



National
Resilience
Programme



Baseline Study for outcome indicators of the National Resilience Programme

Sponsoring Ministries and Divisions

Ministry of Disaster Management and Relief (MoDMR)
Programming Division, Planning Commission
Local Government Division (LGD)
Ministry of Women and Children Affairs (MoWCA)

National Resilience Programme (NRP)

 **UN
WOMEN**
United Nations Entity for Gender Equality
and the Empowerment of Women

 **UNOPS**



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National Resilience Programme

NRP Goal

The goal of the National Resilience Programme (NRP) is to sustain the resilience of human and economic development in Bangladesh through inclusive, gender responsive disaster management and risk informed development.

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Disclaimer:

The results presented in the NRP baseline study are based on field investigations and the agencies such as UNDP, UNWOMEN, UNOPS, UK AID, SIDA are not expressing views in this report, rather IRG (including the Team Leader of the study Dr Sheikh Tawhidul Islam) is responsible for the opinions expressed here.



United Nations Entity for Gender Equality
and the Empowerment of Women





Implementing Agencies

Department of Disaster Management (DDM)

Ministry of Disaster Management and Relief

Programming Division

Planning Commission

Local Government Engineering Department (LGED)

Ministry of Local Government, Rural Development and Co-operatives

Department of Women Affairs (DWA)

Ministry of Women and Children Affairs

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Acronyms

ADB	Asian Development Bank
ADP	Annual Development Programme
BCCAP	Bangladesh Climate Change Strategy and Action Plan
CPP	Cyclone Preparedness Programme
CDMP	Comprehensive Disaster Management Programme
DDM	Department of Disaster Management
DRR	Disaster Risk Reduction
DWA	Department of Women Affairs
EGPP	Employment Generation Programme for the Poor
EWS	Early Warning System
FPP	Flood preparedness programme
FSGVD	Food Security Vulnerable Group Development
GED	General Economics Division
GR	Gratuitous Relief
GRR	Gender-Responsive Resilience
IGVGD	Income Generating Vulnerable Group Development
ISDR	International Strategy for Disaster Reduction
KII	Key Informant Interview
LGED	Local Government Engineering Department
MODMR	Ministry of Disaster Management and Relief
MoWCA	Ministry of Women and Children Affairs
MoEF	Ministry of Environment and Forests
NPDM	National Plan for Disaster Management
NRP	National Resilience Programme
PIO	Project Implementation Officer
PWD	Persons with disabilities
SOD	Standing Order on Disaster
SSNP	Social Safety Net Programme
TR	Test Relief
UNDP	United Nations Development Programme
UNOPS	United Nations Office for Project Services
VGD	Vulnerable Group Development
WFM	Work for Money

Executive Summary

Bangladesh is currently passing a transition towards self-reliant, disaster resilient nation evolved from a condition devastated by disasters (e.g. super cyclone *Gorki* in 1970) and then by liberation war in 1971. These natural and human-made mega-disasters were associated with many regional, episodic and slow-onset disasters and repeatedly undermined the efforts of people to achieve economic and social wellbeing. The policy-institutional architecture in Bangladesh was flourished by addressing and experiencing all these challenges and gradually gained strong foothold by combining prudential actions, local wisdom and international supports. This progress is reflected in the increase of food production manifolds in recent times (food production was about 100 million tons¹ to feed 167 million people), per capita income to a higher level (USD 1900 as per World Economic Outlook, IMF). Managing these challenges (either natural or man-made disasters) were at the center of activities of the institutions.

Fifty years (1971 -2020) of disaster risk reduction activities practiced in Bangladesh within the milieu of a developing nation posture have contributed in creating a solid foundation in disaster risk management (DRM). And as a result disaster related deaths of people significantly reduced over the years and people have enhanced their capacity to prevent the relapse of disasters in many instances. However, the contemporary endeavor of Bangladesh towards LDC graduation by 2024 and become a developed nation by 2041 accentuate the necessity to take a different route for managing disaster impacts more systematically and at the same time secure economic progress of now and in the future. In this backdrop, the conceptual and operational approach 'disaster resilience' is being adopted in policy formulation processes (both in the DM policies and Development policies) and in developing necessary tools which could be considered as a shift from the longstanding 'relief based' DRM actions in Bangladesh. The 'National Resilience Programme (NRP)' was introduced as a successor of many other DRM projects (such as CDMP, Phase I and II) which is a multi-agency, multi-hazard programme aiming to make enabling condition to transform the conventional approach (i.e. relief distribution based approach) of the state and non-state agencies into comprehensive, inclusive and risk-informed decision making and program design processes.

However, the objectives of this study is to undertake the baseline assessment of NRP for three indicator frameworks, viz. (i) NRP's Programme level results framework, (ii) DDM part's results framework and (iii) Programming Division part's results framework. The baseline survey used both quantitative and qualitative methods for field data collection. Structured questionnaire survey was conducted at household levels where 1080 sample households were drawn from three mega and recurrent disaster (i.e. floods, cyclone and earthquake) affected areas distributed in twelve upazilas of nine districts of Bangladesh.

Apart from baseline values, the report also presents a conceptual framework (Chapter 5) focusing on the gaps in DRM that are necessary to address for 'Resilience Programming' in Bangladesh. Attention was paid on (i) decentralized Disaster Risk Management, (ii) planning for disaster impacts recovery actions and based on these two the 'the National Disaster Resilience Framework' is proposed. However, the following sections present the key findings of the baseline survey.

¹The agricultural production in 2018-19 in Bangladesh was (in million tons): rice - 39, potato - 10, pulses - 3.5, oil seeds - 1, onions - 1.8, vegetables - 13.1, sugar crops - 3.6, fruits - 4.4, fish - 4.3, meat - 7.5. In addition, milk, eggs, different types of minor crops are also produced every year. Please see (i) GoB (Government of the People's Republic of Bangladesh), 2019b. Yearbook of Agricultural Statistics 2019. Bangladesh Bureau of Statistics (BBS). Dhaka and (ii) GoB (Government of the People's Republic of Bangladesh), 2019c. Annual Report 2018-2019. Ministry of Fisheries and Livestock. Dhaka. Accessed on 14th May 20 at https://mofl.gov.bd/site/view/annual_reports/Annual-Report.

Results on demographic and social indicators

- Only 6 percent (65 in numbers) of the survey households were found to be female headed. Among these 65, 39 came from rural areas and 26 from urban areas; about 75 percent respondents in the survey came from the age ranging between 26 to 55 years.
- People with disabilities (PWDs) of different kinds were found to be in 5.3 percent households (57 in numbers) - 26 are female and 31 male. The national figure in this regard is 1.8 percent (BBS 2011) which suggests that more disabled people live in disaster hot-spots of Bangladesh.
- About half of the households live within two kilometers of nearest health centers and the remaining other half beyond two kilometers. On an average, the health centers are more than four kilometers away for 10 percent of the households and that is why consultation with trained doctors does not happen in most of the cases.
- Nutritional status of the households were found to be unsatisfactory - about one fourth of the households indicated that the intake of carbohydrate and protein is inadequate, about half of the households do not consume milk in a week.
- The baseline survey results indicate that about 72 percent of the households do not have any agricultural lands but about 85 percent households have homestead lands (non-agricultural lands). The landlessness is high among the households where female members of the family responded in the survey.

Disaster impacts on human lives and economic loss

- It is imperative to mention that the number of deaths of people has reduced significantly in Bangladesh over the years due to the improvements in disaster preparedness and Early Warning Systems. About 0.63 million people died of natural disasters like cyclones, floods, earthquakes, extreme temperatures and different kinds of epidemic events happened in Bangladesh since 1950 (EM-DAT 2020). It is important to note that cyclones appeared to be the deadly disasters in Bangladesh. Cyclones caused about 90 percent (567587 numbers) of total deaths happened from natural disasters from 1950 to 2020.
- A total of 10715 people (7392 from natural and 3323 from technological disasters) died from both natural and technological and accidental disasters during the period 2005 to 2015. ADB (2015) suggests that total of 8351 people died from four mega disasters from 2000 to 2013, where 2065 people died from floods (25%) and 6281 people died from tropical cyclones and severe storms (75%) together. The estimates suggests that floods appears to be the major disaster of Bangladesh that cause serious economic impacts while cyclone is the major event considering the deaths of people.
- It is estimated that from 2009 to 2015 the damage and loss caused by disasters for different sectors and in aggregate stands at 2.3 billion USD (as per Impacts of Climate Change on Human Lives, BBS 2015). The EM-DAT of the Center for Research on the Epidemiology of Disasters indicated that total disaster induced damage from 2005 to 2015 was 3 Billion USD. The Asian Development Bank (2015) estimated the economic loss from 2000 to 2013 is 10.7 Billion USD, where flood caused 7.1 Billion USD (66%), tropical cyclone 3.2 Billion USD (30%), earthquake 14 million USD (0.13%) and severe storm 374 million USD (3.5%).

Disaster impacts on households, asset protection and capacity to prevent relapse of disasters

- About 67% households indicated that they suffered from floods (27.8% households suffered 1 to 3 times, 33.1% households 4 to 5 times and 6.1% people more than 5 times). More than 50 households indicated that they suffered from flash floods (38.9% households suffered 1 to 3 times, 6.7% households 4 to 5 times and 5.8% people more than 5 times). About 35% households indicated their sufferings from cyclones (27.5% households suffered 1 to 3 times, 7.3% households 4 to 5 times).
- The majority of people (27%) mentioned that income generation was affected due to disaster impacts, followed by house damage (21.4%), disruption of road communication (20%).
- Relapse of disaster impacts due to recurrence of hazards is a common characteristic of Bangladesh disaster accounts (27.5% people reported relapse of cyclonic disaster 1-3 times, 40.9% and 28.8% reported relapse of earthquake and floods disaster respectively in the similar frequency). It is observed that every year five tropical cyclones (at least one tropical storm) are formed in the Bay of Bengal and at least one cyclone crosses Bangladesh border. Flood is also a recurrent hazard which occurs every year with differential magnitude in terms of timing of occurrence, spatial extent, depth of standing water and duration of floods. Floods with a return period of 2 years generally inundate about 20% of land surface and floods with 100 year return period cause to damage about 60% of land areas of the country.
- About 30.5% male and 24% female respondents in the urban-rural contexts indicated that they were successful in gaining strength and capacities that helped them to recover from crisis and able to prevent asset loss.
- About 47.4%, 28.4% and 12% households from flood, earthquake and cyclone affected areas respectively mentioned that they have gained necessary strengths to protect their assets from disaster impacts. About 26.5% male and 28% female respondents indicated about their capacity enhancements that contributed in protecting their asset base.
- About 80% people in the rural areas mentioned that their enhanced knowledge contributed in preventing relapse of disasters and about similar percentage of people from flood affected areas mentioned the same. It is also reported that males gained more knowledge (74.5%) on disaster risk reduction than the females (58.7%) and that helped in recovering from crisis and to prevent disaster relapse.
- People reported that the conditions of people gradually improved in disaster affected areas, but impacts of COVID-19 made the situation bad mainly due to unemployment (74.5% in flood affected areas, 80.5% in cyclone affected areas, 80.9% in rural areas; 82% female members supported this claim).

Awareness of people on disaster risks, violence against women

- It is important to note that >90% of the people in rural-urban, multi-hazard and gender contexts mentioned that women in the disaster affected areas are unaware about the activities of women-led organizations. In the similar fashion, more than 90% respondents mentioned that they do not participate in local disaster management committees.
- More than 80% respondents indicated that they do not listen to talk shows in Radio or TV that discuss DRR, CCA issues.

- The majority of respondents indicated that (>75% in rural areas, 73.5% in cyclone affected areas, 75.3% female respondents) they never heard of hot line number.
- The study findings show that violence against women and children in disaster contexts received mixed response; the majority of the respondents indicated that they are not aware of the fact that violence against women and children has increased with the increase of disaster occurrences. Response from cyclone affected areas (44.2%), rural areas (36.8%), flood affected areas (25.9%) suggest that the rate of violent incidents remain the same as before; 42% (in cyclone affected areas), 30.4% (in flood affected areas), 35.6% (in rural areas) mentioned that the incidents have moderately increased.

Benefits from social safety net programs

- More than 90% respondents mentioned that they did not receive benefits from government sponsored Social Safety Net Programs (SSNP) and they are not aware (>60%) of the objectives of the SSNPs. But 40% of the people who received benefits mentioned that the support was useful (the majority 74% purchased foods using the SSNP supports) but it is inadequate. The majority of people (46%) mentioned that the Union Parishad Chairman is the person who assisted them to get enlisted in the SSNP beneficiary register.

Disaster impacts and disability

- About 89% households indicated that households having disabled persons do not receive benefits from government sources. About 97% respondents indicated that disabled persons do not participate in activities arranged by any organizations. Only 28 disabled persons were identified in the study who are engaged in different activities of agencies working in the areas. They work on advocacy issues (53%), help to improve disability friendly early warning systems (50%) while working with the agencies.
- More than 60% households indicated that they need external support during emergencies to transfer disabled persons to the safe shelter places.

Roles of women before and after disasters

- The study findings revealed that women store food items (75% indicated) and fuel wood (70%) before disaster strikes and in post disaster situations they primarily take part in house Reconstruction activities (54%) and take care of livestock resources (40%). About 25% respondents mentioned that this is the women who borrow money from microcredit institutions for supporting family's rehabilitation and disaster impact recovery purposes and thus they take the liability and become accountable for the debt.
- In disaster affected areas non-traditional livelihoods options are almost non-existent (90% mentioned this) but 56% mentioned that women will be willing to participate training programs if any programs are arranged on non-traditional livelihoods.

Disaster preparedness in urban contexts

- People from urban contexts mentioned that the widths of community roads are inadequate (74% indicated) and fire engines of FSCD (Fire Service and Civil Defense) will not be able to enter in the community areas to extinguish fire and do any rescue activities if any earthquake or fire event happens. About 45% people mentioned that natural water sources like local ponds, lakes are filled up and water

from local sources will not be available if needed and >40% mentioned that there are no local parks or open spaces in the areas where people can assemble in case of any earthquake emergency.

-On earthquake preparedness, only 17% respondents mentioned that they know earthquake preparedness issues and prepared for any emergencies; 29% indicated that they knew this but forgot. Only 7.6% respondents mentioned that they participated in earthquake mock-drills in their lifetime. About 34% respondents mentioned that they keep handy the emergency telephone numbers. About half (50%) of the responded indicated that they are interested to act as volunteers if provisions are created.

Recommendations

Based on the findings of the baseline survey a number of recommendations are made and given in the following sections:

- (i) Resilience as a concept should be elaborated based on the aspects included in Chapter five of this baseline report. Stakeholder consultation is required in this regard to develop a common consensus on related issues. In addition a national disaster recovery framework should be developed which is currently missing in Bangladesh. Necessary funding modalities should be developed in this regard. A study is recommended in this connection.
- (ii) NRP should accommodate health (Ministry of Health) and water (Ministry of Water) sector agencies in the area of interest since strengths and resilience of these two sectors hugely influence the resilience of communities and institutions at local, regional and national levels.
- (iii) The baseline survey found that the disaster recovery capacities of municipalities are inadequate. Actions should be taken for enhancing their knowledge base, technical and logistical capacities so that they can perform effective disaster responsive actions in case of emergencies. A study is recommended to know the current gaps in this regard and to develop strategies to fill in the gaps.
- (iv) Developing of FPP (Flood Preparedness Program) is currently underway. But necessary data is currently non-existent at different scales. The FPP volunteers, union parisads, union digital centers and NDRTI/DDM in a coordinated fashion could work here. Spatial data, especially the land elevation data is an important requisite to model the disaster vulnerabilities that are spawned from hydrological, fluvial and meteorological events and processes. Introduction of state-of-the-art technologies such as drones, radar data, LiDAR, optical remote sensing along with GIS and GPS technologies could play vital roles here. Proper implementation of NSDI (National Spatial Data Infrastructure) would facilitate effective sharing of disaster related data among the agencies - what is utmost important. A study is recommended to know the current gaps in this regard and to develop strategies to fill in the gaps.
- (v) Simplified ICT based apps could be developed to facilitate quick and current data collection on infrastructural facilities as to enhance the AMS (Asset Management System) of LGED.
- (vi) Training on SOD should be arranged for government officials and also local government representatives since baseline survey indicates that professionals are not adequately aware of SOD.
- (vii) People are not well aware of 1090 hotline number and as a result they remain deprived of receiving guidance in case of emergencies. Adequate awareness campaign should be done in this connection.

- (viii) Efforts should be given to design and implement non-traditional livelihoods for local areas so that people can remain engaged in income generating activities amid disaster emergencies.
- (ix) People in the hilly terrains, especially in Rangamati and Cox's Bazar recommended for disaster shelters so that people can take shelter in cyclonic and also landslide disasters.
- (x) Disaster resilience programs should be properly aligned with poverty reduction programs due to the fact that poverty conditions of the households increase various forms of vulnerability that finally turn the households into disastrous conditions when they experience hazards. Therefore it is strongly recommended that the Social Safety Net Programs (SSNPs) of Bangladesh should be reviewed for making sure that both poverty reduction and disaster risk reduction objectives are simultaneously achieved through these programs. These can be done when targeting the poor and disaster vulnerable people is more effective (than current approach) and overall resilience of the communities is achieved through smart disaster risk management mechanisms. The existing principles of prioritizing and implementing SSNPs for certain areas such as population density, size of the administrative area might not be appropriate for targeting the disaster vulnerable communities. Currently about 200 SSNPs are being implemented in Bangladesh through a number of Ministries. A study is recommended to thoroughly review the SSNPs in order to identify the harmonization gaps so that the existing SSNPs could be improved and play more effective roles in making the community disaster resilient.

CHAPTER-1

Introduction and Background of the Work

1.1 Introduction

The National Resilience Programme (NRP) is a unique partnership between Bangladesh government and United Nations Development Programme (UNDP), UN Women and United Nations Office for Project Services (UNOPS) that was commissioned in 2018. The NRP could be considered as a successor of number of disaster risk reduction projects such as CDMP (Phase I and Phase II). The NRP's goal is to sustain the resilience of human and economic development in Bangladesh through inclusive, gender responsive disaster management and risk informed development. The outcome of the programme will be a substantial increase in resilience to disaster and reduction in disaster risk, loss of lives, livelihoods and health of men, women, girls and boys, and protection of persons, businesses and communities in Bangladesh. The project aims to provide strategic support to develop national capacity to keep pace with the changing nature of disasters.

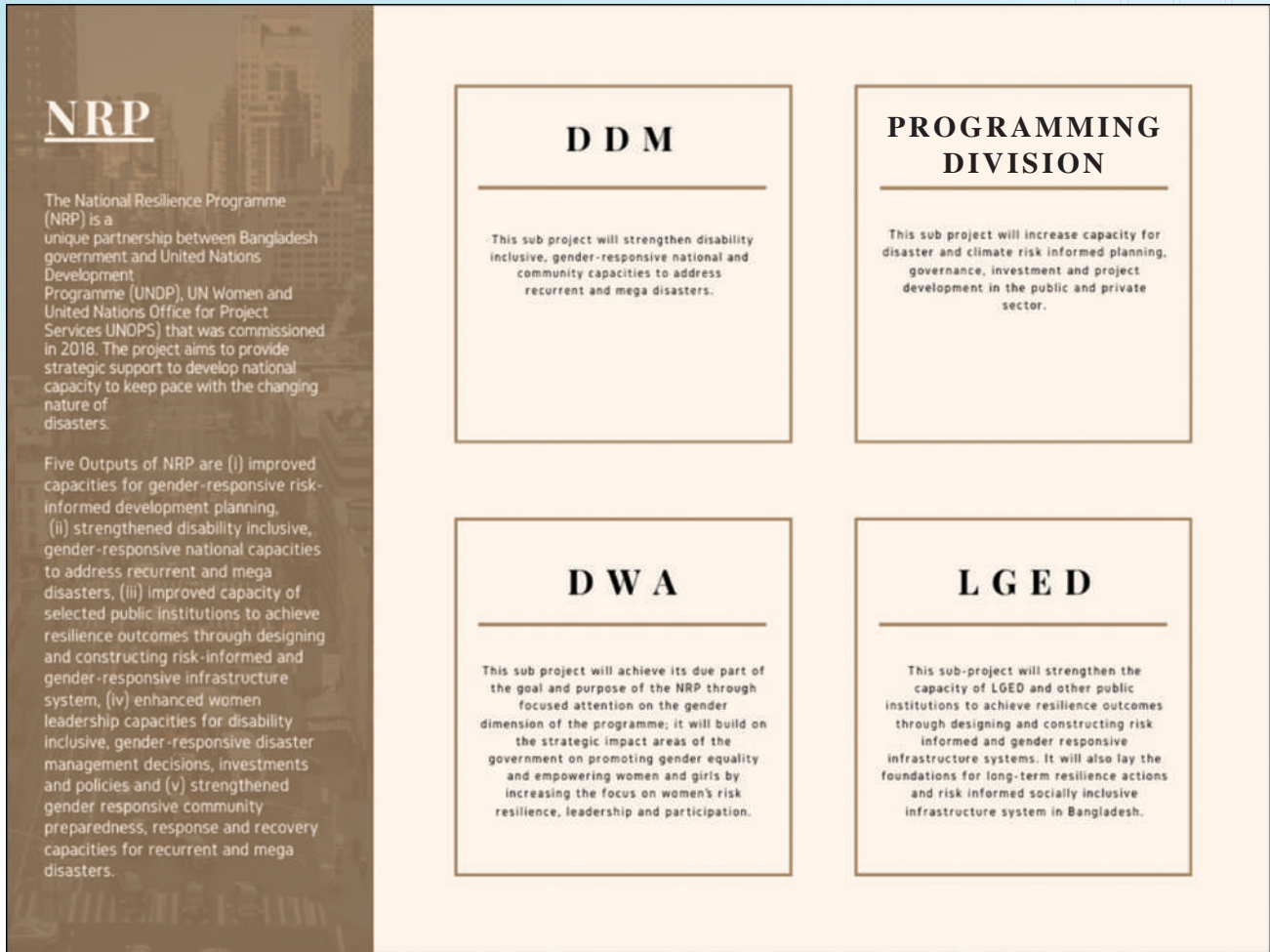


Figure 1.1: The national partner agencies of NRP.

1.2 The approach of the study

The objective of the baseline survey is to help the Programme to monitor its progress over time, in an attributable manner, and to see the overall impact at the end of project implementation. The NRP has a Results Framework at the Programme Level, and the four sub projects also have their own results frameworks. The objective of this study is to undertake the baseline assessment for the following indicator frameworks:

- NRP's Programme level results framework
- DDM part's results framework and
- Programming Division part's results framework.

The baseline survey used both quantitative and qualitative methods for field data collection. Structured questionnaire survey was conducted at household levels where 1080 sample households were drawn from three mega and recurrent disaster (i.e. floods, cyclone and earthquake) affected areas distributed in twelve upazilas of nine districts² of Bangladesh. Flood 2020 occurred in the north and central parts of Bangladesh along with COVID-19 situations made the data collection processes challenging but necessary measures were taken to ensure the quality of data. However, the methodology section provides detailed discussions on the methodological aspects of this baseline survey.

1.3 Demographic and social profiles of communities at risk

The baseline survey was conducted in 1082 households from nine districts, i.e. Kurigram, Jamalpur, Tangail, Rangamati, Rangpur, Sunamgonj, Satkhira, Khulna and Cox's bazar. Among total respondents 66.6 percent (710 in numbers) were male and rest 34.8 percent (372) were female. But all the female respondents did not appear from households headed by female members. Only 6 percent (65 in numbers) of the survey households were found to be female headed. Among this 65 numbers, 39 came from rural areas and 26 from urban areas; considering hazard contexts 29 came from cyclone affected areas, 12 from flood affected areas and the rest 24 came from the areas that is likely to be affected by earthquake disaster. About 75 percent respondents in the survey came from the age ranging between 26 to 55 years. People with disabilities of different kinds were found in 5.3 percent (57 in numbers) households, 26 were female and 31 male. The national figure in this regard is 1.8 percent (BBS 2011) which suggests that more disabled people live in disaster hot-spots of Bangladesh.

²Kurigram (KurigramSadar and Chilmari), Jamalpur (Islampur, Dewangonj), Tangail (TangailSadar), Rangamati (Rangamati Municipality), Cox's Bazar (Chokoria), Rangpur (RangpurSadar), Sunamgonj (SunamgonjSadar), Satkhira (Shyamnagar, Kaligonj) and Khulna (Koyra).

