you think if disaster management programs are integrated into SRHR services then how it will affect in delivering SRHR services to women and girl in your area?
    2. Do you know of any other organizations / NGOs who are working to provide family planning and reproductive health care services for married women and for disasters affected people? If you know, tell us about them regarding the following issue:
        - What are the names of different organizations / NGOs?
        - On what the organizations / NGOs are working and what are their limitations?
        - What kinds of works do different organizations / NGOs do to provide family planning and reproductive health care services and to ensure reproductive rights?
        - How can different organizations / NGOs be coordinated with you and work with you, and in which sectors?

10) Please tell us in detail what role do you think your NGO can play in providing family planning and reproductive health care services to married women during and after a natural disaster. What kind of role does your NGO play in the following issues during and after a disaster?
        - Does your NGO provide any assistance to the families affected by the disaster? If so, what kind of help and how?
        - Has your NGO taken or can it take any steps to address the impact of natural disasters on family planning, reproductive health care services of married women? If steps have been taken or can be taken, what are they?

11) Based on your experiences please tell us, what kinds of strategies you suggest to ensure their rights and to increase the use of family planning and reproductive health care among married women in your area during and after natural disasters.

Complete the interview by giving thanks!

PATHFINDER INTERNATIONAL BANGLADESH
5th Floor, Shezad Palace, 32 Gulshan Avenue North C/A
Dhaka – 1212, Bangladesh | +88 01908837980-4

PATHFINDER INTERNATIONAL USA
9 Galen St, Watertown, MA 02472, USA | +1 617 924 7200

pathfinder.org | @pathfinderInt:

DEPARTMENT OF POPULATION SCIENCES, UNIVERSITY OF DHAKA
Third Floor, Arts Building, University of Dhaka
Dhaka-1000, Bangladesh | 02-9612209

www.du.ac.bd/body/POPS