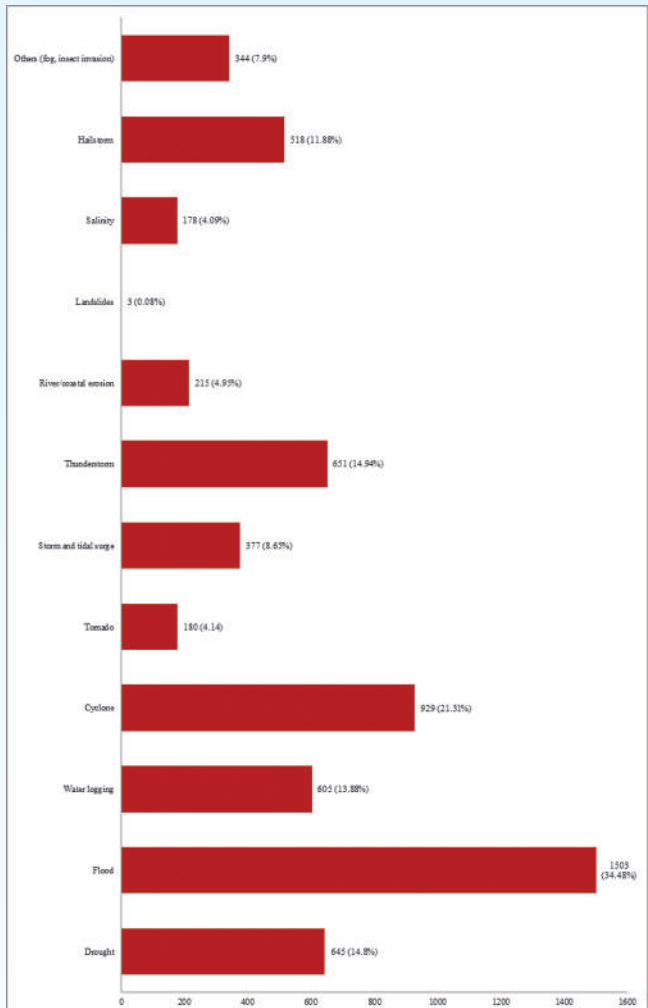


Figure 1.2: Number of disaster affected households in Bangladesh from 2009-2015 (in thousands). Source: BBS 2015.

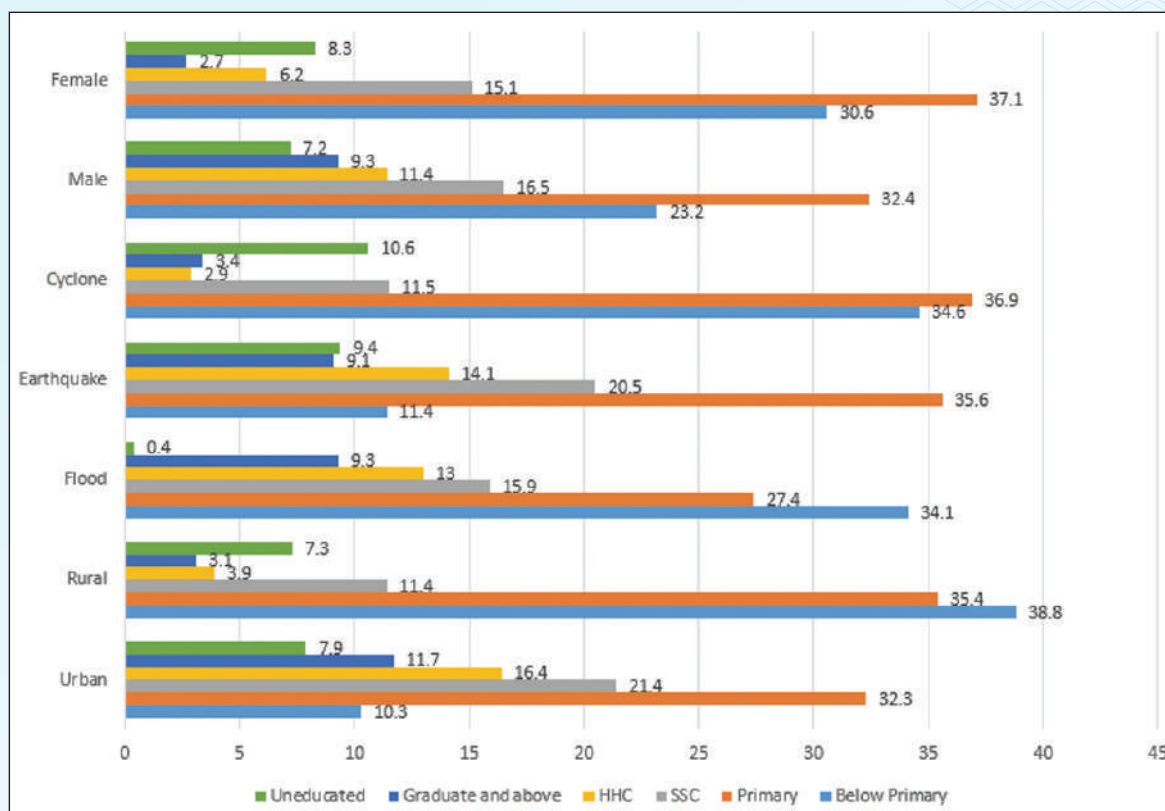


Figure 1.3: Educational status of the respondents (in percent) in different disaster affected areas.

1.4 Health status and knowledge and prevalence of non-communicable disease (COVID-19)

The health conditions of the respondents in the baseline survey were found to be unsatisfactory. About one fourth (25 percent) respondents indicated health complications (Table 1.1). The husband or wife in the households found to be suffering from Blood Pressure (14.5 percent) related complications followed by Diabetes (8.8%) disease. Mother of the family heads living in the households suffer from Blood Pressure (10.2 percent), Diabetes (9.7 percent) and Asthma or breathing difficulties (6.1 percent). This disease prevalence (or co-morbidity) in the households make the families at risks to a number of other vulnerabilities like COVID-19. These cause families incur additional health expenditures and keep families busy in managing the situations such as care giving and ensuring medication by visiting doctors or health centers.

Table 1.1: Prevalence of non-communicable disease in the households (in percent).

Household members	Blood Pressure	Diabetes	Heart complications	Kidney disease	Cancer	Asthma /breathing difficulties	None
Wife/Husband	14.5	8.8	2.6	1	0.6	3.3	74.9
Mother	10.2	9.7	4.7	0.6	0.2	6.1	76.3
Father	4.4	7	2.5	0.7	0	2.9	85.6
Mother-in-law	3.2	3.8	1.7	0.5	0.2	2.3	90.2
Father-in-law	2.1	4.2	2.5	0.5	0	3.6	91.9

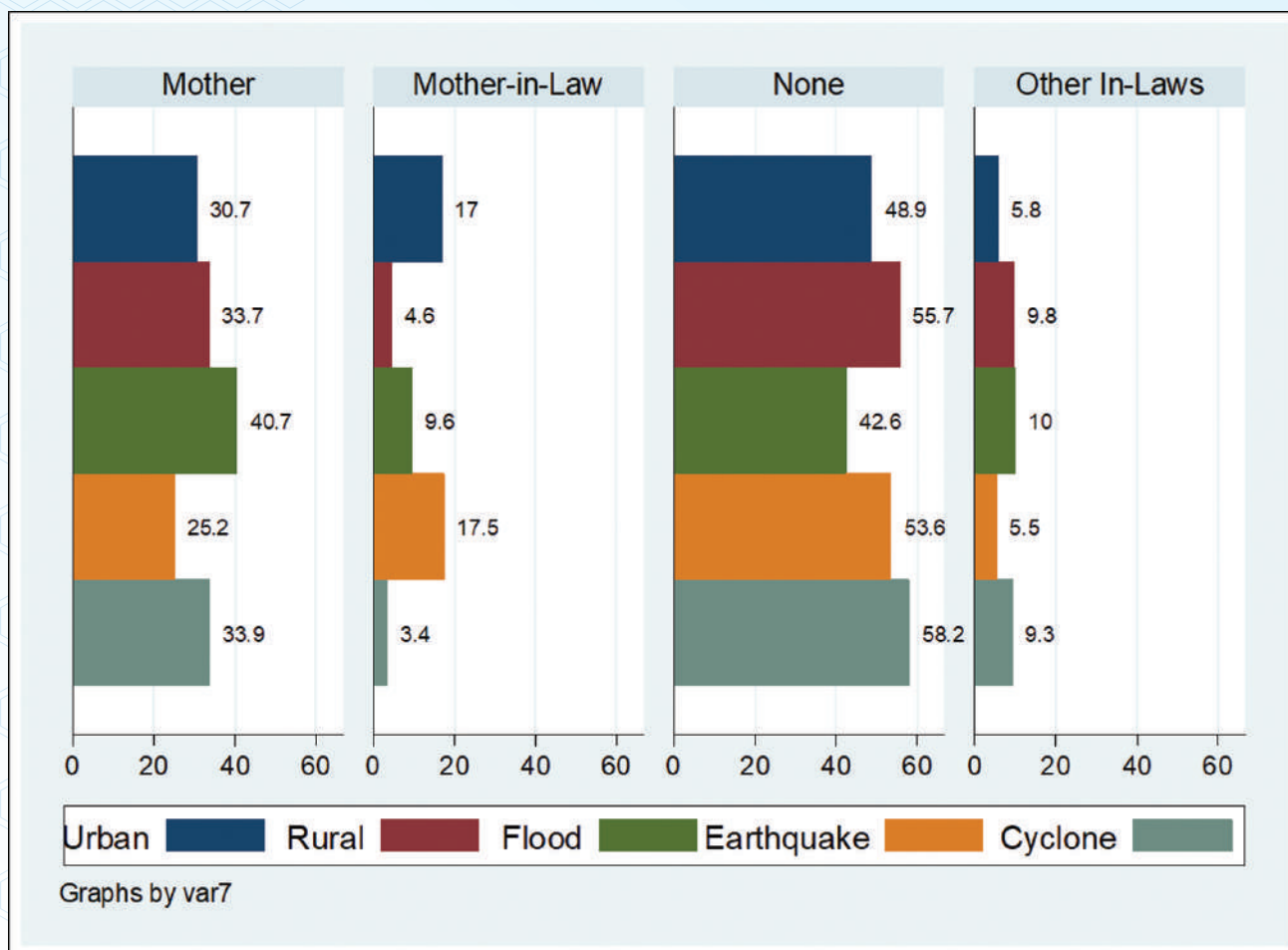


Figure 1.4: Health related complications of the family members.

About half of the households live within two kilometers of nearest health centers and the remaining other half beyond two kilometers. On an average, the health centers are more than four kilometers away for 10 percent of the households and that is why consultation with trained doctors does not happen in most of the cases (Table 1.2). It suggests that moving to cyclone shelters with these disease burdens of family members put them in anxiety and worrisome conditions. Nutritional status of the households were also not found to be satisfactory (Table 1.3) as well; about one fourth of the households indicated that intake of rice is not adequate, about half of the households do not consume milk in a week.

Table 1.2: Information about weekly food intake/nutrition in the household.

Food items	Adequate	satisfactory	Not adequate	Not taken	Everyday	Every other day	one in two days	once in a week	Not taken
Carbohydrate/Rice	76.6	-	23.4	-	-	-	-	-	-
Milk	4.8	45.7	-	49.5	-	-	-	-	-
Egg	-	-	-	-	6.9	16.5	34.8	37.2	4.7
Meat	-	-	-	-	1	4.7	14.3	55.2	24.8
Fish	-	-	-	-	27.9	17.9	35.1	17.1	1.9
Seasonal fruit	-	-	-	-	2.7	20.7	-	47.6	29

Table 1.3: Information on visiting in case of illness (multiple response counted).

Whom do you visit in case of illness	Multiple answer	Percent of cased
Visit local village doctors	546	50.5%
Consult and buy medicine from the local pharmacy	733	67.7%
Visit government doctor	745	68.9%
Visit health centers run by NGOs	58	5.4%
Others	39	3.6%

1.5 Asset holding income generation food nutrition and wellbeing

The baseline survey results indicate that about 72 percent of the households do not have any agricultural lands but about 85 percent households have homestead lands (non-agricultural lands). The landlessness is high among the households where female members of the family responded in the survey. This land suggests that male members of the household that does not have agricultural land resources migrate or live in other places to make a living for himself and for the families back home.

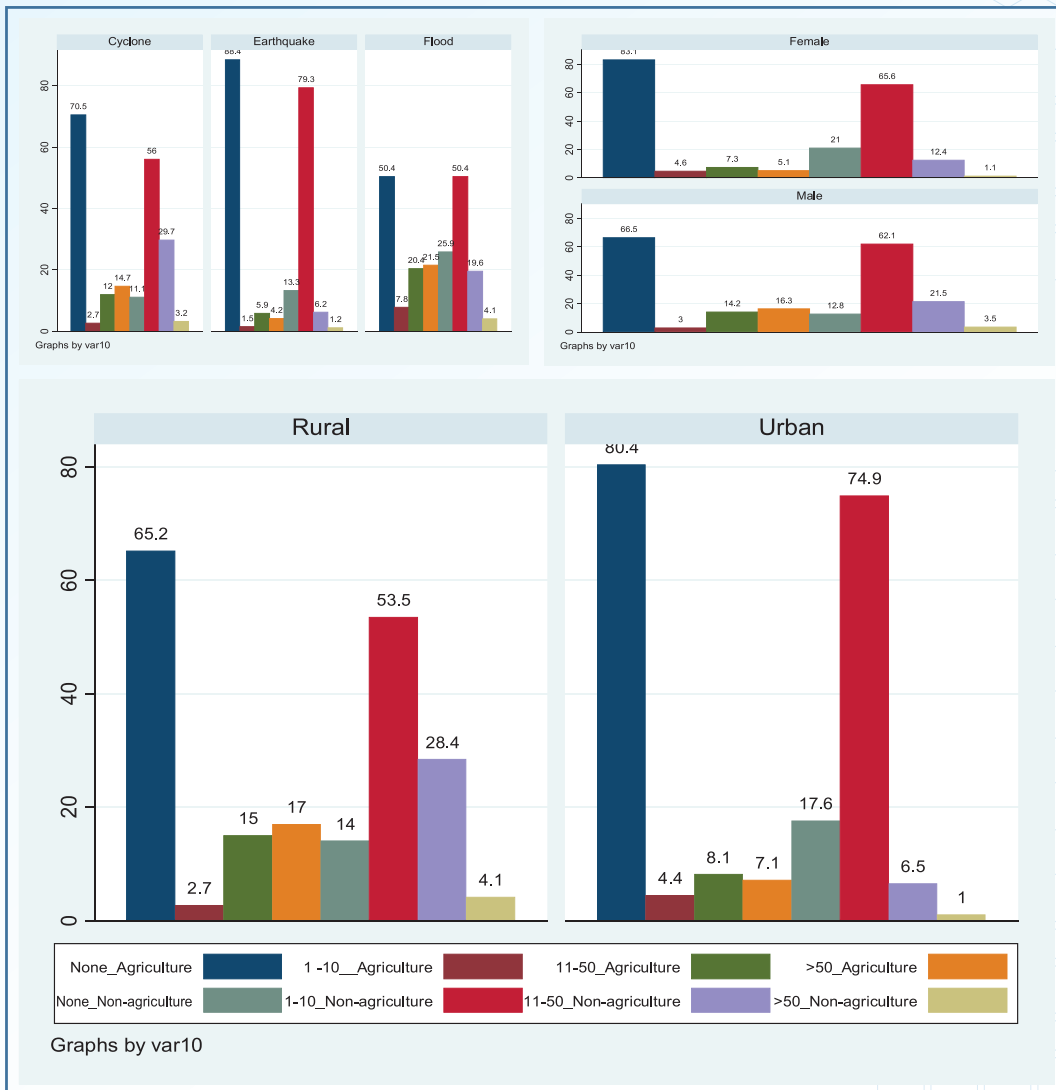


Figure 1.5: Asset holding of the households (in decimal of lands).

Table 1.4: Major profession of people (in percent).

Major professions	Urban	Rural	Flood	Earthquake	Cyclone
Farmer	4.0	19.1	12.2	4.9	19.4
Fisherman	0.2	4.3	4.1	0.2	3.4
Day laborer	16.0	34.4	28.9	19.0	31.0
Business	32.7	20.1	28.5	30.4	19.7
Service	6.3	1.7	5.2	6.2	0.5
Community worker	1.4	0.3	0.4	1.7	0.2
Others	39.4	20.1	20.7	37.5	25.8

Table 1.5: Income of people (in thousand Taka) from major professions.

Income from major professions	Urban	Rural	Flood	Earthquake	Cyclone
<3	10.1	7.3	12.6	7.9	6.6
3 to 5	19.8	30.8	28.1	17.0	32.9
5 to 10	36.4	44.8	50.7	34.6	40.8
10 to 20	24.8	15.8	8.1	29.9	17.9
20+	8.9	1.2	0.4	10.6	1.7

1.6 Conclusion

This introductory chapter provides an account how the baseline study was conceptualized and data gathered from the field. It also gave an impression about the demographic, socio-economic and health status of survey households. The data indicates that people living in disaster prone areas are more vulnerable than the relatively less disaster affected areas of Bangladesh as the percentage of disable person living in the households are higher than the national average. Even the health and nutrition conditions are unsatisfactory.

CHAPTER-2

Methodology of NRP Baseline Survey

2.1 Introduction

The baseline study adopted a multi-method approach combining quantitative and qualitative methods because assessing a number of indicators of NRP required numeric data while some indicators needed qualitative information. It is important to note that the NRP was started in 2018 and the baseline survey was supposed to be conducted in the same year, i.e. 2018. But it did not happen at that time due to a number of reasons. This two year delay might cause people to forget 2018 situations and thus might impact on the quality data collection process. Recall method was used to gather data and necessary care was given to make sure that proper, pre-project situations are reflected in the survey. In addition, COVID-19 pandemic conditions along with prolonged flood (2020) created additional challenges in the data collection process. However, the following sections describe the methodological expressions in connection to the baseline survey.

2.2 Study methodology

In the contexts of COVID-19 pandemic online survey method "Survey-To-Go" was used instead of paper-based questionnaire survey tool. In doing that digital questionnaire tool was developed, installed in the smart mobile phones of the enumerators and training was given online using Zoom facilities. The enumerators gathered data by making physical visits of the households in the field and gathered data were saved in cloud-based server. It is imperative to mention that the enumerators were selected/recruited from the field and training was provided online on the survey purpose, familiarize them with the survey tool and providing necessary guidance to comply with the government advice and social distancing standards in the contexts of COVID-19 crisis.

2.3 Sampling and quantitative data collection plan

There are two ways to determine the sample size - when the population is known and another is when the population is unknown. In this study the population is unknown so we picked the above formula. Our expected sample size is 1000. So, we have to pick/take approximate values in the equation to get that sample size. Generally, z statistic value is 1.96 at 5% level of significance. The probability of the respondents 'will be benefitted' is always considered more than 50% (In this study it is 60% considered). That's why 1-p or q is 40%. We have considered approximately 3% margin of error(d) in this study for the results of the survey in case of miscalculation/change of circumstances. Design effect is considered 2.0 to make adjustment in sample variances.

$$n = \frac{z^2 p (1 - p)}{d^2} \times Design\ effect$$

Where, n = the desired sample size; z = the standard normal deviate = 1.96 at 5% level which corresponds to 95% confidence level; p = 0.60 (assuming that 60% of the population will be benefitted); d = Margin of Error = 0.31 (approximately 3%) and Design effect = 2.0 Using the above formula, n = 1019, the rounded figure n = 1000". We collected data from additional 82 households to reduce non-sampling error which makes sample size 1082 households.

Design effect: In statistics, the design effect (or estimates of unit variance) is an adjustment used in studies, such as the studies that use cluster sampling or cluster randomized controlled trial, to allow for the design structure. Thus, for example, in single stage cluster samples, the sample is not as varied as it would be in a random sample, so that the effective sample size is reduced. The loss of effectiveness by the use of cluster sampling, instead of simple random sampling, is the design effect. The design effect is basically the ratio of the actual variance, under the sampling method actually used, to the variance computed under the assumption of simple random sampling. For an example, "The interpretation of a value of (the design effect) of, say, 2.0, is that the sample variance is 2 times bigger than it would be if the survey were based on the same sample size but selected households".

2.4 Qualitative data collection

Key Informant Interview (KII) was used to gather qualitative data from government officials, representatives of local civil societies/NGO, local government representatives, members of local Disaster Management Committee (DMC) of Municipality, Upazila and Union, Local Disaster Volunteers and community people, Local leaders. In addition, professionals working in government agencies such as Department of Disaster Management (DDM), Ministry of Disaster Management and Relief (MoDMR), the Department of Women Affairs (DWA) of the Ministry of Women and Children Affairs (MoWCA), the Programming Division of the Planning Commission, Ministry of Planning (MoP), and the Local Government Engineering Department (LGED) of the Ministry of Local Government Rural Development and Cooperatives (MoLGRD&C) were interviewed.

Table 2.1: Data collection processes

Methods	Sample size	Illustrations
1. Questionnaire survey	1082	Samples were drawn from nine districts distributed in six disaster hot spots of Bangladesh.
2. KII	81	National, district and local level key personnel were interviewed using Key Informant Interview (KII) tool.
3. Group discussion	10	National stakeholders and partner agencies of NRP were consulted through group discussions.
4. Literature review	The policy institutional review relating to disaster risk reduction, theoretical concepts on resilience introduced by different agencies were reviewed.	

2.5 Validation of data collected from the study fields

It is indicated earlier that quantitative data were collected by using structured questionnaire tool using Survey-to-Go web based data collection tool which was administered through data collection enumerators. Training sessions were arranged for the field enumerators once the web based tool was developed and the team leader of the study provided instructions aiming to make sure that the field staff are adequately aware of the tool and to mitigate strategies if challenges arise. A supervisor based at the IRGDSL was assigned to maintain regular communications with data collection enumerators and to solve issues encountered by the field staff during data collection. The Team Leader also made direct communications with field enumerators to provide suggestions for making sure that the collected data are reliable, error free as far as possible.

2.6 The study locations

The data were gathered from all major disaster clusters of Bangladesh (Table 2.1) as to comply with the design of NRP and special focus was given on the recurrent and mega disasters (earthquake, flood and cyclone). The Barind tract was excluded since hazards in those areas (i.e. the drought conditions) are slow onset in nature and also NRP does have any intervention in that areas.

Table 2.2: Geographical clusters from where data for NRP baseline survey was collected

Regions	Disaster contexts	Districts
1. North eastern parts (Haor regions)	Flashfloods	Sunamgonj Pourashava
2. North western parts (Teesta floodplains, charlands)	Regular river floods (monsoon flood), flashfloods (resulting from torrential flows) and riverbank erosion	Kurigram, Jamalpur
3. Urban Contexts	Earthquake, fire hazard, water congestion	Tangail, Rangpur City Corporation
4. Hills	Earthquake, landslides, flashfloods	Rangamati
5. Barind tract	High temperature, drought conditions, heat waves, strong wind specially during tornados/nor 'westers	Not covered as slow-onset disasters
6. Coastal areas (deltaic regions)	Salinity (surface water, ground water, soil), waterlogging, cyclone and associated strong wind, water surge, tidal flood/coastal inundation in case of embankment breach, Sea Level Rise in the contexts of Climate Change.	Satkhira
Dhaka for national level stakeholders and related data and information.		

Table 2.3: Sample distributions in the study locations

District Name	Upazila	Union/Ward	Sample distribution	Total sample
Kurigram	Kurigram Sadar	Chilmari, Thanahat, Ranigonj, Nayerhat	45	90
	Chilmari	Holokhana, Bhogdanga, Mogalbabachha Jatrapur, Punchgachi	45	
Jamalpur	Islampur	Bahadurabad, Char Aomkhaoa Chikajani, Hatiavanga, Dangdhara	45	90
	Dewangonj	Patharsi, Noarpara, Chinadulli Belgachha, Sapdhari	45	
Tangail	Tangail Sadar	Tangail Municipality	135	135
Rangamati	Rangamati	Sadar/Municipality	135	135
Cox's Bazar	Chokoria	Chokoria	135	135
Rangpur	Rangpur Sadar	Municipality	135	135
Sunamgonj	Sadar	Municipality	90	90
Satkhira	Syamnagar	Munshigonj	60	272
	Kaligonj	Kaligonj	122	
Khulna	Koyra	Koyra	90	
Total				1082

2.7 Use of Recall method to gather earlier data

It was kept in mind that the baseline survey indicators should reflect 2018 situations since the NRP started in 2018. Recall method was used in this connection to ensure that the situations at the commencement of the project are properly, as far as possible, reflected. It is important to note here that data collection process was aligned with a multi-hazard context where infectious disease as a hazard (i.e. COVID-19 crisis, as also indicated in SOD, DM Act 2012) was included with common hazard contexts of Bangladesh such as cyclone, floods, river bank erosion including climate change threats. In that consideration health impacts was added with socio-economic impacts so that impacts/consequences of multi-hazards are properly depicted which will allow to offer short, medium and long term resilience strategies in the backdrop of current programs related to DRR, CCA, Social Safety Net (SSNP) and in the purview of national and international policy (e.g. 7th FYP, NPDM, NPDRR, SoD, DM Act, LDC graduation roadmap, Delta Plan etc.) instruments (e.g. Paris Agreement, Sendai Framework, SDG targets, etc.).

2.8 Triangulation of baseline study

One of the most crucial part in any combined quantitative-qualitative research is the triangulation of data collection/methodology in an input-outcome program framework. Specific methods of research were proposed in this baseline study to collect relevant information in line with the objectives of the baseline study. In doing that variables were identified/developed for both outcome and output level indicators and three methods are proposed for gathering necessary data for each indicator (questionnaire survey, KII and literature review). Use of the multiple methods on specific variables facilitated to ensure data validation. All these methods in a coordinated and combined fashions ensured triangulation of data/methods.

2.9. Challenges in undertaking the study

The NRP baseline study was conducted in an unprecedented time when impacts from COVID-19 in Bangladesh was widespread and huge disruptions happened in social organizations, community movements and health related issues. Movements of people were restricted, lockdown was imposed in some places, maintaining social distancing and use of face masks made normal life irregular and abnormal. The study team took into accounts these issues and provided necessary guidelines to data collection enumerators so that they remain safe while collecting data and at the same time make sure that the enumerators are not causing the community exposed to corona virus. This was one of the major challenges in the field data collection process, though it was mitigated as far as possible by taking necessary measures.

2.10 Conclusion

The methodology for field data collection described above was found to be useful in gathering required data for the baseline survey. Necessary training was provided to the data collection enumerators on data collection methods and COVID-19 guidelines including social distancing measures to ensure that data collection is done without exposing communities to COVID-19. Measures were taken in the baseline study to ensure that equitable, gender responsive disaster risk management, specially the recurrent and mega-disasters in Bangladesh in a multi-hazard context are reflected in the data gathered from the fields.

CHAPTER-3

Baseline Values for Outcome Indicators

3.1 Introduction

It is indicated earlier that the NRP has got both quantitative and qualitative level indicators. Quantitative indicators were shown in the percentage and number of people while the qualitative indicators were expressed through narrative discussions. The baseline indicators of Programming Division, DDM and DWA have quantitative indicators and activity components of LGED focused on improving the institutional functions and process to ensure that the infrastructure design and development is more gender and disability sensitive. However, this chapter presents the programme level baseline values in quantitative values and by using quantitative data collected primarily from other secondary sources to support pertinent arguments given in narrative forms.

3.2 Reduction of loss in lives

Loss of lives and properties have been the common experience that Bangladesh communities face every year as results of occurrence of both natural and manmade disasters. About 0.63 million people died (Figure 3.1) of natural disasters like cyclones, floods, earthquakes, extreme temperatures and different kinds of epidemic events happened in Bangladesh since 1950 (EM-DAT 2020). It is important to note that cyclones appeared to be the deadly disasters in Bangladesh. Cyclones caused about 90 percent (567587 numbers) of total deaths happened from natural disasters from 1950 to 2020.

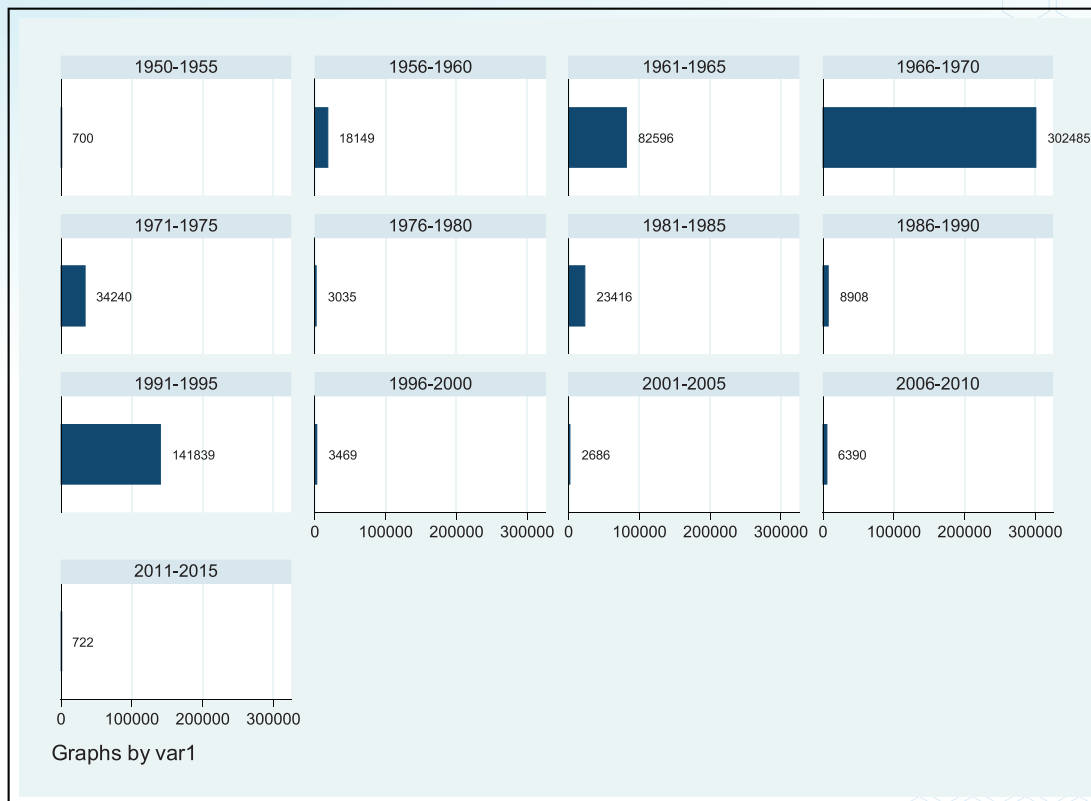


Figure 3.1: Number of deaths caused by cyclone disasters. Source: <http://www.cred.be/>, accessed in November 2020.

It is evident that number of deaths becomes high in those years when cyclone disasters occurred. Cyclone hit in 1970, 1991 thus contributed in skewing the number of deaths in those particular years.

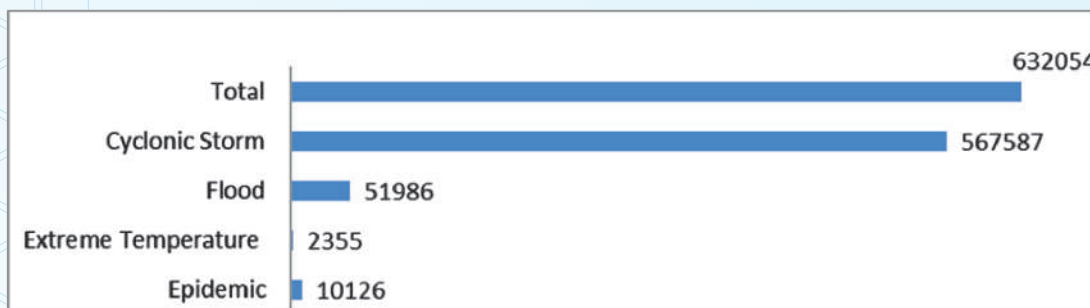


Figure 3.2: Number of deaths in Bangladesh from different natural disasters (1950 - 2015)

Sometimes occurrence of multiple disasters concurrently creates huge challenge for government and non-government agencies including communities to manage the situation. For instance, cyclone Sidr happened in November 2007 and a little earlier in the same year (in August-September) flood 2007 happened (>40 percent of the country went under water) caused huge damage to aman paddy. Moreover, food and fuel price went high in the international market in the same year; all three conditions (e.g. floods, cyclones and commodity price hike in the international market) put the country in a real challenging situation. The situation was termed by WFP 'perfect storm'³ for Bangladesh. This year (i.e. 2020) the country has experienced two mega natural disasters floods, cyclone Amphan and the situations exacerbated by pervasive impacts of COVID-19 pandemic situations.

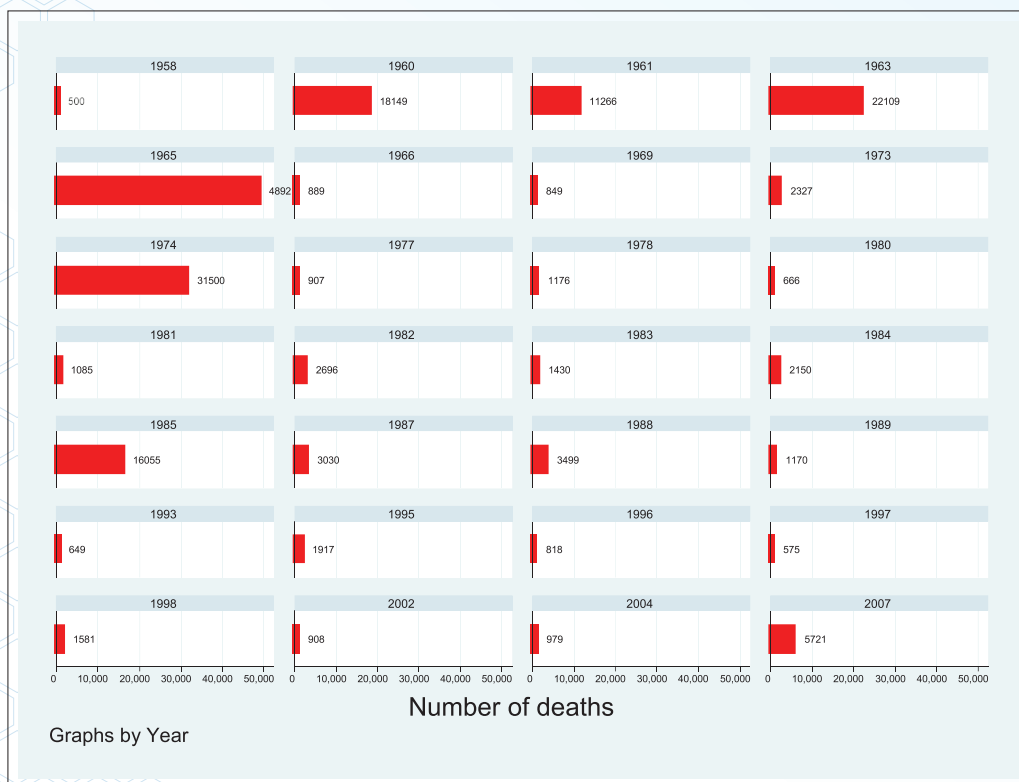


Figure 3.3: Number of deaths due multiple disasters. Source: EM-DAT 2020

³Bangladesh Household Food security and Nutrition Assessment 2009; GoB, WFP, UNICEF.

Note that from the above graph, the number of deaths from cyclone disaster (1970 and 1991 cyclone deaths are removed).

It is imperative to mention that the number of deaths of people has reduced significantly in Bangladesh over the years due to the improvements in disaster preparedness and Early Warning systems. A total of 10715 people (7392 from natural and 3323 from technological disasters) died of both natural and technological and accidental disasters during the period 2005 to 2015 when the HFA was being implemented through different modes and institutional processes in Bangladesh. Comprehensive Disaster Management Programme, CDMP Phase I and II (2003 to 2015), supported by six international donors, different phases of DIPECHO project primarily implemented through action programs of NAARI Consortium to achieve HFA targets during this time and contributed significantly in reducing the number of deaths of people from disasters.

Table 3.1: Number of deaths due to natural disasters and technological disasters

2005-2015	Natural disasters	Number of deaths	Technological disaster deaths	Number of deaths
2005	Cyclonic storm, Extreme temperature, Flood,	280	Industrial accident, Transport accident	586
2006	Cyclonic storm	146	Industrial accident, Transport accident	179
2007	Cyclonic storm, Epidemic, Extreme temperature, Flood	5721	Miscellaneous accident, Transport accident	65
2008	Cyclonic Storm, Flood, Landslide	68	Transport accident	53
2009	Cyclonic Storm, Extreme temperature, Flood	348	Transport accident	201
2010	Cyclonic Storm, Flood, Landslide, Landslide	107	Miscellaneous accident, Transport accident, Industrial accident	246
2011	Cyclonic storm, Extreme temperature, Flood, Landslide	102	Transport accident	63
2012	Cyclonic Storm, Extreme temperature, Flood	344	Miscellaneous accident, Transport accident, Industrial accident	407
2013	Cyclonic Storm	48	Industrial accident, Transport accident	1141
2014	Cyclonic Storm, Flood	79	Transport accident	241
2015	Cyclonic Storm, Flood, Landslide	149	Miscellaneous accident, Transport accident	141
	Total	7392	Total	3323

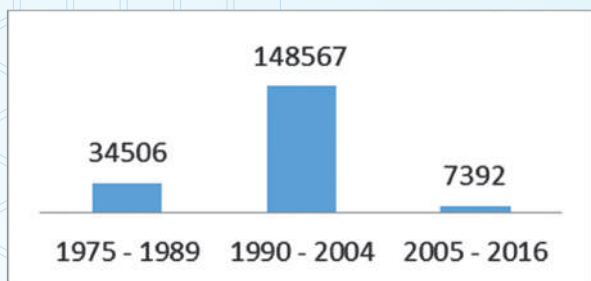


Figure 3.4: Number of deaths in 15 year intervals. Source: <http://www.cred.be/>, accessed in November 2020.

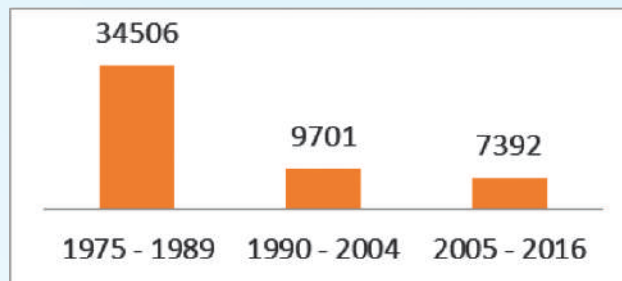


Figure 3.5: Number of deaths in 15 year interval. (1991 cyclone 138866 deaths are removed for better visibility of other different years. Source: <http://www.cred.be/>, accessed in November 2020.

But the number of affected people during 2005 to 2015 was manifold higher than the number of deaths that happened during this time. About 46.75 million people were affected during this time from different types of disasters (Table 3.2).

Table 3.2: People affected from natural disasters during 2005 - 2015

2005-2015 People affected		
2005	Cyclonic Storm, Flood	1184000
2006	Cyclonic Storm, Flood	226809
2007	Cyclonic Storm, Flood, Epidemic, Extreme Temperature	23214891
2008	Cyclonic Storm, Flood, Landslide	636090
2009	Cyclonic Storm, Flood, Extreme Temperature	4504550
2010	Cyclonic Storm, Flood, Landslide	887390
2011	Cyclonic Storm, Extreme Temperature	1672680
2012	Cyclonic Storm, Flood, Extreme Temperature	5658154
2013	Cyclonic Storm	1532207
2014	Cyclonic Storm, Flood	3205709
2015	Cyclonic Storm, Flood, Landslide	4033104
		46755584
46.75 million people affected from natural disasters against 7392 deaths during 2005-2015.		

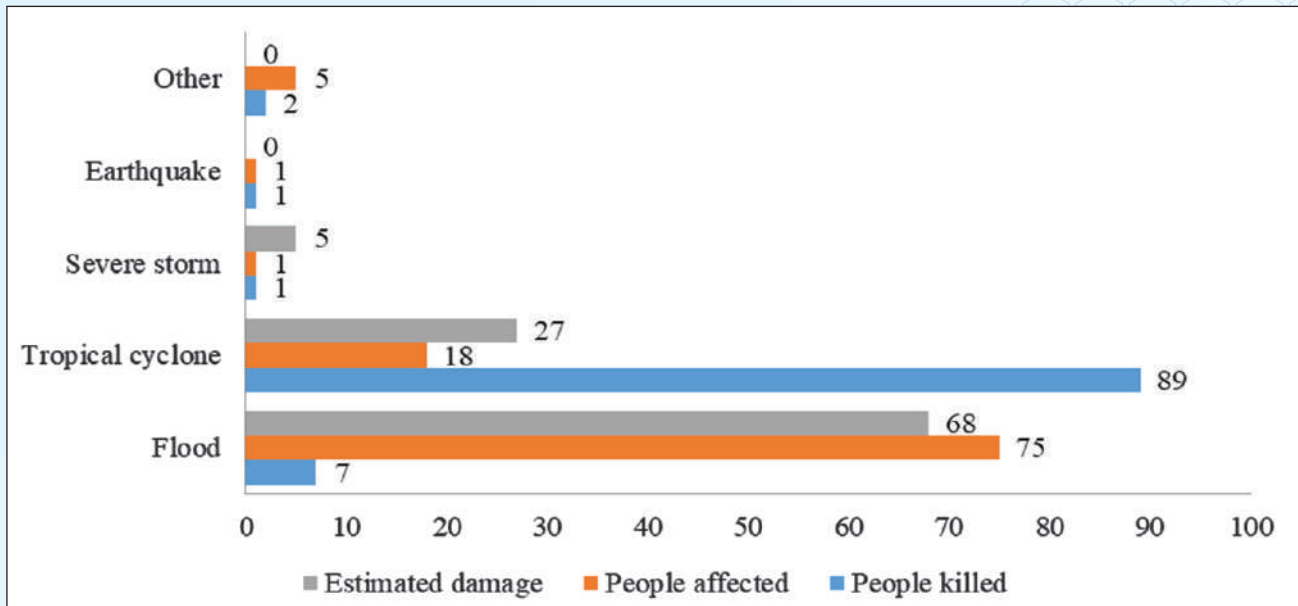


Figure 3.6: Impacts of major disasters in Bangladesh from 2000-2014 (values are in percentage). Source: ADPC, 2014, study conducted for ADB TA-8144 BAN: Project Summary Capacity Building for Disaster Risk Finance. Figures received from EM-DAT 2014.)

3.3 Adoption and means of implementation of gender-responsive development

The majority of women living in disaster and climate change affected areas are, by and large, entrapped with various kinds of physical, social, economic challenges. Their wellbeing or vulnerability is determined by their degree of resilience to cope with those challenges. In general, they have little choice but to live in subordinate states and suffer from a range of discriminations at home and at community spheres despite taking big workloads throughout the days. These happen in a condition where dozens of government and non-government agencies implement variety of schemes in these areas that primarily aim to reduce vulnerability of women. This indicates that the existence of shortcomings in the design of the programs implemented in disaster affected areas that are intended to bring changes in the lives of women. It also might happen, in contrast, that the intended (women) beneficiaries are not adequately prepared to get access to services or remain out of reach of the projects for various reasons. The key challenges in this regard are (i) the women have poor earnings, inadequate savings and other resources to recover from the impacts that happened in the past disasters and women cannot get out of pauperization process due to this factor, (ii) politically biased selection cause to put real vulnerable women out of benefits from the safety net schemes, (iii) little access to external resources/opportunities on which they can depend in times of emergencies.

Many government agencies working under a number of ministries are engaged to improve the conditions of women through implementing various programs. The Ministry of Women and Children Affairs (MoWCA), The Ministry of Local Government, Rural Development and Cooperatives (MoLGRD), Ministry of Disaster Management and Relief (MoDMR) (Box 1) are some of the ministries in Bangladesh that provides different services (e.g. social safety net services) at village levels towards the promotion of women affairs and to provide necessary services. The agencies provide need-based services to women and these supports are generally not adequate to bring significant changes in the lives of women and often it does not reach to the real needy. In addition, KII findings suggest that the rural people in general and the women in particular do not know about

these social welfare or social safety net programs, neither they have the capacity to argue and make claims to the service providers for the supports/services they are entitled to.

All these activities aiming to reduce community (especially the women's) vulnerability and enhance their resilience are carried out under the national commitments stated in the Bangladesh National Constitution and manifested in a number of national policies, acts, rules and office orders or directives. In addition, Bangladesh is signatory of a number of international instruments which are also taken into the broad contextual purview of institutional operations.

The baseline study shows women take care of food storage from 59.8% to 79.6%, fuel wood storage 45.2% to 76.75%, take care of livestock 29.8% to 49.8%, reconstruction of house 30.8% to 61.6%, microcredit support to family's rehabilitation 14.5% to 30.8%, rural urban differences is pretty high and most in cyclone prone areas followed by flood affected areas which means women take burden of disaster related activities and losses at a very high level and thus, food security, relief and rehabilitation, microcredit, livestock all departments and policies need to be gender sensitive and women oriented actions. The most challenging areas are sexual and reproductive health of women and adolescents, child marriage due to poverty and social insecurity post disaster periods, maternity health, child birth and maternal and child death due to lack of support in remotest areas, shelter centres, inadequate manpower in the health care. The gender sensitive shelter centres during disaster is important providing separate toilets for women, breast feeding corners, sanitary napkins for women and adolescent girls, expert midwife for pregnant women need to be ensured. Post disaster coverage also need to be gender sensitive such as while providing relief women's personal hygiene, women and children's nutrition should get priority in the packages, while providing cash women's incorporation and need is a must. In this regard the ward based committees need to be strengthened by incorporating women ward members, NGO representatives, women leaders particularly in the remotest unions close to riverine areas where most men are out of home for long for livelihoods. For family responsibility, care, saving assets women go to shelter centres late, do not participate in leadership programmes, thus prompt actions from the programme needed to support women in the female heads areas to ensure them reaching in shelter centre on time.

The major legislative documents related to women affairs that Bangladesh follows are highlighted in the following.

- Gender Strategy in the 7th Five Year Plan (2016-2020)
- National Women development policy 2011
- Domestic Violence (Prevention and Protection) Act 2010
- Child Marriage Registration Act (1929), amended in 2017
- CEDAW (Convention on the Elimination of all Forms of Discrimination against Women)
- Beijing declaration and Platform for Action (PEA) 1995
- Seventh Five Year Plan (FYP) of Bangladesh 2016 - 2020 (Accelerating Growth, Empowering Citizens).

Box 1: Major works performed by Department of Disaster Management, DDM (under MoDMR) for the poor and disaster affected vulnerable communities. Rural women are the major beneficiaries of the schemes.

DDM implements projects in rural Bangladesh aiming to reduce disaster risks and at the same time enhance the social and economic resilience of the communities and related systems. The projects are developed to create employment opportunities for the poor and vulnerable targeting to poverty eradication, ensure food security and ensure balance in the food supply. Major types of projects implemented by MoDMR are as follows.

- Repair of rural infrastructure using FFW (Food for Work) projects
- Maintenance of rural infrastructures using TR (Test Relief) projects
- Construction of 15 meter long rural bridge/culverts
- VGF (Vulnerable Group Feeding) distribution program
- Humanitarian assistance (cash support and food aid)
- Support for house construction of the poor and vulnerable
- Distribution of corrugated iron sheets
- Distributions of warm clothes among the vulnerable
- Construction of flood shelters in floodplain areas
- Construction and management of cyclone shelters (3975 numbers)
- Support to cyclone affected communities

In 2014-15 fiscal year DDM implemented 33828 projects throughout the country by directly investing 0.28 million MT of food grain worth of Taka 840 crore equivalent to 105 million USD (80 Taka = 1 USD) and 220 crore as cash support (27 million USD) through FFW (Food for Work) programme. Whereas in 2015-2015 fiscal year, DDM implemented 58,915 projects throughout the country by investing Taka 168 crore for solar panel / biogas plant installation and cash support of 353 Crore BDT.

3.4 Crisis coping capacity at different levels

People living in disaster prone areas both in rural and urban areas generally use their assets strategically so that emergency situations could be faced in effective ways as much as possible. Storing foods and fuel woods, keeping valuable ornaments, making small savings, planning trees, keeping livestock resources are some of the tangible means through which they meet the disaster time challenges. The intangible capitals such as social networks with local communities, receive support from relatives living other parts of the country and overseas play useful roles in supporting disaster affected people to cope with adverse situations.

Table 3.3: How many times have you been affected by disasters during last 5 years.

Disaster Types	None	1 to 3 times	4 to 5 times	more than 5 times
Flood	33.0	27.8	33.1	6.1
Flash flood	48.6	38.9	6.7	5.8
River bank erosion	73.5	10.6	7.8	8.1
Cyclone	63.3	27.5	7.3	1.8
Tidal Surge	75.0	15.4	5.8	3.7
Earthquake	49.7	40.9	9.4	0

Table 3.4: Major damage and loss happened in mega-disasters during last two years (2016-2018)

Areas of disaster impacts	Male	Female	Total (2730)
Income generation affected	398 (56.1%)	161 (43.3%)	559 (26.9%)
House damaged	382 (53.8%)	202 (54.3%)	584 (21.4)
Local communication disrupted	374 (52.7%)	167 (44.9%)	541 (20%)
Death	34 (4.8%)	15 (4.0%)	49 (1.8%)
Illness	261 (36.8%)	91 (24.5%)	352 (13%)
Education of children disrupted	300 (42.3%)	114 (30.6%)	414 (15.2%)
No such damage happened	131 (18.5%)	100 (26.9%)	231 (8.5%)
Total	710 (66%)	372 (34%)	1082 (100%)

But these situations sometimes do not work when the disasters are big, impacts become pervasive and challenges continue for long times. People in the study locations (Table 3.3) indicated that they face disasters number of times in their life and experienced huge loss from the impacts (Table 3.4). People mentioned that the repetition of disaster impacts (recurrent disasters) do not allow them to mend the wound and regain the resources they lost in the earlier disaster events. Table 3.5 indicates that a major number of households lost big animals from their household level resource bundle. Losing these resources suggests that the disaster affected households have got less opportunities to recover the loss incurred from earlier disaster and therefore will remain as easy prey to the upcoming disasters.

Table 3.5: Impacts of disaster on livestock resources

Livestock and poultry	Amount	Frequency
Cow	None	903 (83.5%)
	1 to 5	172 (15.9%)
	< 15	7 (0.6%)
Total		1082 (100%)
Goat/Sheep	None	929 (85.9%)
	1 to 5	138 (12.8%)
	< 15	15 (1.4%)
Total		1082 (100%)
Poultry	None	658 (60.8%)
	< 20	407 (37.6%)
	< 50	17 (1.6%)
Total		1082 (100%)

3.5 Disaster impacts on aggregate national indicator: Stress on GDP

Estimating financial costs of disasters has a number of shortcomings in Bangladesh which emerge from definition related challenges and absence of classification in the standard of classification for expenditure (COFOG). This limitation led studies such as CPEIR (2015), CFF (2018) to follow administrative approach to calculate disaster induced financial damage and loss and also to track the government expenditures on disaster risk reduction and/or climate change adaptation aspects. It is also not clear how the social protection programs (i.e. Social Safety Net Programs) are aligned with disaster

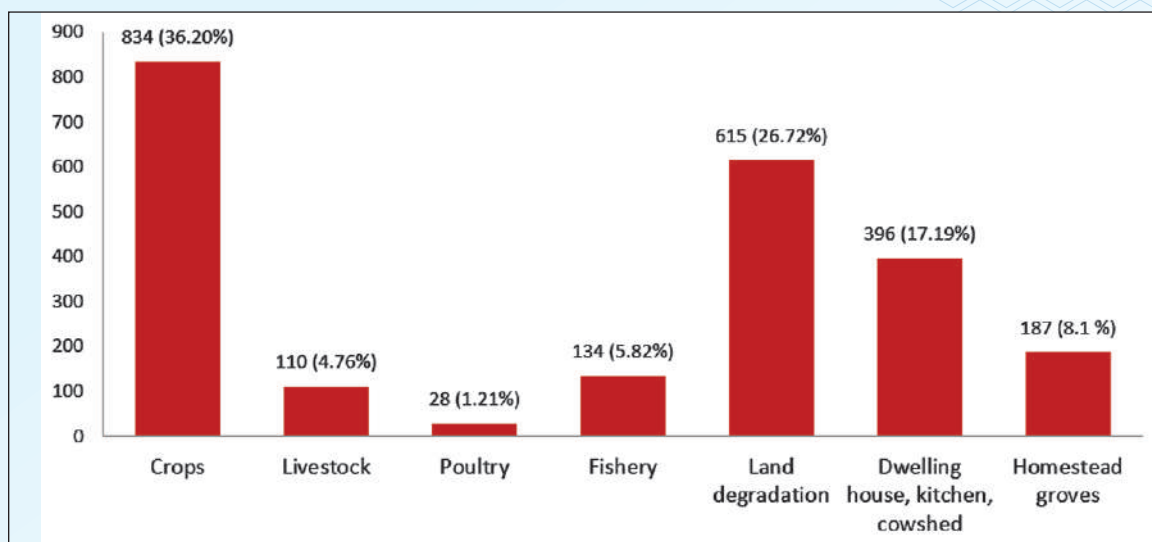


Figure 3.7: Loss and damage caused by disasters (2009-2015) in different sectors (figures in million USD)
Sources: BBS 2015⁴

Table 3.6: Damage and loss caused by disasters (2009-2015). Source BBS (2015)

Disasters	Million BDT	Million USD
Drought	10569	132
Flood	42807	535
Water logging	16062	200
Cyclone	28384	355
Tornado	4299	54
Storm/Tidal surge	12676	158
Thunderstorm	10940	136
River/Coastal erosion	36408	455
Landslides	249	3
Salinity	6072	76
Hailstorm	11471	143
Others	4306	54
Value of total loss and damage	184247	2301

risk reduction and climate change adaptation at household and community levels. However, BBS (2015) study shows that from 2009 to 2015 the damage and loss caused by disasters for different sectors (Figure 3.7) and in aggregate that stands at 2.3 billion USD. The EM-DAT of the Center for Research on the Epidemiology of Disasters (CRED, <https://emdat.be/>) indicated that total disaster induced damage from 2005 to 2015 was 3 Billion USD. The Asian Development Bank (2015) estimated the economic loss from 2000 to 2013 is 10.7 Billion USD, where flood caused 7.1 Billion USD (66%), tropical cyclone 3.2 Billion USD (30%), earthquake 14 million USD (0.13%) and severe storm 374 million USD (3.5%). On the other hand, a total of 8351 people died from four mega disasters during this period (2000 to 2013), where 2065 people

⁴BBS, 2015, Climate Change and Disaster Management: Sectoral inputs towards the formulation of Seventh Five Year Plan (2016 -2021). Ministry of Planning, Government of People's Republic of Bangladesh, Dhaka.

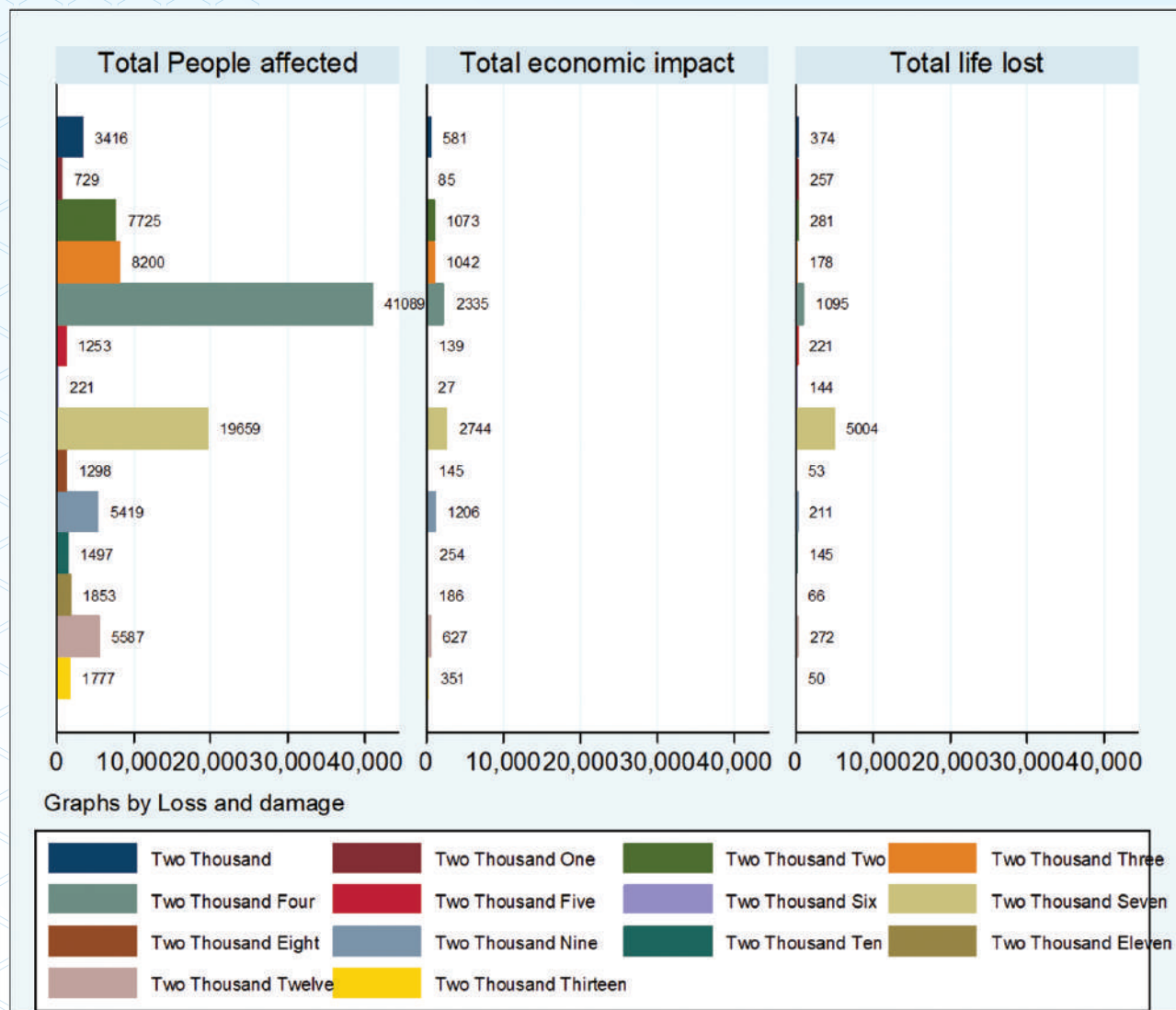


Figure 3.8: Year on year accounts on total people affected, economic loss incurred (million USD) and deaths of people (in thousands) from 2000 to 2013 due to four mega disasters⁵ (i.e. flood, tropical cyclone, earthquake and severe storm)

died from floods (25%) and 6281 people died from tropical cyclones and severe storms (75%) together. The estimates suggest that floods appear to be the major disaster of Bangladesh considering the economic impacts while cyclone is the major one while considering deaths of people. CPEIR (2015) study revealed government spending to address the disaster and climate change induced damages that stands at 6% to 7% of national GDP when development and non-development budgets are combined; the figure equates to an annual sum of US\$1 Billion. It is also important to note here that 77% of total spending comes from domestic sources and the remaining 23% from foreign donor resources (CPEIR 2015). ADB (2015⁶) also mentioned that only US\$ 2 Billion funding was available during that time for relief, rehabilitation and reconstruction against 10.7 Billion USD loss and damage. It was also forecasted that Bangladesh will incur of about 3.2 Billion USD (2.2% of GDP) on average per year due to cyclone or flood.

⁵Graph using data from ADB (2015) Capacity Building for Disaster Risk Finance in Bangladesh. Manila (TA 8144-BAN).

⁶ADB (2015) Capacity Building for Disaster Risk Finance in Bangladesh. Manila (TA 8144-BAN).

3.6. Outcome indicators and critical review

The values of outcome level indicators are given in Table 3.7. The values are given based on both quantitative data and qualitative information. It is important to note outcome level indicators of NRP are poorly defined since multiple dimensions (for example deaths, affected population, infrastructure, SADD in multi-disaster contexts together forms outcome indicator 1), multiple scales (e.g. national, local level situations are put together in outcome indicator 3) are put together to define and design indicators that are planned to be used for project results monitoring and evaluation. Outcome Indicator 2 mentions that 'increase in number of sectors adopting and implementing gender-responsive resilient development - in this case how to define sectors (is it planning commission's six thematic sectors or work domains of existing 70 Ministries should be considered as sector). Besides, it could be mentioned that few Ministries included some sections in the existing policy documents that may address vulnerability issues of women but these are rarely implemented on ground; even if some of the agencies implement such policies they do not systematically gather SADD data in this connection which can be used to determine the baseline situations and to use that for terminal evaluations of any project including NRP. Similar arguments could be given for all the outcome level indicators. These are generally non-specific, double-barrel, twisted, wide ranging, non-relevant, fluctuating in nature and non-measurable. These are also true for output level indicators, although output level indicators are relatively smarter than outcome level indicators. However, efforts are given to provide some relevant information in table 3.7 against all four outcome level indicators.

Table 3.7: Values of outcome level indicators

Indicators	Baseline value
1. Reduced losses in lives, affected population and infrastructure (SADD - disaggregated where appropriate.	About 0.63 million people died of natural disasters like cyclones, floods, earthquakes, extreme temperatures and different kinds of epidemic events happened in Bangladesh since 1950 (Source: EM-DAT 2016). It is important to note that cyclones appeared to be the deadly disasters in Bangladesh. Cyclones caused about 90 percent (567587 numbers) of total deaths happened of natural disaster during 1950 to 2015. In recent times, i.e. from 2005 to 2015, 7392 people died of different mega-disasters in Bangladesh. However, the number of deaths from natural disasters (especially from cyclone disasters) has significantly reduced in recent years. Only 10 people were died of cyclone Amphan (2020) and 22 people were died of cyclone Bulbul (2019) which is lower than the people died in cyclone SIDR in 2007 (3500 people died from cyclone SIDR).
2. Increase in number of sectors adopting and implementing gender-responsive resilient development (in line with SDG and SFDRR.	No sector. Two indicators, i.e. 'gender responsive' and 'resilient' together was not implemented by any sector.

<p>3. Enhanced national, local, communities' and household capacity to recover from crisis and prevent relapses</p>	<p>The overall capacity of local households to prevent the relapse of disaster has enhanced and it is reflected in the less number of people died from disasters.</p> <p>However, it is pertinent to mention the baseline values in this regard. About 47.4 %, 28.4% and 12% households from flood, earthquake and cyclone affected areas respectively mentioned that they have gain necessary strengths to protect their assets from disaster impacts. About 26.5% male and 28% female respondents indicated about their capacity enhancements that contributed in protecting their asset base. About 80% people in the rural areas mentioned that their enhanced knowledge contributed in preventing relapse of disasters and about similar percentage of people from flood affected areas mentioned the same. It is also reported that males gained more knowledge (74.5%) on disaster risk reduction than the females (58.7%) and that helped in recovering from crisis and to prevent disaster relapse.</p>
<p>4. Decrease in percentage of GDP loss due to disasters</p>	<p>Bangladesh loses about 1.8 percent of GDP every year due to natural disasters and about 14 percent of GDP of Bangladesh is currently exposed to natural calamities (Karim 2020)⁷. Sometime mega-disasters cause more GDP loss. The Asia Pacific Disaster Report (2019) mentioned that loss of GDP were 4.7 and 3.4 percent in floods 1998 and 2004 respectively.</p>

3.7 Conclusions

The chapter shows that the deaths of human population has decreased in Bangladesh significantly over the years. It is reported that cyclones are the deadly disasters in Bangladesh, while floods, though not deadly like cyclones, cause damage of assets and properties leading to consequential loss direct and indirect. The results suggest that the disaster risk management by government agencies in partnership with development partners, NGOs, local government, and communities played important roles in reducing the deaths of human population. Effective policy making, improving early warning models/tools and approaches to disseminate warning messages, strong evacuation capacities, inclusive social safety net programmes contributed significantly in this connection. The NRP, in this backdrop, implemented programs by making partnerships with four national agencies aimed at strengthening institutional capacity so that both loss in human lives and of assets are reduced.

⁷Karim, M. A. (2020). Disaster Management: Incredible Success of Bangladesh. Published in special issue on the eve of Disaster Risk Governance 2020: International Day for Disaster risk reduction. Published by MoDMR, Government of the People's Republic of Bangladesh.

CHAPTER-4

Baseline Values for Output indicators

4.1 Introduction

This chapter presents values for output indicators of the NRP project that include frequency of relapse of disasters and how people cope with repeated occurrence of disasters. People responded how they have gained their capacity to prevent relapse of disasters and protect their assets from disaster impacts. The respondents also mentioned about the factors why risk reduction capacities of the people was not increased. The chapter also presents baseline survey results about the awareness of people on disaster risk reduction issues. The results, as indicated before, are presented in three contexts, viz. rural-urban, multi-hazards and gender.

4.2 Relapse of disaster events: The community experiences

Relapse of disaster impacts due to recurrence of hazards is a common characteristics of Bangladesh disaster accounts. It is observed that every year five tropical cyclones including at least one tropical storm is formed in the Bay of Bengal and at least one cyclone crosses Bangladesh border. Flood is also a recurrent hazard which occurs every year with differential magnitude in terms of timing of occurrence, spatial extent, depth of standing water and duration of floods. Floods with a return period 2 year generally inundate about 20% of land surface and floods with 100 year return period cause to damage about 60% of land areas of the country. ADB (2015) showed a linear trend relationship between the percentage of areas flooded and GDP loss as percentage.

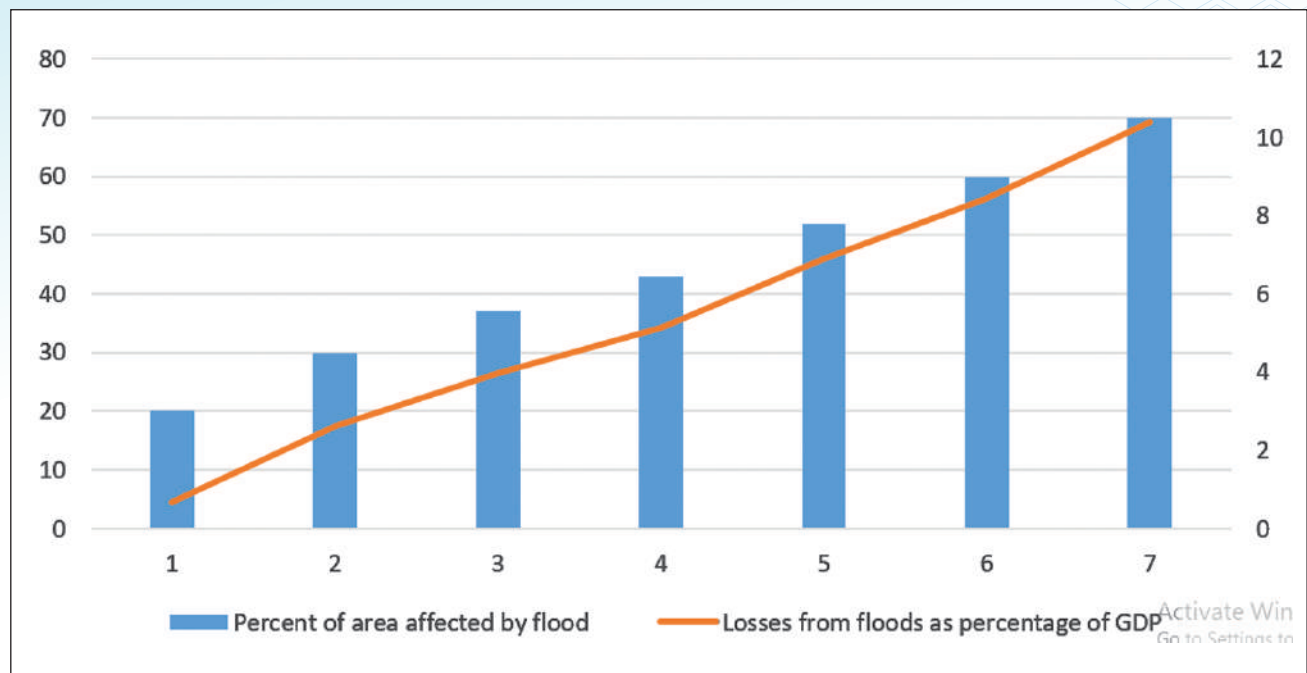


Figure 4.1: Flood impacts and GDP loss in Bangladesh. Source: Data used from ADB (2015)

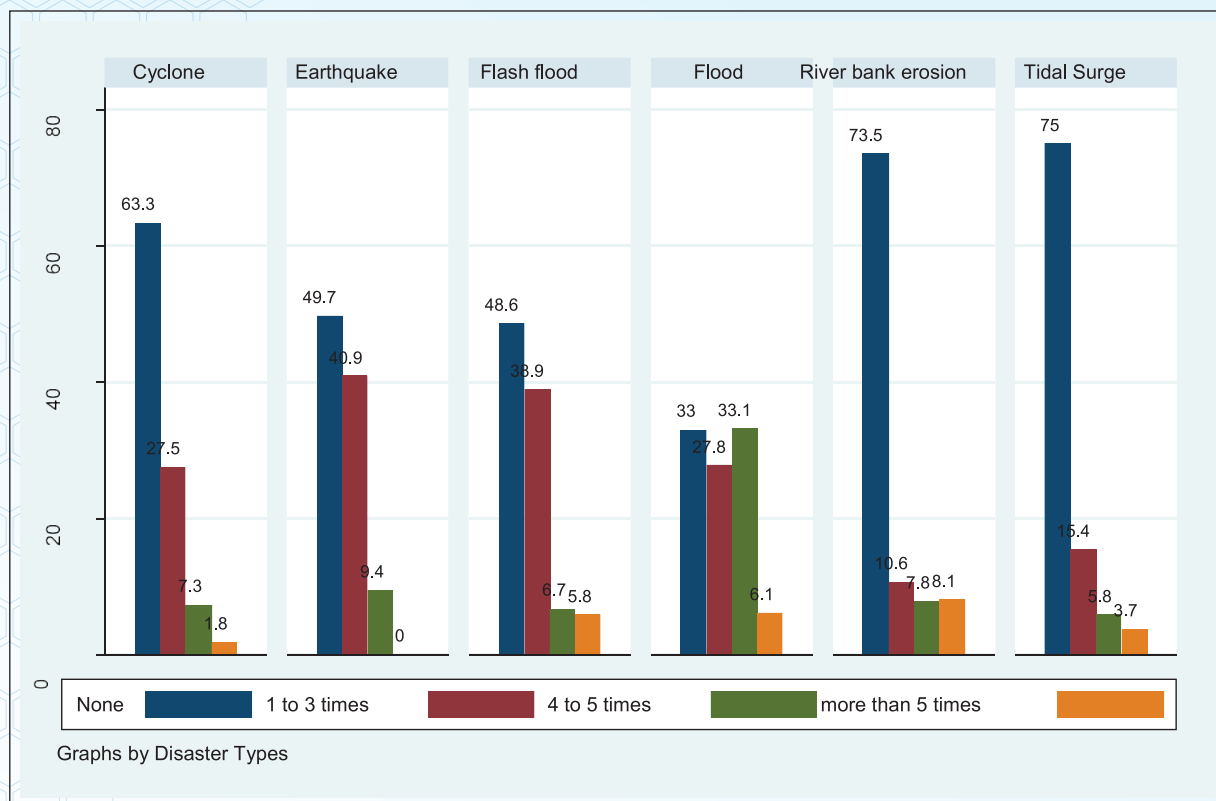


Figure 4.2: Disaster relapse in different hazard contexts

Field impression also suggests that a significant portion of people experience recurrence of disasters (Figure 4.2). People mentioned about cyclones, earthquake and floods as the most recurrent disasters that disrupt their way of living and damage of assets. Government agencies, especially Department of Disaster Management (DDM) directly and other public agencies with a range of Social Safety net Programs (SSNP) including food distribution and selling at subsidized rates (through OMS, Open Market sale) make efforts to help disaster affected households to cope with situations and also to improve the capacity of households to recover from the crisis and relapses (Table 4.1). Table 4.2 shows mixed success where risk reduction capacities have increased in some households and many other did not able to enhance their capacities. The COVID pandemic is added as new dimension to the existing set of disasters. The farmers and fishermen communities (>84% mentioned) indicated that COVID-19 impacts ravaged their hard-earned gains and currently many of them had to borrow money from different sources (Table 4.2) putting them in the cycle of debt

Table 4.1: State of household capacity (in percent) to recover from crisis and prevent relapses (compare to the past)

Dimensions		Yes	I do not know	No
Urban/rural	Urban	30.5	22.8	46.7
	Rural	24.0	35.9	40.0
Hazard contexts	Flood	47.4	32.2	20.4
	Earthquake	28.4	18.3	53.3
	Cyclone	12.0	40.0	47.9
Gender	Male	26.5	32.5	41.0
	Female	28.0	25.0	47.0

Table 4.2: Factors for increased or decreased household capacity to recover from crisis and prevent relapses

Dimensions		<i>Reasons why risk reduction capacities have increased</i>				
		My economic conditions improved	I have more knowledge how to address disaster challenges	I reduced disaster risks of different kinds at household level	I have good networks with community leaders	The overall support of the government contributed
Urban/ rural	Urban	57.0	58.3	58.9	16.6	17.9
	Rural	40.4	80.1	41.8	28.4	7.8
Hazard contexts	Flood	47.7	81.3	32.0	21.9	9.4
	Earthquake	62.6	59.1	60.0	8.7	19.1
	Cyclone	20.4	59.2	77.6	55.1	8.2
Gender	Male	42.0	74.5	58.0	28.7	14.4
	Female	61.5	58.7	37.5	10.6	10.6

Dimensions		<i>Reasons why risk reduction capacities have not increased</i>			
		I am in debt	My condition was improved gradually but COVID-19 made the situations bad due to unemployment	Family expenditures increased as children are in grown up phase and I cannot save enough	Recent health expenditures crippled me
Urba/ rural	Urban	57.6	68.8	20.3	3.9
	Rural	78.7	80.9	64.7	21.7
Hazard contexts	Flood	69.1	74.5	30.9	7.3
	Earthquake	56.9	69.9	19.0	4.2
	Cyclone	80.5	80.5	72.3	24.1
Gender	Male	72.5	70.1	40.2	16.2
	Female	61.1	82.9	46.9	7.4

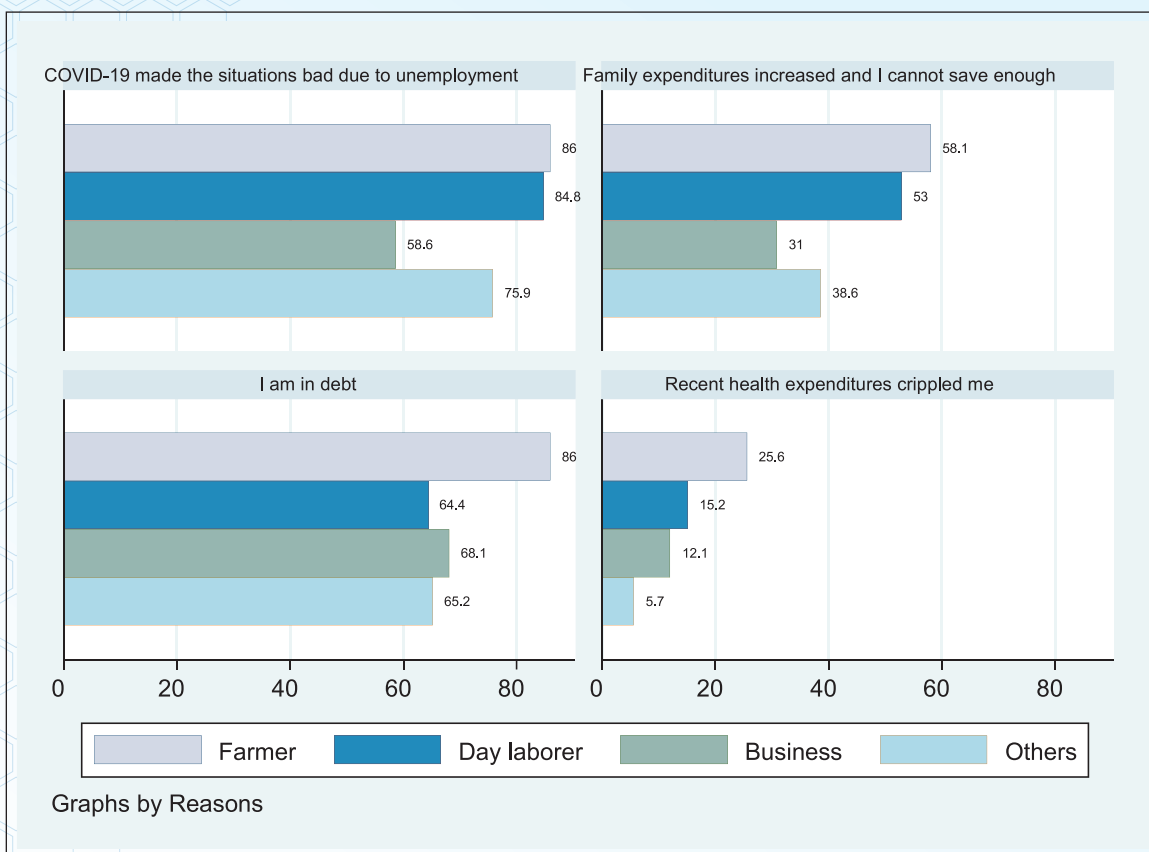


Figure 4.3: Based on what you think that your capacities have not been increased (by profession, I percentage)

4.3 Strengthened disability inclusive, gender-responsive national capacities to address recurrent and mega disasters

The policy institutional landscape

The disaster risk management capacities of a country depends on the appropriate and inclusive policy structure, institutional capacity to implement programs effectively, availability of financial resources and effective partnerships with multi-level stakeholders. In this contexts, The SOD (2010), DM Act (2012), NPDM (2016-2020) have effectively been playing important roles in ensuring gender-responsive, disability inclusive disaster risk management in Bangladesh. The Standing Orders on Disaster (SOD) provides a detailed institutional framework for disaster risk reduction and emergency management. It outlines detailed roles and the responsibilities of ministries, divisions, departments, various committees at different levels, and other organizations' involved in disaster risk reduction and emergency management. It also describes the detailed roles and responsibilities of Committees, Ministries, Divisions, Departments and other organizations involved in disaster risk reduction and emergency response management, and establishes the necessary actions required in implementing Bangladesh's Disaster Management Model, e.g., defining the risk environment, managing the risk environment, and responding to the threat environment. Please mention how SOD address inclusiveness and gender responsiveness.

Availability of disaster impacts data

Proper understanding of disaster risks is the prerequisite to devise necessary strategy, mobilize resources for reducing disaster risks and at the same time to put appropriate systems in place for efficient handling impact events. Availability of necessary data disaggregated by gender (i.e. male-female), disaster contexts (i.e. flood, cyclone, earthquake), development dimensions (i.e.

urban-rural) could help to know the risk environments that may lead the conditions to disasters. There should also be a conceptual construct how to assess potential risks for different sectors (e.g. health, education, settlement, employment and livelihoods etc.) operating at different tiers (e.g. national, regional and local, household levels), at different times for different disasters. But data generation with necessary segregation is not adequately taking place in Bangladesh.

Table 4.3: Loss and damage information categories contained in the D Form

Information category	Description	Information category	Description
1	Name of Upazilla and district affected disasters	14	Damage of power lines (partial, total)
2	Number of wards/unions affected	15	Damage of mobile phone towers
3	Affected area in square kilometers	16	Damage of structures of religious institutions
4	Affected people (man, women, children)	17	Information on the damage of road networks of different categories
5	Physically challenged persons (man, women, children)	18	Number of bridge and culvert damage
6	Affected households (partial, total)	19	Damage of embankments in kilometers
7	Number of affected house (concrete, semi-concrete, thatch made)	20	Affected forest areas in hectares
8	Affected disaster shelters (partial, total)	21	Number of affected educational institutions
9	Value of livestock lost (goats, lamb)	22	Affected industries (agriculture and non-agriculture)
10	Value of livestock lost (cow, buffalo)	23	Number of affected tubewells
11	Value of birds/poultry lost (chicken, duck)	24	Affected toilets/latrines
12	Affected crops and seedbeds in hectares	25	Affected water reservoirs in numbers
13	Damage of other farms (e.g. shrimp hatchery etc.)	26	Affected health centers (hospitals, clinic, community health centers)
		27	Loss of fishing boats and gears (boats, trawlers, fishing nets)

Ministry of MoDMR introduced a prescribed form, labeled as 'D Form', which contains 27 types of loss and damage information (Table 4.3) categories to be filled in by the Upazilla Nirbahi Officer at Upazilla level and Deputy Commissioner (DC) at district level immediate after occurrence of any disaster. The DCs are responsible to gather information from all the administrative units (both rural and urban) and send it to Emergency Operation Center (EOC) within three weeks of

disaster occurrence. The EOC will process the information and develop a national loss and damage information and will forward to NDRCC (National Disaster Response Coordination Center) based at the Ministry for national level dissemination. However, recent efforts of BBS under the BESF (Bangladesh Environmental Statistics Framework) 2016-2030 Framework has taken initiatives to gather gender segregated data.

4.4 Leadership capacities of women on gender-responsive disaster management at national and local levels

The non-government agencies including donor agencies have been playing significant roles in variety of ways to help disaster vulnerable communities especially the women in Bangladesh. Disaster awareness development, participation in disaster risk reduction activities and household and community levels, asset protection and livelihoods security, development of leadership qualities are some of the activity components different agencies performed towards improving the

Table 4.4: How do the CPP volunteers inform about floods/cyclones (Only for Satkhira and Khulna)

Districts/roles of CPP volunteers		Male	Female
Satkhira	They visit us and requests to go to shelters	41 (30.4%)	6 (25.0%)
	They come to the community and the community members ask us to go to shelters	36 (26.7%)	7 (29.2%)
	They move around and announce in loud speakers	130 (96.3%)	23 (95.8%)
	Others	2 (1.5%)	0
Total respondents		135	24
Khulna	They visit us and requests to go to shelters	66 (93.0%)	11 (78.6%)
	They come to the community and the community members ask us to go to shelters	67 (94.4%)	12 (85.7%)
	They move around and announce in loud speakers	60 (84.5%)	9 (64.3%)
Total respondents		71	14

capacities of women' in disaster risk management. In addition, the NGOs work in areas of risk assessments, disaster response, pre-disaster risk reduction activities, post-disaster recovery efforts etc. The major aim of these efforts is to play supportive roles through which government targets to reduce disaster risks is achieved. It is important to note that Cyclone Preparedness Program (CPP) of the Government of Bangladesh with about 60,000 volunteers successfully performed their responsibilities in disseminating early warning messages among the coastal communities. Table 4.4 suggests that people in Satkhira and Khulna appreciated the activities of CPP. But number of NGOs working especially with women in disaster affected areas is less and Table 4.5 and Table 4.6 show that people are not aware (>90%) of the activities of such organizations in their local areas.

Table 4.5: Knowledge of women about women-led organization in the area

Dimensions		Yes	No
Urban/rural	Urban	7.9	92.1
	Rural	3.7	96.3
Hazard contexts	Flood	11.9	88.1
	Earthquake	5.9	94.1
	Cyclone	1.2	98.8
Gender	Male	5.1	94.9
	Female	6.7	93.3

Table 4.6: Participation of women in disaster preparedness local disaster management committees (Union DMC)

Dimensions		Yes	No
Urban/rural	Urban	9.3% (46)	90.7% (449)
	Rural	7.2% (42)	92.8% (545)
Hazard contexts	Flood	8.1% (22)	91.9% (248)
	Earthquake	8.1% (33)	91.9% (372)
	Cyclone	8.1% (33)	91.9% (374)
Gender	Male	7.7% (55)	92.3% (655)
	Female	8.9% (33)	91.1% (339)

4.5 Familiarity of women with disaster early warning

The Government of Bangladesh has strong Early Warning (EW) systems for cyclone and flood disasters. The Bangladesh Meteorological Department (BMD) and FFWC produce and disseminate disaster warning information through the media and institutions at the local level. The GSB (Geological Survey of Bangladesh) has established landslide EW systems in parts of Chittagong, Cox's Bazar, and Teknaf cities. MoDMR has also established local EW systems through community radio stations. Government of Bangladesh also established telephone hot-line number 1090 to support people with information so that they can take protective measures to reduce the impacts from imminent disasters and also suggest activities to perform in post-disaster conditions. But majority of people indicated (Figure 4.4) that they do not know about the hot-line number (>60%), about 20% mentioned they know but never used it.

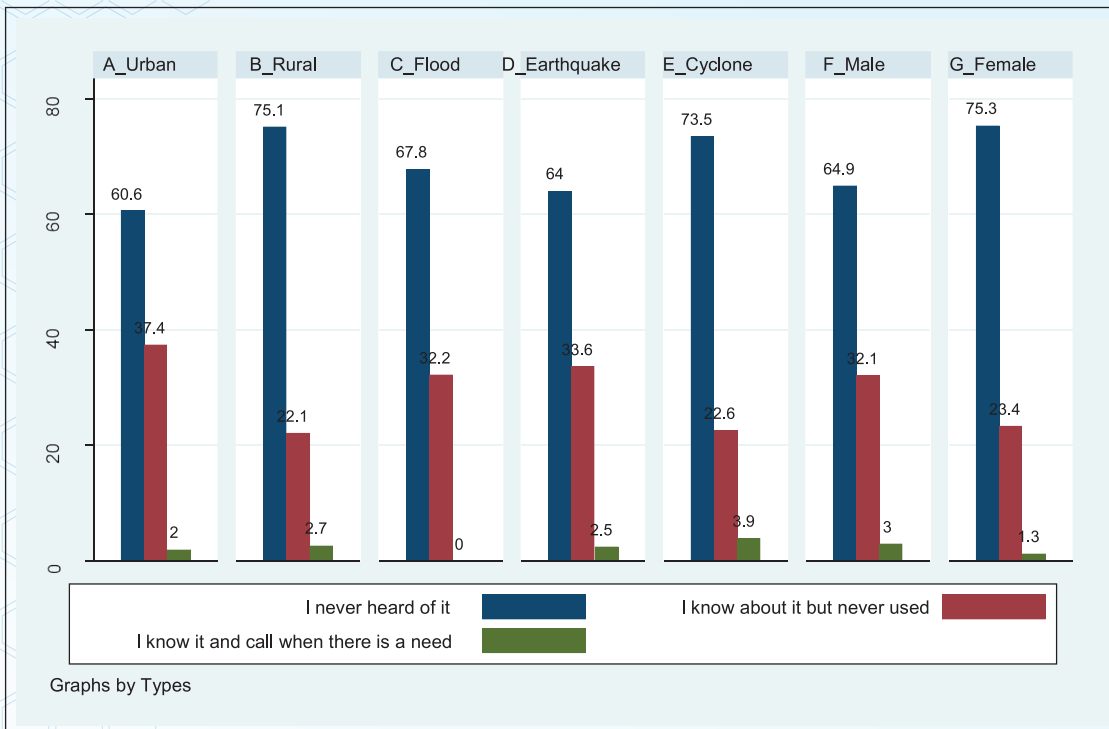


Figure 4.4: Awareness of people about early warning (use of 1090 hotline number)

Government efforts in disseminating information relating to disaster risk management at local levels also include gender sensitive issues that aim to protect women and children from violence. Reports show that violence against women has increased during and post disaster situations in Bangladesh and this is also reflected in the baseline study findings. Figure 4.5 demonstrates that violence against women has increased in all mega disaster settings and both in rural and urban contexts.

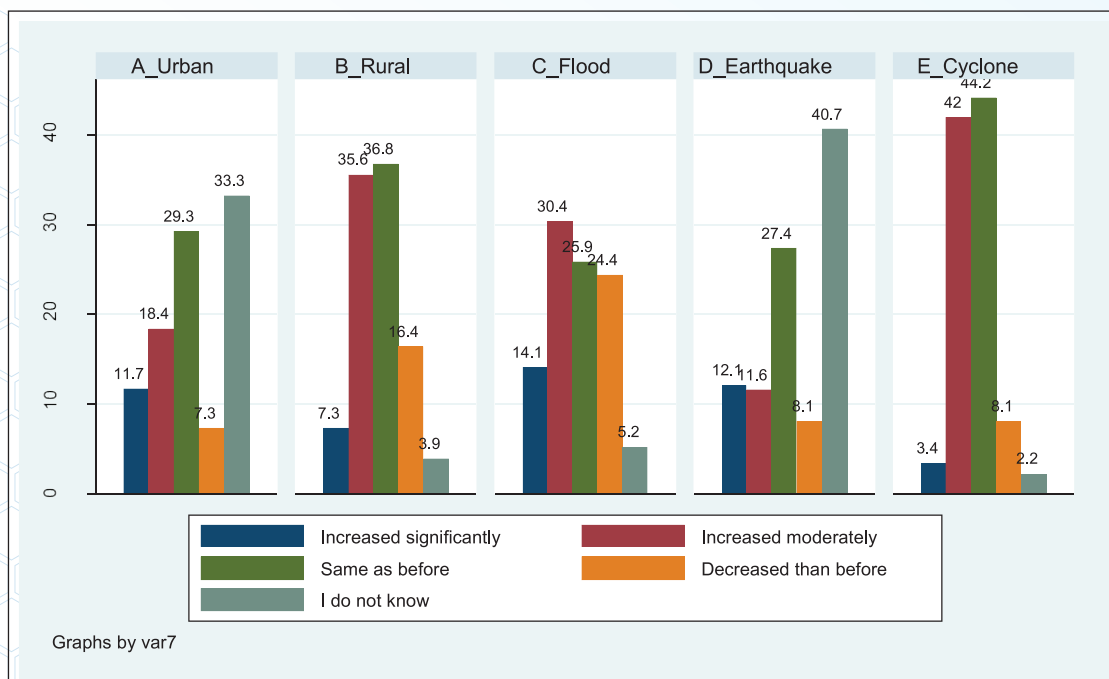


Figure 4.5: Opinion of people about the state of violence against women and children during disaster in the area

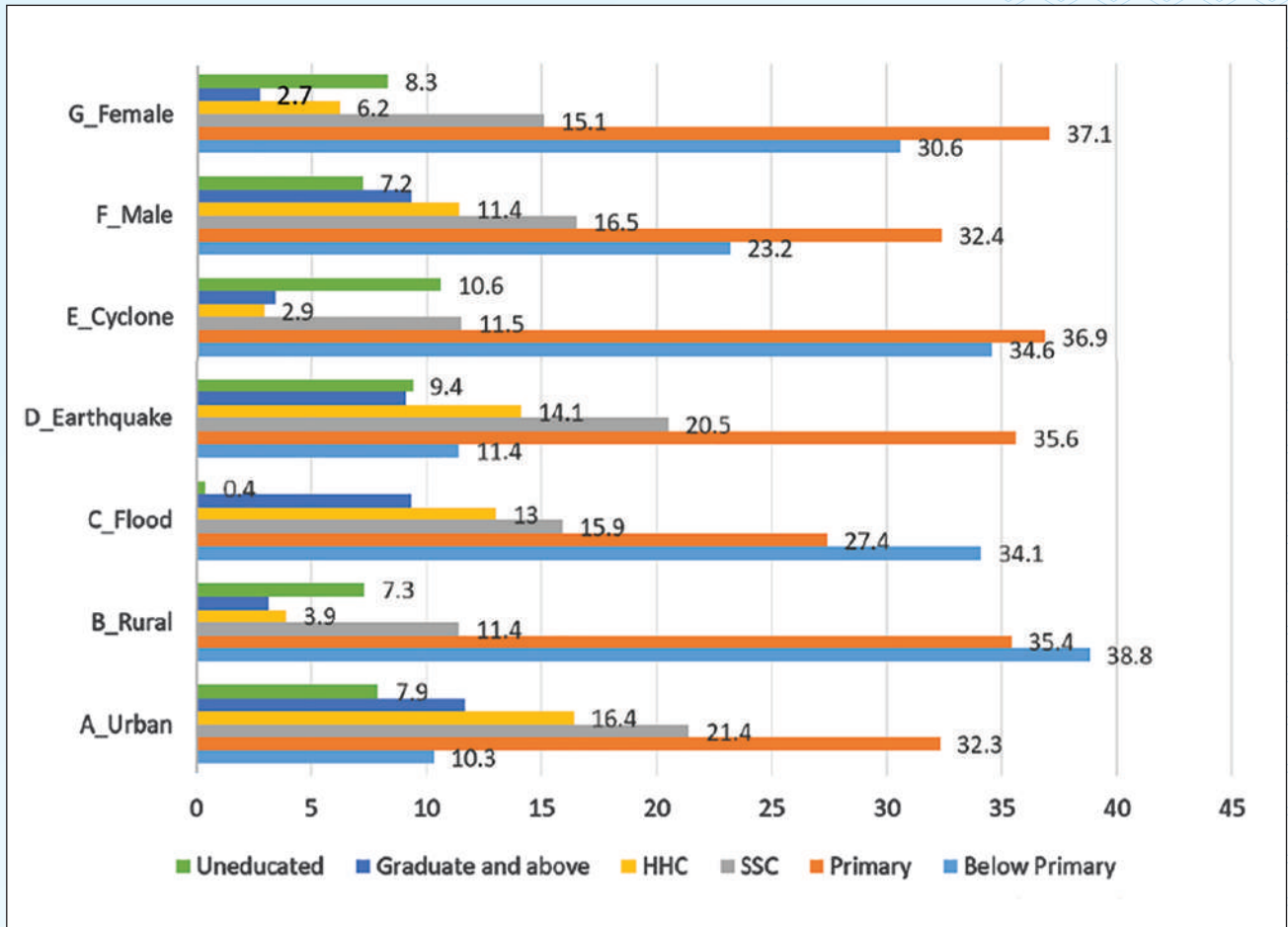


Figure 4.6: Actions taken by the people (in percent) as response to receive early warning messages

The respondents mentioned about the benefits of disaster early warning messages including precautionary advice provided by the government. The actions taken by the people upon receiving early warning messages include (i) taking shelter in stronger places, (ii) buy food items, (iii) store water and other items for emergencies etc. Male members take actions of these kinds more than female members of the families and people in the rural settings who are more prone to disaster are more proactive than urban people.

4.6 Role of media in promoting gender-responsive disaster resilience

It is indicated in earlier sections of this baseline report that there is a progress in disseminating disaster early warning messages through community level volunteers, local government representatives, community radio, short messages, local NGOs etc. But majority of respondents in all disaster settings and rural-urban contexts mentioned that they do not listen to television or radio talk shows where in-depth analysis is given on disaster risk reductions issues (Figure 4.7).

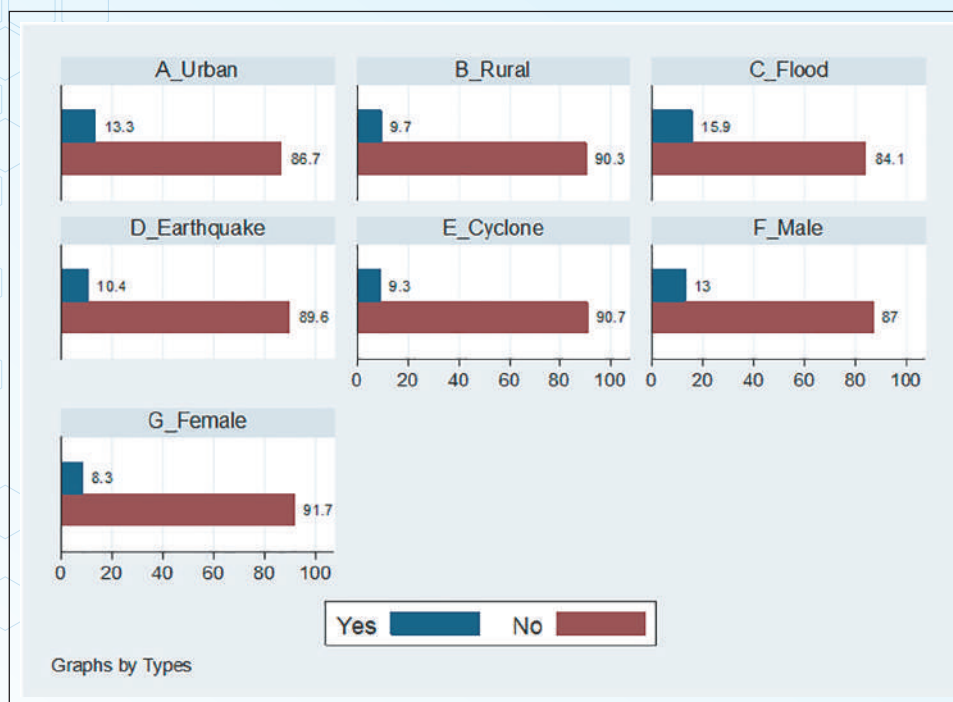


Figure 4.7: Response on listening talk shows or interviews on GRR, DRR, CCA

4.7 State of disability inclusive, gender responsive community preparedness, response and recovery capacities for recurrent and mega disasters

Disaster risk management in Bangladesh takes place at different levels; these are individuals, household and community levels. The degree of vulnerabilities and exposure to hazards of these three entities are different and therefore different disaster preparedness and risk management approaches are required to address these differentiated risks. Community level resources, institutions, support provisions play vital roles that enable individuals and households to anticipate, cope and recover from disaster impacts. The roles and responsibilities of volunteers of Cyclone Preparedness Programme (CPP), FPP (Flood Preparedness Programme), EPP (Earthquake Preparedness Programme) are community level disaster risk management facilities that help households and individuals during emergencies. In addition, the government agencies such as DDM provide supports at community level with a number of SSNP programmes and allocation of cash. The NGOs, local government institutions like Union Parishad, upazila level offices of different Ministries (Eight Ministries have upazila level office) also implement community level programs towards capacity development of the communities. It is important to note that these programs hold inclusions of gender and disability issues at the core of their approaches.

MoDMR (Ministry of Disaster Management and Relief) through DDM, in that consideration, is the major agency in Bangladesh that invest for disaster risk reduction by implementing a range of SSNPs. The major SSNPs implemented by DDM are Food for Work (FFW), Test Relief (TR), Vulnerable Group Feeding (VGF). The agency also develop small scale rural infrastructure and does maintenance activities of existing infrastructure. The baseline survey shows that people are not effectively aware of the SSNP programs (Table 4.7) and majority of them do not receive the benefits. They indicated that real vulnerable people remain excluded from the list of potential beneficiaries since vulnerable people do not have strong ties and partnerships with local influential people. But the people mentioned (43%) that the supports they receive is useful although not adequate (Table 4.9).

Table 4.7: Status of receiving benefits from SSNPs by the communities and their opinions about the program

Response	Is any member of your household receive benefits from any SSNP of the government			Are you aware of the purpose of SSNP		
	Male	Female	Total	Male	Female	Total
Yes	44 (6.2%)	46 (12.4%)	90 (8.3%)	21 (47.7%)	15 (32.6%)	36 (40.0%)
No	666 (93.8%)	326 (87.6%)	992 (91.7%)	23 (52.3%)	31 (67.4%)	54 (60.0%)
Total	710	372	1082	44	46	90

Table 4.8: Selection of SSNP beneficiaries

Options	Multiple answer	Percent of cases
Through community consultation	55	20.2%
By political leaders	89	32.7%
I went to Chairman/member and then name was included	125	46.0%
Do not know	87	32.0%

Table 4.9: Impression of people on SSNPs

Impressions	Male	Female	Total
Inadequate but useful	76	41	117
	42.7%	43.6%	43.0%
Adequate and I am happy to receive it	30	17	47
	16.9%	18.1%	17.3%
I was entitled but did not receive that	40	16	56
	22.5%	17.0%	20.6%
I need to know the beneficiary selection criteria	7	2	9
	3.9%	2.1%	3.3%
I am not interested in it	25	18	43
	14.0%	19.1%	15.8%
Total	178	94	272
	100.0%	100.0%	100.0%

Table 4.10: Pattern of use of SSNP benefits

Use the SSN benefits	Multiple answer	Percent of cases
Received necessary food	201	73.9%
Medicine bought	134	49.3%
Used to repay loan	94	34.6%
Used in reducing disaster risks such as house repair and plinth raising, fixing water supply systems	75	27.6%
The support helped me to get rid of anxiety/fear	18	6.6%
No	31	11.4%

4.8 Policy briefs on DRR with people with disabilities and circulated among policymakers

The Government of Bangladesh has gradually shifted focus from post-disaster relief distribution to a disaster risk reduction culture and in doing that mainstreaming inclusive approach (gender and disability) becomes a major feature in DRR activities. The DM Act (2012), SOD (2010), NPDM (2016-2020) explicitly mentioned about disability inclusive action plans. For instance, NPDM mentioned 'ensure inclusion of disability, class, ethnicity, religious minority and address gender in all plans and programs' and in risk assessment processes such as CRA (Community Risk Assessment) special attention is paid on the concerns of disabled people. Most seminal event in this could be seen in the 'Dhaka Declaration on Disability and Disaster Risk Management', took place in 2015 which adopted eight working plans like under six thematic areas, i.e. (i) Ensure People Centered Approach, (ii) Strengthen Governance, Partnership and Cooperation, (iii) Integrate Gender, Age and Disability Disaggregated Data, (iv) Promote Empowerment and Protection, (v) Removal of Barriers to Reduce the Impact of Disasters on Person with Disabilities, (vi) Act to Local to National to Global. Based on these developments government agencies designed and implemented number of programs to support people with disabilities that include development of policy briefs, supporting disabled people on ground etc. The baseline survey found that a total of 121 disabled people received government benefits (Table 4.11). The majority of respondents (>95%) opined that the disable people are not engaged in local organizations (Table 4.12). But the few numbers who are engaged in the local organizations have played useful roles in improving disability friendly early warning systems (Table 4.13). The respondents also indicated that (>60%) that the families having disabled persons need external supports during emergencies.

Table 4.11: Status of government supports received by households having disabled persons

Supports received by families having disables persons	Male	Female	Total
Yes	87	34	121
	12.3%	9.1%	11.2%
No	623	338	961
	87.7%	90.9%	88.8%
Total	710	372	1082
	100.0%	100.0%	100.0%

Table 4.12: Engagement of disabled persons with any organization

Engagements of disabled persons	Male	Female	Total
Yes	28	6	34
	3.9%	1.6%	3.1%
No	682	366	1048
	96.1%	98.4%	96.9%
Total	710	372	1082
	100.0%	100.0%	100.0%

Table 4.13: Contributions of disabled persons NGO activities (when engaged)

Types of contributions	Multiple answer	Percent of cases
She/he advocates for improved accessibility	18	52.9%
Works/suggests for disability friendly early warning	17	50.0%
He helps designing device that are useful for the people like her/him	19	55.9%
He works promote better support provisions in the Infrastructural facilities	8	23.5%

Table 4.14: Requirement of supports of disabled persons during emergencies

Support requirements	Male	Female	Total
Yes, they need external support	418	242	660
	58.9%	65.1%	61.0%
Support is needed but no external support needed	292	130	422
	41.1%	34.9%	39.0%
Total	710	372	1082
	100.0%	100.0%	100.0%

4.9 Flood Protection Programme (FPP) and gender: Process of institutionalization

It is indicated earlier that the Government of Bangladesh through Ministry of Water Resources (MoWR) has successfully established flood warning forecasts which is widely used by professionals of different sectors and common people in flood affected areas. The warning forecasts are of two types, i.e. (i) 10-days probabilistic warning, (ii) 5-days deterministic warning for 5 days. In addition, warning for flashfloods, regular updates of water stage levels (hydrographs) of different rivers, occurrence of rainfall for 70 locations are some other services that are being provided by Flood Forecasting Warning Centre (FFWC of MoWR). But these forecasts are given for river basin level which cannot be used to assess the flood related vulnerabilities at large scale geographical units like village or community levels. The vulnerabilities of household unit thus cannot be determined due to the absence of higher (spatial) resolution of model-based flood forecast results and informed disaster risk reduction activities cannot be planned and implemented.

Table 4.15: Roles played by women during emergencies

Roles of women	Multiple answer	Percent
Food storage	809	74.8%
Fuel wood storage	759	70.1%
Take care of livestock	431	39.8%
take part in reconstruction of houses	579	53.5%
Borrow from microcredit institutions for supporting family's rehabilitation	275	25.4%
Others	48	4.4%

4.10 Status of non-traditional livelihoods in local areas

The people in disaster affected areas are generally engaged in disaster sensitive professional fields such as agriculture, fisheries, livestock rearing etc. and this is also reflected in the baseline survey findings as 90% households (Table 4.16) indicated that they are not engaged in non-traditional professional sectors. Any shocks in these sectors eventually radiated among the people who are dependent on these sectors. Response from the households suggests that they are willing (women

Table 4.16: Non-traditional livelihood options pursued by woman

Options	Male	Female	Total
Yes	55	52	107
	7.7%	14.0%	9.9%
No	655	320	975
	92.3%	86.0%	90.1%
Total	710	372	1082
	100.0%	100.0%	100.0%

are more willing than male counterparts) to receive training on non-traditional occupations if such kinds of trainings are arranged (Table 4.17). The results also shows that a few of them are already in professions like doing small business (Table 4.18) and make their living.

Table 4.17: Willingness of women to participate in training

Willingness	Male	Female	Total
Yes	351	258	609
	49.4%	69.4%	56.3%
I am not sure	219	81	300
	30.8%	21.8%	27.7%
No	140	33	173
	19.7%	8.9%	16.0%
Total	710	372	1082
	100.0%	100.0%	100.0%

Table 4.18: Involvement of people with projects run by any NGO or government agencies

Types of involvements	Male	Female	Total
I have small tailoring business	33	21	54
	4.6%	5.6%	
I have small shop	69	15	84
	9.7%	4.0%	
I have agricultural farm (livestock/poultry/garden/fishery)	28	7	35
	3.9%	1.9%	
I run small cottage industry	10	4	14
	1.4%	1.1%	
I have no project on my own but I participate in the project run by others	19	3	22
	2.7%	.8%	
No	571	331	902
	80.4%	89.0%	
Total	710	372	1082

4.11 Earthquake preparedness and ward-level minimum preparedness model

Bangladesh is located in a seismically active region and as a result the country has experienced numerous moderate to large-scale events in the last 100 years. None of these, however, has had a catastrophic impacts. In recent memories, 1997, 1999 and 2003 earthquake in greater Chittagong regions caused local level damages. Study suggests that around 250,000 buildings in the three major cities- Dhaka, Chittagong and Sylhet are extremely vulnerable to earthquakes. Some 142,000 among 180,000 (79%) buildings in Chittagong; 24,000 out of 52,000 in Sylhet (46%); and 78,000 out of 326,000 buildings (24%) in Dhaka were detected as risky to earthquake hazards.

The MoDMR has carried out several studies to assess earthquake risks especially for urban conditions and as follow up government agencies (e.g. local government agencies such as municipalities and city corporations) has developed contingency plan earthquake disaster management. But it is observed that factors such as unplanned urbanization and incapacity of city/municipal authorities to execute land use regulations due to the absence of risk sensitive urban land use planning and necessary tools and legal instruments create impediments in implementing earthquake contingency plans by agencies like FSCD (Fire Service and Civil Defense). Table 4.19 shows that more than 70 percent residents indicated that road widths are not wide enough to allow fire units in the locality during emergencies. Even water sources (Table 4.20), open spaces for emergency time assembly in the local areas (Table 4.21) are inadequate and poor. Therefore management of emergency situations will be a major challenge if there is any earthquake disaster in urban conditions. It is also alarming that majority of the people (>50%) do not know or forgot earthquake

Table 4.19: Status of local accessibility

Options	Multiple answer	Percent of cases
Road are narrow, unsuitable for large FSCD units	799	73.8%
Roads are wide enough but the turns are difficult for large units	265	24.5%
Road condition is good	196	18.1%

Table 4.20: Local availability of water sources like lakes, ponds, rivers from where necessary water can be collected during emergencies

Options	Male	Female	Total
Yes	407	179	586
	57.3%	48.1%	54.2%
No	303	193	496
	42.7%	51.9%	45.8%
Total	710	372	1082
	100.0%	100.0%	100.0%

Table 4.21: Availability of adequate open spaces in the area like parks, open field for mass gathering in case of any earthquake emergencies

Options	Male	Female	Total
Yes but used for other purposes	177	95	272
	24.9%	25.5%	25.1%
Yes, we could go there	258	107	365
	36.3%	28.8%	33.7%
No such place in the area	275	170	445
	38.7%	45.7%	41.1%
Total	710	372	1082
	100.0%	100.0%	100.0%

preparedness measures (Table 4.22) and >90% people did not participate in earthquake preparedness mock-drills, although people expressed (about 50%) their interests to participate in earthquake volunteering activities (Table 4.23). However, a number of tables are presented in the following sections that provide views and opinions of people of earthquake disaster management in both pre and post disaster situations.

Table 4.22: Status of earthquake preparedness

Measures	Male	Female	Total
I knew but forgot	377	203	580
	53.1%	54.6%	53.6%
I know very well but not prepared	199	110	309
	28.0%	29.6%	28.6%
I know and I am prepared	134	59	193
	18.9%	15.9%	17.8%
Total	710	372	1082
	100.0%	100.0%	100.0%

Table 4.23: Participation of people in earthquake mock-drills

Options	Male	Female	Total
Yes	65	17	82
	9.2%	4.6%	7.6%
No but I am willing to participate	392	204	596
	55.2%	54.8%	55.1%
No and I am not willing to participate	253	151	404
	35.6%	40.6%	37.3%
Total	710	372	1082
	100.0%	100.0%	100.0%

Table 4.24: Availability of emergency telephone numbers

Options	Male	Female	Total
Yes I keep those handy	275	96	371
	38.7%	25.8%	34.3%
I had but lost now	153	85	238
	21.5%	22.8%	22.0%
Other family members know	125	117	242
	17.6%	31.5%	22.4%
I will get from website when I need it	11	8	19
	1.5%	2.2%	1.8%
I do not need those	146	66	212
	20.6%	17.7%	19.6%
Total	710	372	1082
	100.0%	100.0%	100.0%

Table 4.25: Willingness to act as a volunteer

	Male	Female	Total
Yes	372	159	531
	52.4%	42.7%	49.1%
I am not sure	136	115	251
	19.2%	30.9%	23.2%
No	202	98	300
	28.5%	26.3%	27.7%
Total	710	372	1082
	100.0%	100.0%	100.0%

4.12 Output level indicators

A total of 30 output level indicators exist in the NRP. Values against these indicators are given in Table 4.26.

Table 4.26: Values for output level indicators of NRP

TOTAL INDICATORS - 30	
(DDM - 14, Programming Div.- 06, DWA - 06, LGED - 04)	
OUTPUT 1: Improved capacities for risk-informed and gender-responsive development planning	
Indicators	Baseline values
Indicator 1.1: Progress towards establishment of easily accessible platform of disaster risk information for development planning purposes is established and institutionalized within the GoB system	No tools/resources were available by the year 2018 (Baseline value is 0) by which disaster risk information could readily be accessed from ICT based platform.
Indicator 1.2: Progress towards incorporation of disaster risk screening in ADP approval and appraisal system	No tools/resources were available (Baseline value is 0) by which disaster risk screening can be done during ADP approval and appraisal system.
Indicator 1.3: Percentage of NRP-trained planning professionals self-reporting a change in their knowledge of risk and gender equality dimensions of their work utilizing gender responsive risk-informed approach in their project formulation or appraisal work with reference to specific, named project.	NRP was started in 2019 therefore the baseline value 0.
Indicator 1.4: Progress towards institutionalization of DRR mainstreaming capacity in MoDMR and other government agencies	Baseline in this regard is 0.
Indicator 1.5: No. of multi-hazard national, sub-national disaster and climate risk assessments that inform development planning and programming, taking into account differentiated impacts	Baseline value in this regard is 0.
Indicator 1.6: level of progress towards developing disaster resilience indicators for the 8th Five Year Plan, grassroots resilience voices, and risk informed business practices	Baseline value in this regard is 0.
Indicator 1.7: Progress towards establishment of monitoring mechanism for Sendai framework implementation	No progress in regards to monitoring mechanism is made. GoB is a signatory party.

OUTPUT 2: Strengthened disability inclusive, gender-responsive national capacities to address recurrent and mega disasters

<p>Indicator 2.1: Gaps, strengths and constraints for mega-disaster preparedness in current allocation of mandates in Standing Orders on Disaster (SOD) are known to key stakeholders</p>	<p>Key stakeholders are not adequately aware about SoD.</p>
<p>Indicator 2.2: Sex, age and disability disaggregation is institutionalized in GoB post-disaster data collection tools and protocols.</p>	<p>No tools available that captured gender-disaggregated disaster impacts data. No data protocols including related methodological guidelines. .</p>
<p>Indicator 2.3: Percentage of NRP-trained Government officials self-reporting utilization of gender-responsive recovery planning in their work, with reference to named programmes/project.</p>	<p>Baseline value is 0 since NRP launched in 2019.</p>
<p>Indicator 2.4: Progress towards formulation and dissemination to key organizations of gender sensitive curriculum and training capacity on light search and rescue</p>	<p>Baseline value in this regard is 0.</p>

OUTPUT 3: Improved capacity of selected public institutions to achieve resilience outcomes through designing and constructing risk-informed, disability inclusive and gender-responsive infrastructure

<p>Indicator 3.1: Strengthened LGED capacity to capture baseline information on rural infrastructure</p>	<p>Present practice of LGED on Asset Management is limited to database of roads, and bridges/culverts; No organizational policy, objective and strategy on Asset Management; No structured Asset Management Plan; No Asset Information Strategy.</p>
<p>Indicator 3.2: Consistent planning, design, compliance and construction processes for new assets and infrastructure systems in support of proactive gender-responsive resilience building in place</p>	<p>Current road design standards do not incorporate the resilience elements; LGED does not have a systematic methodology to conduct Failure Analysis; LGED does not have a common tool to address gender issues in development projects.</p>
<p>Indicator 3.3: Strengthened capacity for other institutions by adopting risk informed and gender responsive resilient infrastructure design and implementation</p>	<p>Level of awareness of resilient infrastructure varies across different institutions; No arrangement on Asset Management course between LGED and Engineering Staff College Bangladesh (ESCB).</p>

<p>Indicator 3.4: Strengthen LGED leadership, policy and compliance capacity around risk-informed, gender responsive planning and design</p>	<p>No Professional Development Program on Asset Management at LGED.</p>
<p>OUTPUT 4: Enhanced women's leadership capacities for, gender-responsive disaster management decisions, investments and policies at national and local levels</p>	
<p>Indicator 4.1: Number of policy instruments addressing gender equality aspects of disaster risk reduction</p>	<p>NPDM (2016-2020) indicates about gender equality aspects to some extent.</p>
<p>Indicator 4.2: Percentage of women's organizations in the project area are directly engaged in Disaster risk reduction, Climate Change adaptation and Humanitarian Actions</p>	<p>7% (Baseline Survey, DWA Part 2018).</p>
<p>Indicator 4.3: Percentage of women from the project communities self-reporting receipt of early warning messages (at the wake of disaster)</p>	<p>73.4% (Baseline Survey, DWA Part 2018).</p>
<p>Indicator 4.4: No of awareness programs (talk show, interviews) on gender-responsive resilience (GRR) aired</p>	<p>Baseline value 0 by the year 2018. The baseline study results suggest that more than 80% respondents indicated that they do not listen to talk shows in Radio or TV that discuss DRR, CCA issues.</p>
<p>OUTPUT 5: Strengthened disability inclusive, gender responsive community preparedness, response and recovery capacities for recurrent and mega disasters</p>	
<p>Indicator 5.1: Development of DRR inclusive social safety net guideline and piloting</p>	<p>Baseline value 0. In Bangladesh about 200 Social Safety Net Programs (SSNP) are being implemented by a number of agencies that aim to primarily reduce the socio-economic vulnerabilities. In that consideration these SSNPs got DRR elements, though not fully aligned with DRR objectives.</p>
<p>Indicator 5.2: No. of policy briefs on disaster risk reduction activities with people with disabilities disseminated to policymakers</p>	<p>Baseline value is 0. It is imperative to mention that few NGOs are working in limited scale/scope on disability issues relating to DRR.</p>
<p>Indicator 5.3: Progress towards institutionalization Flood Protection Programme (FPP) utilizing gender-sensitive messaging with volunteers.</p>	<p>Baseline value is 0. Activities related to FPP were introduced as pilot in some flood protected areas implemented by few NGOs but full FPP framework and operational procedures were not developed before 2018. Gender sensitive messaging with volunteers did not happen since no effective/complete FPP framework was established.</p>

Indicator 5.4: No. of people (disaggregated by gender, age and disability) from increased access to early warning information from FPP expansion	Baseline value is 0 since FPP as a framework did not exist before 2018.
Indicator 5.5: No. of social safety net programmes revised to meet disaster specific needs of women from the most vulnerable areas	SSNPs of Bangladesh generally focus on poverty reduction of vulnerable communities that also include women. But no programs are revised to meet disaster specific needs of women from most vulnerable areas meaning the baseline value is 0.
Indicator 5.6: No of women in the project area pursuing non-traditional livelihood options contributing to their resilience building	Baseline value is 0 (Baseline Survey, DWA Part 2018).
Indicator 5.7: Percentage of women involved in the project that self-report decreases assets loss (in case of disaster) compared to previous disasters	Baseline value 14% (Baseline Survey, DWA Part 2018).
Indicator 5.8: Progress towards inclusion for Forecast-Based Financing within DDM operations.	Forecast based financing initiatives non-existent performed by Department of Disaster Management (DDM).
Indicator 5.9: Progress towards development of location specific dynamic flood risk model for up-scaling.	Non-existent of location specific (local level) dynamic flood risk model.
Indicator 5.10: Progress towards earthquake preparedness through the formulation of an Implementation package for Ward-Level Minimum Preparedness model	Non-existent at NRP implementation areas (Rangpur City Corporation and municipalities of Tangail, Rangamati, Sunamgonj).
Indicator 5.11: Proportion of at-risk population covered by community level contingency plans for earthquakes	Baseline value 0 because no community level contingency plan for earthquake exists (Rangpur City Corporation and municipalities of Tangail, Rangamati, Sunamgonj).

4.13 Conclusion

The results presented in the chapter suggests that people living in disaster hot spots are still living in vulnerable conditions. The respondents opined that the gains achieved in different aspects of disaster risk management are repeatedly ruined by the relapse of disasters. They generally face disasters with impacts residuals of preceding disasters. The results suggests that the current 'relief' based disaster risk management approach did not show promise to develop community resilience so that they can prevent disasters and to protect their asset base. It suggests that long term 'recovery' focused disaster risk management is necessary for Bangladesh. The chapter next provides pertinent suggestions in this connection.

CHAPTER-5

National Resilience of Bangladesh: Conceptual Framework and Way Forward

5.1 Introduction

The significant decrease in the deaths of people by disaster impacts in current times compared to the past is one of the major testimony of Bangladesh's success in establishing smart policy-institutional architecture in disaster risk management. The results presented in the earlier chapters suggest, in contrast, that the loss of assets, properties and overall economy of disaster impacts has increased manifolds in recent times. This decreased death of lives and increased economic loss provides indications about the need to take different route in disaster risk management in Bangladesh. The major programs that the government agencies do immediate after the occurrence of disasters are distributions of relief items among the affected people, intensifying the pre-existing social safety net programs, distribution of cash, sell of food and other necessities at heavily subsidized though OMS (Open Market Sell). But long term recovery of impacts that happened as results of past disaster is generally missing in the disaster risk management approach in Bangladesh. In this backdrop, this chapter presents 'National Disaster Resilience Framework' that is based on the findings of the study (presented in the executive summary sections) and also on the 'decentralized Disaster Risk Management' and long term disaster 'recovery planning'. In doing that the chapter provides rationale why the proposed framework is appropriate for the time for Bangladesh and how pertinent elements of the resilience framework should work within the existing policy institutional landscape of Bangladesh.

5.2 Journey from disaster response to disaster resilience in Bangladesh (1970-2020)

Degree of capacity of individuals or households to cope with change determines the vulnerability. Capacity depends on contingent contextual settings like economic, socio-cultural, environmental milieu which is again influenced by formal and traditional governance structure of the area where they are situated. The characteristics of individuals living in a household such as whether he/she is male or female, disabled or not, old-age or young are important factors that determines the capacities of individuals vis-à-vis households to interact with contextual settings. Cluster of households create communities and a community maybe labeled as a vulnerable community if vulnerable households predominate the number in the settlement cluster. This suggests that vulnerability of individuals or households or a larger communities are not only determined by the household characteristics, it is rather shaped by external contexts that include service provisioning, communication and accessibility, access to information etc. Reduction of vulnerability not only depend on post disaster relief and response services, it rather depends on post-disaster recovery actions that make people offset the loss and gain capacities to face the upcoming challenges and shocks.

The authoritative theoretical discussions on these issues was introduced by Piers Blaikie (1994) which was further improved by Wisner, et al. (2004), Olson (2020) (Figure 5.1). They provided detailed discussions on how economic and social vulnerabilities of a community living in areas exposed to hazards create risks. Based on these concepts a number of international agencies such as UNDRR (formerly UNISDR), UNDP, DFID, Rockefeller Foundation etc. suggested a number of conceptual instruments vis-à-vis guidelines such as HFA, SFDRR, SLA (Sustainable Livelihoods Approach), suggestions on identifying vulnerability indicators. And at the same time they provided risk assessment tools so that degree of vulnerability could be properly understood for designing disaster risk management programs such as pre-disaster risk reduction, disaster response/relief

during emergencies and post-disaster recovery. In Bangladesh state agencies like DDM adopted a number of approaches prescribed by these international agencies, namely CRA (Community Risk

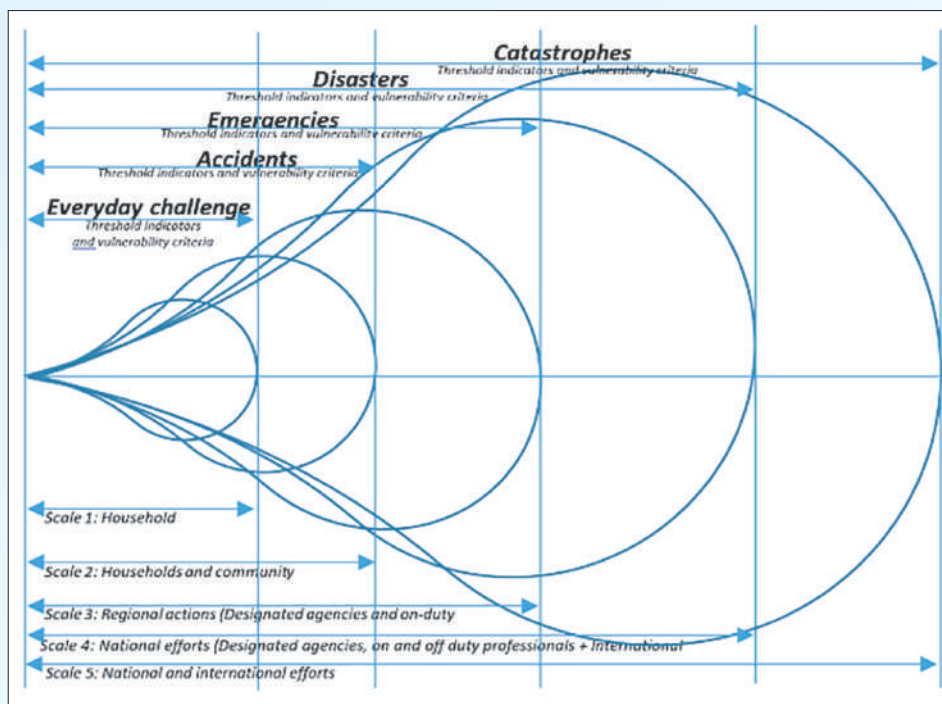


Figure 5.1: Scale of disasters

Assessment), RRAP (Risk reduction Action Plan) implemented a CDMP (Phase I and II) and now NRP. The lessons learnt from two decades of disaster risk reduction (since 1994) activities in Bangladesh informs about at least three gaps, viz. (i) mainstreaming DRM is into regular development programs is not adequate, (ii) DRM is not properly decentralized so that local stakeholders could play more effective roles in disaster and climate sensitive program design, implementation and monitoring, (iii) lack of scientific models, state-of-the-art data, methods and tools for risk-informed decision making. However, it is observed that the communities at risk are still not resilient to cope with change and shocks despite having a range of activities related to DRM were implemented in Bangladesh (Table 5.1). For example, people living in coastal areas had to face a number of mega and recurrent disasters in last two decades (i.e. Sird in 2007, Aila 2009, COVID-19, Amphan 2020) and caused to wash away the progress made, developments gained and finally that did not allow people to be resilient to cope

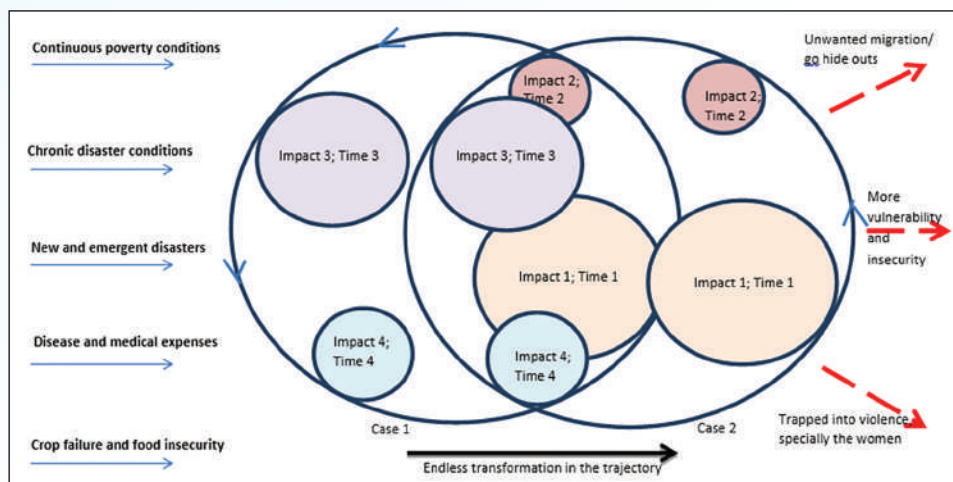


Figure 5.2: Disaster impacts, residuals effects and shifting state of households

with disasters the next disaster episodes. Figure 5.2 in this shows how chronic stress push people into the point of no-return. Ministry of Disaster management and Relief in partnership with UNDP designed and implemented a follow-up program named NRP (National resilience Program) based on the lessons learned during last couple of decades on DRM and to secure the impressive economic progress so far been achieved by Bangladesh.

Table 5.1: Chronology of National Capacity Development in Response to Disaster Management

Time periods	Key activities
1970-1985	Reactive in nature: Establishment of Directorate of Relief and Rehabilitation; Creation of CPP Volunteers
1985-1999	Flood Action Plan (FAP) 1988 Flood Forecasting and Warning Centre Flood Modeling and GIS Establishment of Disaster Management Bureau in 1993 Formulation of SOD, 1997 with institutional framework Shifting from MoRR to MoDM
2000 -2012	A comprehensive DM system-Shifting focus to Risk Reduction, CDMP, Phase I, DRR Fund Re-structuring institutional framework Formulation of NPDM, DM Act, etc. Revision of SOD (2010)
2012 Onward	Convergence of DRR and CCA and Resilience CDMP, Phase II NRP

The National Resilience Program (NRP) has four outcome and thirty output level indicators to achieve at the end of its first phase of activities. Unlike other disaster risk reduction programs implemented in the past in Bangladesh such as CDMP, the NRP set ambitions higher where risk reduction approaches were exceeded to national resilience development in both human and economic development dimensions. In doing that NRP developed partnerships with agencies such as Planning Division and LGED for improving the existing project formulation processes and infrastructure design and development that is inclusive, gender responsive and risk informed. In parallel, NRP developed partnerships with DDM and DWA for more effective targeting of vulnerable households towards developing their resilience. NRP provides technical support so that more effective disaster response and targeting could be achieved through on-ground program implementation. Therefore the NRP is more process led program aiming at developing increase in resilience to disaster and reduction in disaster risk, loss of lives, livelihoods and health of men, women, girls and boys, and protection of persons, businesses and communities in Bangladesh.

The inputs received from the baseline study and based on the motivations received from the progress so far been made in other sectoral areas in Bangladesh, the MoDMR aspires to make an appraisal of past DRM activities leading to formulate future 'Disaster Resilience' programs, in succession, that is conceptually strong, operationally pragmatic and shared and aligned with common and overarching national targets.

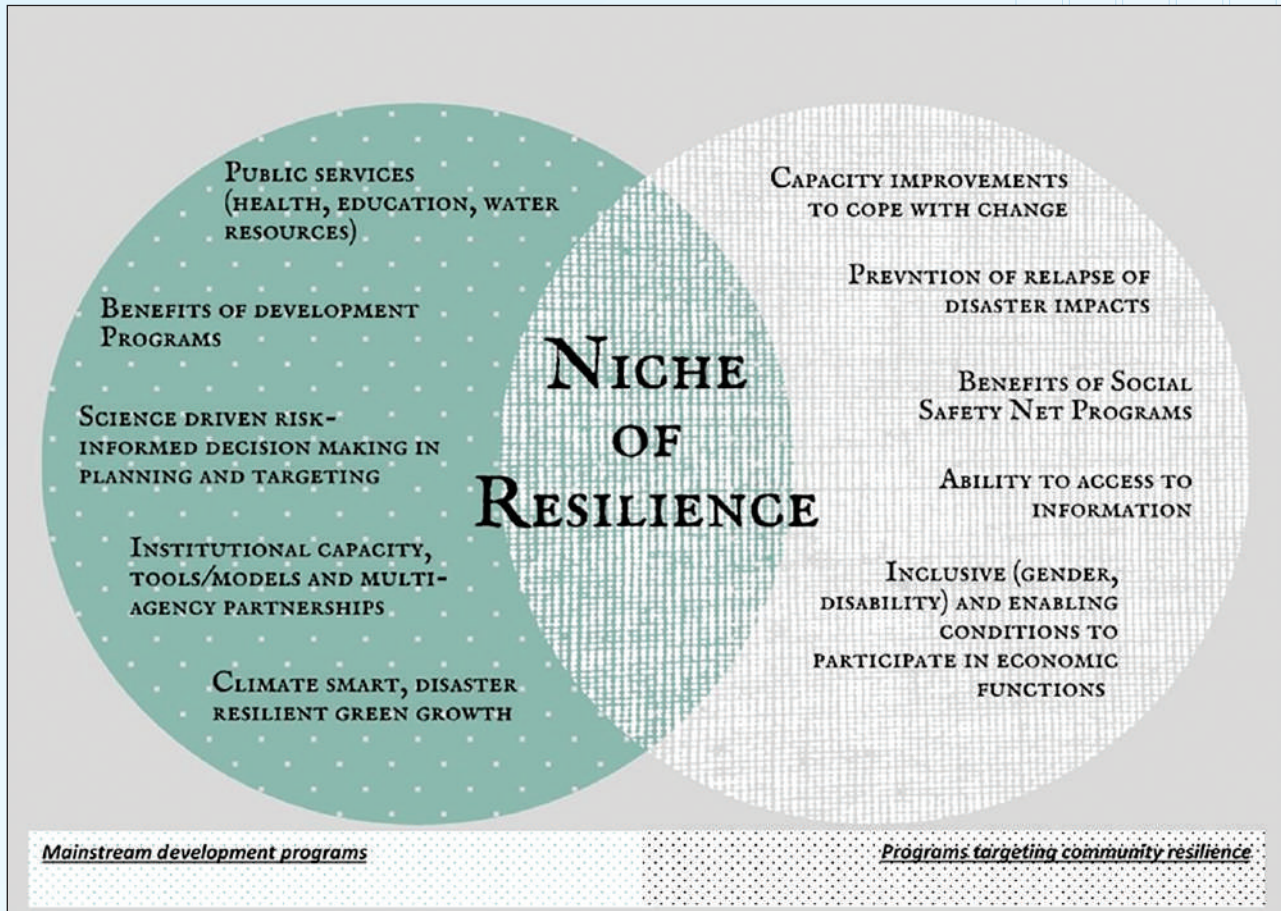


Figure 5.3: Resilience is combined product of regular development programs and DRR, CCA actions including social safety net interventions

5.3 Rationale for 'Resilience' Pathway to DMR: Economic costs of disaster impacts and recovery gaps in Bangladesh

The Asian Development Bank (2015) estimated the economic loss of disaster impacts from 2000 to 2013 in Bangladesh is 10.7 Billion USD, where flood caused 7.1 Billion USD (66%) loss, tropical cyclone 3.2 Billion USD (30%), earthquake 14 million USD (0.13%) and severe storm 374 million USD (3.5%). ADB (2015) also mentioned that only USD 2 Billion funding was available during 2000-2013 for relief, rehabilitation and reconstruction against 10.7 Billion USD loss and damage. It was also forecasted that Bangladesh will incur of about 3.2 Billion USD (2.2% of GDP) on average per year due to cyclone or flood impacts. On the other hand, a total of 8351 people died from four mega disasters during this period (2000 to 2013), where 2065 people died from floods (25%) and 6281 people from tropical cyclones and severe storms (75%) together. The estimates suggest that floods appears to be the major disaster of Bangladesh considering the economic loss while cyclone is the major disaster while considering deaths of people. CPEIR (2015) study revealed that government spending to address the disaster and climate change induced damages stand at 6% to 7% of national GDP - combining development and non-development budget together that equates to an annual sum of USD 1 Billion. It is also important to note that 77% of total spending comes from domestic sources and the remaining 23% from foreign donor resources (CPEIR 2015).

5.4 What is 'resilience': the conceptual underpinnings?

The concept of resilience has its roots in a number of disciplines, including engineering, psychology and ecology. The original meaning was largely constructed in the field of ecology, and was understood as a measure of the ability of ecological systems to persist in the face of disturbance and maintain relationships between different elements of the system; this idea has been recently adapted many other disciplines, creating ambiguity and uncertainty. According to United Nations International Strategy Disaster Reduction (UNISDR) Terminology on disaster risk reduction (2009): "Resilience means the ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions". This definition emphasizes the two periods "before the disaster" and "during times of the disaster" in a way that introduces resilience as the ability to "resile from" or "spring back from" a shock (The United Nations, 2009).

Resilience calls for an integrated approach and that encapsulates, goes beyond the DRR (Disaster risk reduction) and CCA (Climate Change Adaptation) concepts. It also takes into consideration of regular development actions including the social safety net programs run for targeted vulnerable communities. 'Resilience' thinking advocates for 'transformation, where necessary' in order to make the systems flexible enough to absorb shocks and stresses. However, the most challenging parts of 'resilience' concept is to define strategy to operationalize it on ground since it cuts across development and humanitarian works and also overlaps with a wide range of existing conceptual frameworks such as SDG. The wide variations in the power structure of the society (poor and rich; young and old), the contextual settings (e.g. urban, rural), gender relations (women and men; boys and girls) also make the 'resilience' concept difficult to operationalize. ActionAid's definition of 'resilience' is cross-cutting and works across rural and urban contexts. They recommended three elements into it - these are (i) absorptive capacity, (ii) adaptive capacity and (iii) transformative capacity of communities irrespective of their living conditions whether it is in the rural or urban contexts. However, ActionAid's 'resilience' definition read "the ability of people to recognise, challenge and transform the unjust and unequal power relations that dictate their vulnerability, to adapt positively to changing circumstances, and to mitigate, prepare for and rapidly recover from shocks and stresses such that their wellbeing and enjoyment of human rights is safeguarded" (ActionAid 2016).

The concept of resilience that focuses on urban contexts is championed by The Rockefeller Foundation (City Resilience Framework, 2015). There are many approaches to framing urban resilience that classified into two group: asset-based or system-based approaches. The asset-based approaches focus on urban physical assets and the system-based approaches consider city as a system of systems and try to make subsystems resilient to create resilience for the whole of city. Although each of these approaches may lead to resistance in part of the city, their disregard for parts of the complexity of the city shows the lack of a comprehensive framework. Indeed, what was missing is a comprehensive, holistic framework that combines the physical aspects of cities with the less tangible aspects associated with human behavior; that is relevant in the context of economic, physical and social disruption; and that applies at the city scale rather than to individual systems within a city.

A performance-based approach, which defines resilience in terms of a city's ability to fulfil and sustain its core functions, offers a more comprehensive and holistic approach. As a city's functions rely on a combination of assets, systems, practices and actions undertaken by multiple actors, a performance-based approach has greater potential to address questions of interdependency, power dynamics and scale. The functions propose that a resilient city: delivers basic needs; safeguards human life; protects, maintains and enhances assets; facilitates human relationships and identity;

promotes knowledge; defends the rule of law, justice and equity; supports livelihoods; stimulates economic prosperity. The city's ability to perform these functions determines whether the city is resilient or not. Resilience could be perceived as good health, a safe environment, social harmony and prosperity. Conversely, a city that is not resilient would be identified by ill-health or insecurity, an unsafe environment, conflict and deprivation (City Resilience Framework, 2015). In this concept, City Resilience Index is outlined in the form of 12 goals and 52 indicators. The 12 goals fall into four categories (See Figure 5.3): the health and wellbeing of individuals (people); urban systems and services (place); economy and society (organization); and, finally, leadership and strategy (knowledge). The 12 goals provide a holistic articulation of resilience which equates to the elements of a city's immune system. A weakness in one area may compromise the city's resilience overall, unless it is compensated for by strength elsewhere.

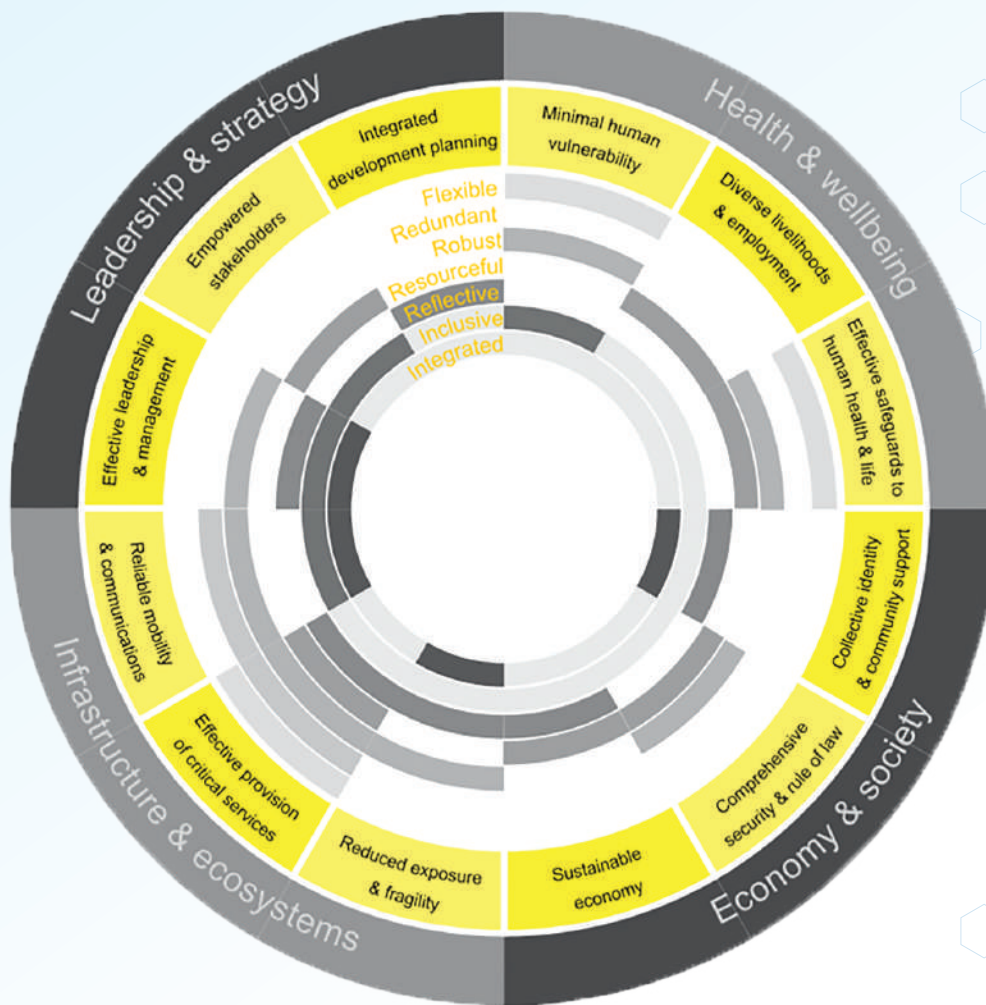


Figure 5.4: The Goals of City Resilience Framework (Source: City Resilience Framework, 2015)

The UNISDR guidelines are reviewed to get acquainted with the measures needed to achieve urban resilience. In 2010, the Making Cities Resilient: "My city is getting ready!" Campaign was launched "to support sustainable urban development by promoting resilience activities and increasing local level understandings of risk". The Campaign was guided by three central themes: to Know More, Invest Wisely, and Build Safer. These are set out in the "Ten Essentials for Making Cities Resilient," that were developed in line with the Five Priorities of the Hyogo Framework for Action (HFA) 2005-2015. These are reflected in Table 5.2.

Table 5.2: Ten essentials for city resilience (Source: UNISDR, 2017)

The Essentials	Main strategies
1- Organize for disaster resilience	<ol style="list-style-type: none"> 1. Establish Disaster Risk Reduction as a key consideration throughout the City Vision and/or Strategic Plan for the purpose of safeguarding development goals 2. Make sure that the city has the necessary authority and resources to satisfy local DRR requirements 3. Define responsibilities of agencies for various aspects of disaster resilience within the city. This may include one or more agencies depending on the type of hazard or incident 4. Develop a mechanism that prioritizes resources towards effectively lowering those risks that local assessments have identified as significant
2- Identify, understand, and use current and future risk scenarios	<ol style="list-style-type: none"> 1. Develop a mechanism that prioritizes resources towards effectively lowering those risks that local assessments have identified as significant 2. Integrate exposure and vulnerability information into the city's long-term planning 3. Learn from the experiences of cities with similar risk profiles
3- Strengthen financial capacity for resilience	<ol style="list-style-type: none"> 1. Prepare an adequate financial plan, procedures, and available resources to allow resilience building activities to be realized, including long-term climate adaptation 2. Ensure that there are means in place for adequate financial support to protect product vulnerable segments of the city's population 3. Establish a specific budget, the necessary resources, and contingency fund arrangements for local disaster risk reduction (mitigation, prevention, response and recovery)
4- Pursue resilient urban development and design	<ol style="list-style-type: none"> 1. Regularly update urban plans with most recently obtained risk information (shocks) 2. Include into urban plans any cross-cutting issues related to urban resilience (stresses) 3. Ensure that there are mechanisms and processes to implement risk sensitive urban planning 4. Regulate the development, updating, and the enforcement of building codes and standards as applied to relevant hazards and climate change impacts
5- Safeguard natural buffers to enhance the protective functions offered by natural ecosystems	<ol style="list-style-type: none"> 1. Develop solutions to address current and future environmental risks such as maintenance of green and blue infrastructure through nature-based solutions or protection of the ecosystems 2. Protect and restore ecosystems to the extent that they offer sufficient adaptation and mitigation benefits to current and future risks
6-Strengthen Institutional Capacity for Resilience	<ol style="list-style-type: none"> 1. Legitimize disaster resilience roles and responsibilities in DRR legislation 2. Ensure that processes are in place to strengthen and share the knowledge and skills of the stakeholders involved in disaster resilience 3. Maintain processes to facilitate top-down and bottom-up communication that strengthens the knowledge and awareness of the general public 4. Utilize the capacity of the private sector and civil society for DRR
7- Understand and Strengthen Societal Capacity for Resilience	<ol style="list-style-type: none"> 1. Provide social support to the most vulnerable 2. Understand and strengthen social cohesion in the city 3. Understand and strengthen social capacity in the city
8- Increase Infrastructure Resilience	<ol style="list-style-type: none"> 1. Prepare and implement a critical infrastructure plan or strategy to protect critical infrastructure, utilities and services 2. Ensure that protective/risk mitigating infrastructure (e.g. flood defenses, seismic designs) is in place where needed and are properly maintained
9- Ensure Effective Preparedness and Disaster Response	<ol style="list-style-type: none"> 1. Maintain a disaster management plan that outlines city mitigation, preparedness and response to local emergencies 2. Make arrangements to continue critical functions in emergency situations 3. Connect the city to relevant Early Warning Systems (EWS)
10- Expedite Recovery and Build Back Better	<ol style="list-style-type: none"> 1. Establish strategies for post-disaster recovery and reconstruction, including economics and societal aspects necessary for restoration 2. Implement the concept of "Build Back Better."

5.5 Conceptual framework of resiliency in the Lens of NRP: The theory of change and institutions

5.5.1 Policy-institutional landscape of Bangladesh in Framing Disaster Resilience

Disaster-Development linkage is gradually taking strong footholds in disaster management discourse, policy making and program design and implementation in Bangladesh. Paradigm shift from relief and response to comprehensive disaster management (DM) to sustainable human development vis-à-vis disaster resilience during last two decades contributed in making the storyline of globally appreciated DM approach of Bangladesh. The conceptual framing depicted in policy narratives (in DM Act 2012, NPDM 2016-2020, SOD 2019 etc.) and its translations into innovative program design and field implementation provide necessary motivation to make effectual disaster management approach which is more aligned with inclusive and sustainable development. The policy-institutional landscape of Bangladesh, briefly



Figure 5.5: Key stakeholders of National Resilience Framework

discussed below, is given as background rationale why disaster 'recovery' focused disaster management could be more necessary considering the current size of economy and the pace of economic development.

5.5.2 Disaster 'recovery and rehabilitation' reflected in disaster management policy frameworks in Bangladesh

The SOD (2019) provided explanation on disaster recovery actions - it stated that the disaster recovery process starts immediate after the occurrence of disasters and the actions should aim to bring the conditions of disaster affected people back to normal. In addition, SOD recommended actions for reconstruction of infrastructure, resume public services, rebuild economic systems with

necessary alliance with long term need of the community and over-arching development plan. SOD also indicated that disaster recovery (popularly echoed as build-back-better) activities also include rebuilding-rehabilitation and relief-response activities that are being implemented for disaster affected people and recommended to carry out such activities through NDMC, if and when necessary.

DM Act (2012) called for actions towards (disaster induced) humanitarian response, post disaster recovery and rehabilitation and to facilitate coordinated actions by involving government and non-government agencies. Three kinds of disasters are taken in the purview, i.e. natural, man-made and climate change of disaster management activities under the DM Act (2012). Article 11 (Section 3 and 4) mentioned about pandemic related disasters while Article 15 mentioned about rehabilitation through recovery of systems

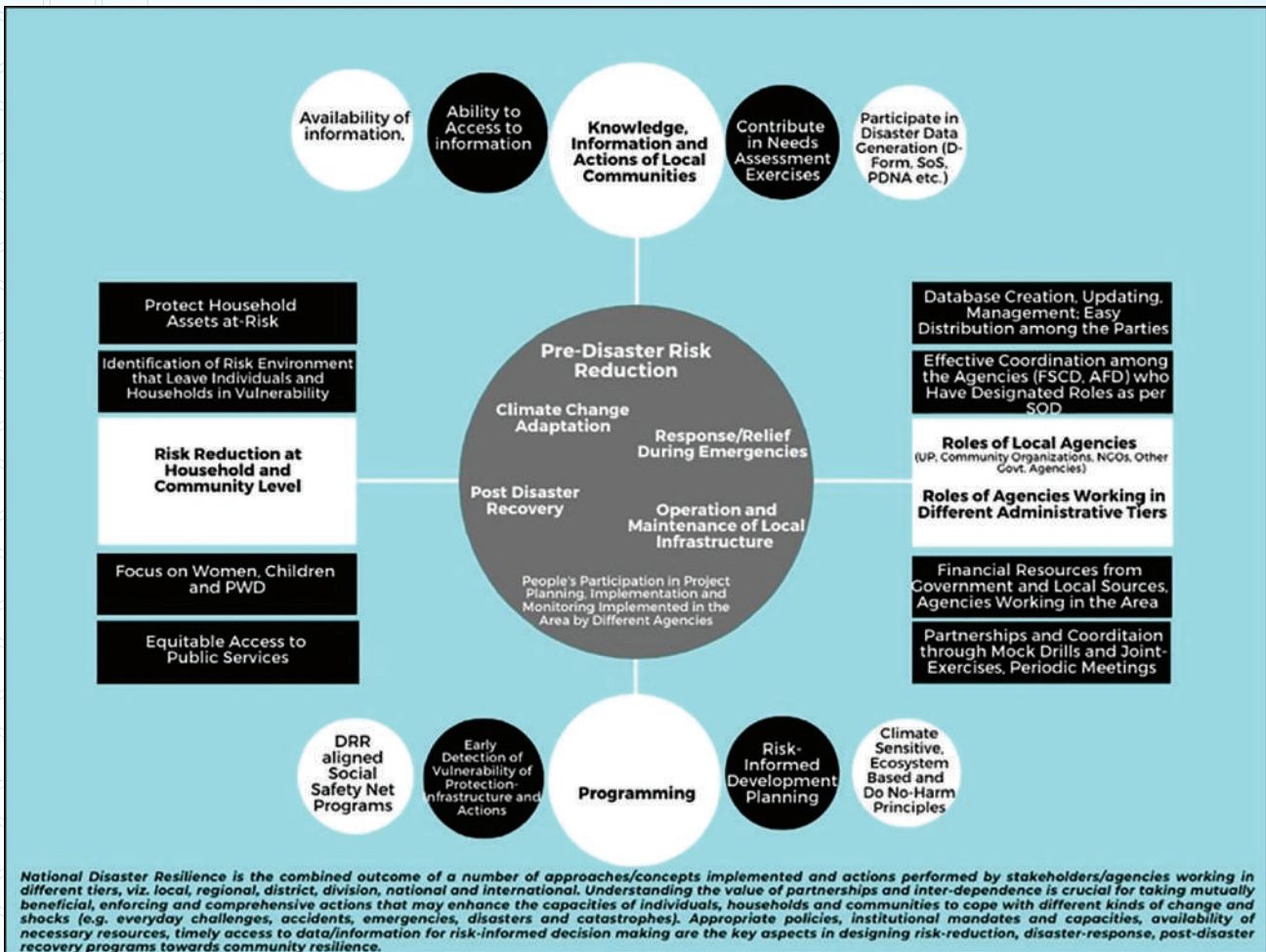


Figure 5.6: Key components, comprehensive National Resilience Framework

and infrastructure at least to ensure earlier state or better state. The Act indicated the areas/sectors of rehabilitation that include infrastructure, life and livelihoods of people, relocate the affected people or livestock resources to safe places and WASH. The DM Act (2012) mentioned that inter-agency coordination will be ensured through NDMC (National Disaster Management Council) headed by the PM with 41 members in the Council. It is stated that the NDMC will also supervise and give directives on disaster recovery process (see NDMC, Article 6, Section 5 and 6). Long term recovery and rehabilitation from disaster impacts is mandated in the activities of DDM (see Article 9, Section 2), as indicated in the Act.

NPDM (2016-2020) tag line as asserted 'Building resilience for sustainable human development', followed by three overarching goals such as (i) saving lives, (ii) protecting investments and (iii) effective recovery explicitly affirms the commitment of the Government towards community resilience to disasters. During current NPDM (2016-2020), MoDMR have contributed in mainstreaming disaster risk reduction culture into regular development planning process through multi-agency partnerships (by taking 'whole-of-government' approach) and program implementation. The development of DIA, DRIP, digital D-form by Planning Commission, gender and disability inclusive infrastructure development by LGED, enhanced women leadership for gender responsive disaster management decisions, investments and policy making by Department of Women Affairs, working with private sectors (e.g. business continuity plan for garments sector) could be cited as good examples in this connection. These achievements made necessary foundations to integrate DM measures with development initiatives since themes like poverty, sustainable development, disasters and climate change interlinked and overlapped in many respects.

5.5.3 Rationale for 'recovery' focused Disaster Risk Management in Bangladesh

SFDRR (2015-2030) Priority Actions 4 indicates about long term recovery towards build back better. UNDRR termed 'build-back-better' as actions to be performed in post disaster situations towards recovery, rebuilding and rehabilitation of affected infrastructure, service sectors and economic systems. UNDRR also mentioned that the actions related to 'build-back better' finally contribute in developing national resilience by doing necessary reconstruction of economic systems for sustained livelihoods of people and at the same time rehabilitate environmental systems for ensuring productive ecosystems services.

In addition a number of guidelines for different level (national, district, local) have been produced for effective disaster risk management in Bangladesh. These are (1) Guideline for conducting CRA, (2) Estimating loss and damage, (3) DIA, (4) National DM Fund and District DM Fund, (5) Emergency planning, (6) Minimum humanitarian standards, (7) Disaster information and communication guidelines, (8) Disaster shelter building and maintenance, (9) Monitoring and evaluation of implemented DM projects, (10) guidelines for receiving international support during emergencies, (11) Multi-agency disaster incident management guidelines, (12) Post disaster dead body management, (13) Disaster trash and debris management, (14) Institutionalizing disaster volunteerism, (15) SoP for earthquake disaster management, (16) National nuclear and radiological emergency response plan, (17) Development of expert panel on disaster management, (18) Hospital management during disasters. But no guidelines are available on 'disaster recovery actions and processes'

The predecessor of current NPDM, i.e. the NPDM (2010-2015) advocated for shifts in approach from relief and response to comprehensive risk reduction. The second phase of NPDM (2016-2020) was more aligned with international instruments such as HFA. It is, therefore, logical to argue that third phase of NPDM (2021-2026) should make further advancements by putting 'integrated recovery' at the center so that disaster risk management is more attuned with national development planning, i.e. 'sustainable human development'. The 'integrated recovery' approach will be comprised of pre and post disaster recovery and rehabilitation activities and also relief and response actions will be important elements of the framework. This can be achieved within the scope of current policy-institutional landscape of Bangladesh and taking this approach may promote further the risk-informed planning and implementation of investment initiatives.

Defining physical and socio-economic vulnerability and risk environment	Defining recovery (including different phases and components of recovery) and distinction from/ or link to other related terms	Defining/ contextualizing disaster damage and loss (including direct/ indirect, tangible/ intangible)	Damage and assessment tools and methods	Build back better (BBB) approach	Barriers to recovery efforts	Defining the principles of recovery
<ul style="list-style-type: none"> Hazard/ multi-hazard, physical/asset vulnerability socio-economic vulnerability, risks Essential differences between the processes associated with hazards/ disasters in terms of impacts on damage, loss and livelihoods. Frameworks for analysis for pre-disaster and post-disaster assessment and mapping Importance of dynamic risk analysis 	<ul style="list-style-type: none"> What 'recovery' means Recovery to be viewed as an integrated process. Inseparable from preparedness, response, mitigation and integrated with development. Need for recognizing recovery as a disaster management continuum which overlaps with development. 	<ul style="list-style-type: none"> Classification of important sectoral (e.g. infrastructural, social, productive, environment/ ecosystem) risk elements Importance of considering both public and private sector loss and damage. How damage and loss vary between sudden shock/event (e.g. floods, cyclones) and chronic disaster (e.g. drought, salinity) How damage and loss vary between sudden shocks, e.g. flood and cyclone 	<ul style="list-style-type: none"> Different DaLA methods used for different purpose Contextualizing in different phases and different scales of disaster 	<ul style="list-style-type: none"> Sectors and types of BBB approaches (e.g. infrastructure restoration, livelihood recovery, cross-cutting - rebuilding/restoring physical and environmental functions; gender-inclusive, governance) Opportunities and challenges Global experiences Country experiences 	<ul style="list-style-type: none"> Recovery need assessment not involving a formal and comprehensive process. Recovery interventions not guided by an overarching recovery strategy and a clear set of priorities. Recovery strategies not taking into account vulnerabilities and cultural considerations. Recovery not supported by adequate financial resources (few resources provided for longer-term recovery needs) Recovery favoring rebuilding infrastructure over socio-economic and household recovery needs Recovery efforts often failing to encourage local participation and ownership 	<ul style="list-style-type: none"> Reduce recovery time Build back better to reduce future risk Eco-centric Resilient recovery of citizens is a basic human right; human security to be recognized as an essential foundation for effective recovery People-centric (identify needs and priorities of affected populations by creating participatory processes that involve communities themselves in decision-making, service delivery and recovery) Traditional/ indigenous method Gender inclusive, pro-poor/ livelihood focused Efficient use of resources (avoid overlaps) Across sectors, better coordinated recovery efforts) Recovery is part of a disaster management continuum which overlaps with development

Figure 5.7: The terms and principles for which clear definition/illustration is needed for effective planning and implementation of disaster recovery actions

5.6 Decentralized Disaster Risk Management

5.6.1 DRM in Bangladesh: The Background Contexts

The sections above suggest that Bangladesh has passed a long journey in managing disaster risks. During this journey, the country achieved good progress in some areas such as policy formulation, effective response during disasters, developing early warning models and risk assessment tools, institutional framework based on specific disaster risk management mandates etc. In contrast, gaps still remained in some areas such as (i) decentralized disaster risk management and (ii) post-disaster recovery planning, resource allocation and program implementation. It is important to note that the size of the economy has increased many folds in recent times (see World Economic Outlook, IMF 2020) and also the frequency and magnitude of recurrent and mega-disasters have increased significantly; all these happened under the contexts of climate change and recent phenomenon of COVID-19 pandemic. Therefore the impacts of disasters becomes large and devastating. It is also noteworthy that disaster risk management in Bangladesh still following top-down approach where strong partnership of the local stakeholders with national level agencies (Fire Service and Civil Defense, Armed Forces Division etc.) dis not established adequately. It is also not clear how financial resources could be raised at local levels so that pre-disaster proofing and maintenance could be carried out and big impacts and damages could be averted. Even the local communities and community based organizations including local government agencies like Wards and Union Parisads are not adequately equipped with resources for negotiations with

external agencies and not skilled enough to develop partnerships with national level agencies so that local voices are properly heard and risk reduction programs take place as per the necessity at different stages of disaster risk management (pre-during-post). Decentralized DRM based strong post-disaster recovery activities may make local communities including the local agencies strong and resilient to cope with change and shocks. But the not local communities, neither the local agencies are prepared to take part the decentralized DRM activities for a number of reasons. The major concerns in this regard include,

- **Lack of awareness and knowledge management:** People and local agencies know about the challenges but they have limited understanding about the necessity, functions and processes of decentralized DRM and vis-à-vis their roles to play to carry forward the decentralized DRM.
- **Generation mobilization of financial resources and Mobilization for Risk Reduction Actions:** In the current conditions the local government agencies such as Wards and Union Parisads receive (non-development) financial resources from the provisions made available through MBF (Ministry Budget Frameworks) of the Ministry of Finance. In addition development-budgets go to the local areas if any projects supported by ADP (Annual Development Plan) for the area. Financial resources could be made available by making the agencies agree through negotiation processes to allocate a certain percentage of project funding for local level disaster risk reduction/management activities.

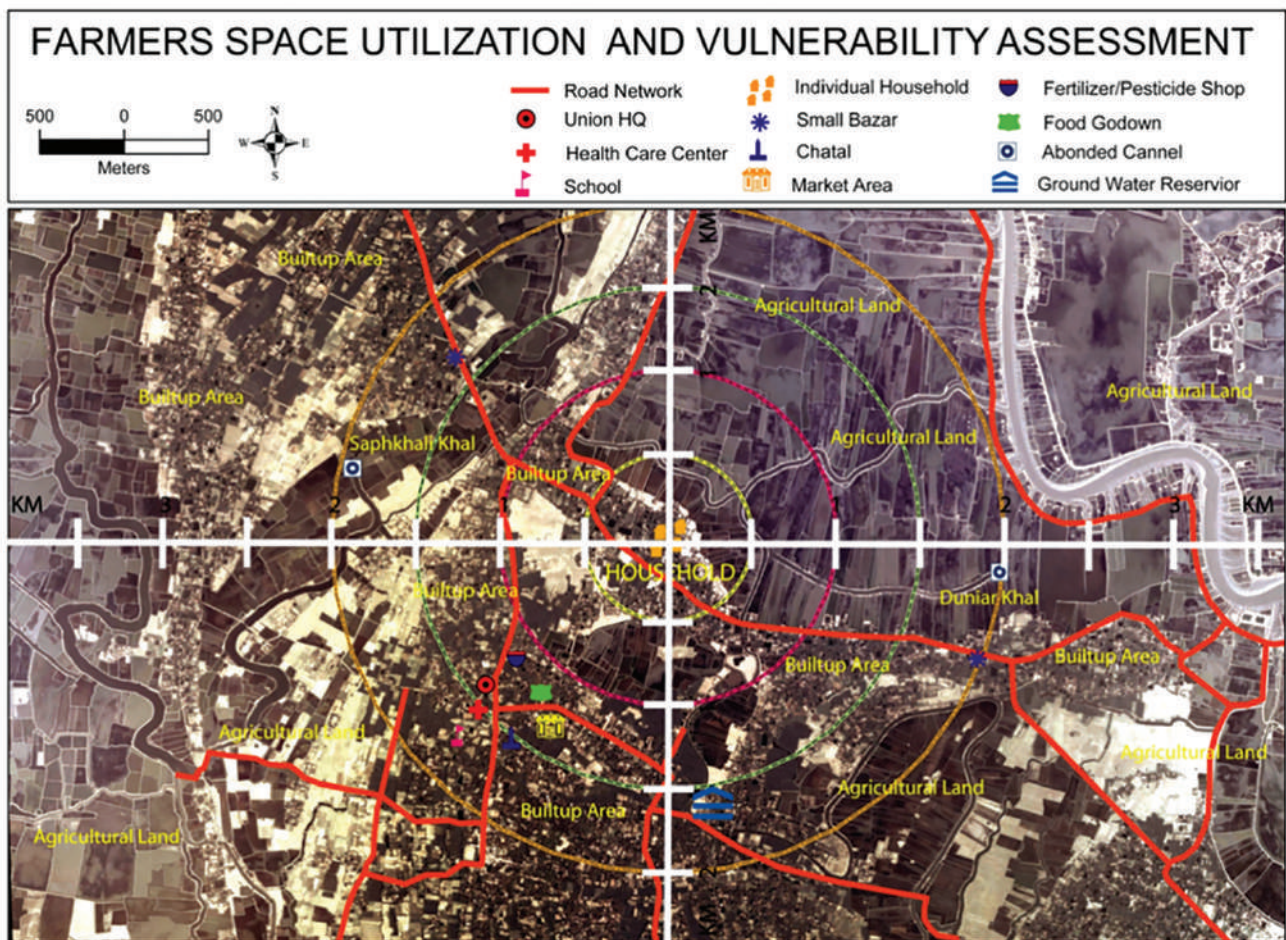


Figure 5.8: Inter-connected social and physical elements, all these in collective fashion help to develop community resilience

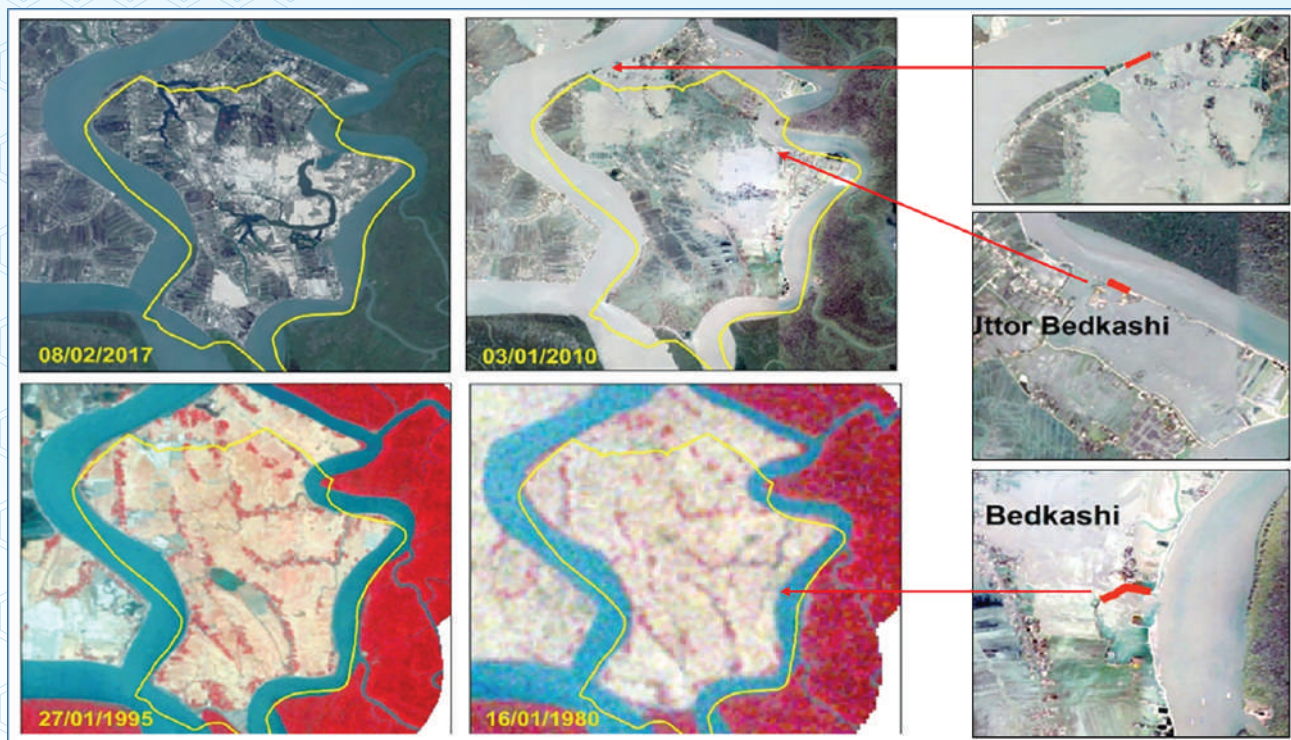


Figure 5.9: South Bedkashi (KoyraUpazila, Khulna District) in 1980, 1995, 2010 and 2017 shown in Landsat TM image. Repair and maintenance of 800-meter pre-existing crack along the 25 kilometers protection embankments might have saved the island from cyclone induced disasters cause by two repeated disasters (Sird in 2007 and Aila in 2009)

- Participation in disaster loss and damage data generation:** Government has a made provisions to collect disaster loss and damage data through D-form and SoS form. Local communities could play useful roles in by involving themselves in gathering household level vulnerability data on demographic, dwelling and other socio-economic indicators. Participation of local communities in this regard will enhance the quality of data and simultaneously the process will receive necessary approvals. The process will also inform the local communities how generation of vulnerability information could led to design and implement risk reduction action programs in the local areas.

It is indicated earlier that a certain degree of progress have already been made in Bangladesh. Proper understanding of these advancements may help to know how those resources could be used as foundations upon which the decentralized DRM could be designed. Hence, the following sections highlights the developments in this regard.

5.6.2 Risk assessments tools used at local levels

Ministry of Disaster Management and Relief (MoDMR) developed Community Risk Assessment (CRA) tool to identify and better understand the local level disaster risks. CRA is a participatory process for assessing hazards, vulnerabilities, risks, ability to cope, preparing coping strategies and finally preparing a risk reduction action plan (called Risk Reduction Action Plan, RRAP) by the local community. The CRA method recognizes that the vulnerability, disaster loss, reduction or mitigation strategy and coping mechanism vary from community to community and group to group (women, person with disability, landless, farmers?fisher folks, etc.) of a same community. So it ensures representation of professional, community and other groups so that their views are reflected. CRA tool plays an important role in assisting communities and disaster management committees to identify "all hazards" risk, together with the most appropriate range of risk reduction options that can be introduced to either eliminate or reduce risk to more manageable means.

5.6.3 Data generation and reporting on loss and damage assessments in Bangladesh

Government of Bangladesh has developed an institutional process to estimate local level disaster loss and damage for different sectors. In this bottom up process, field level administrative representatives use prescribed form (called D Form) to collect information related to financial loss, number of affected units, challenges faced by different communities etc. In addition, other agencies like Bangladesh Bureau of Statistics (BBS) has taken initiatives to gather climate change induced disaster impacts data by undertaking a project titled 'Generation of Disaster Related Statistics 2020: Climate Change and Natural Disaster Perspectives'; data will be generated from different disaster hot-spots every year by using mobile phone enabled smart data collection tool. BBS is also going to prepare four disaster and climate change focused reports under the framework of Bangladesh Environmental Statistics Framework (BESF 2016-2030). The major reports are **Report No. 3:** Climate Change and Disaster Related Statistics (what is currently underway), **Report No. 10:** Disaster Risk Reduction Expenditure Accounts, **Report No. 11:** Climate Change and Natural Disaster Impacts Vulnerability Index and **Report No. 13:** Climate and Natural Disaster Induces

Survey. In 2015, BBS conducted 'Impact of Climate Change on Human Life (ICCHL) Survey' and produced useful data on disaster impacts for the first time in Bangladesh. This data generation needs active involvement of local stakeholders in a variety of ways.

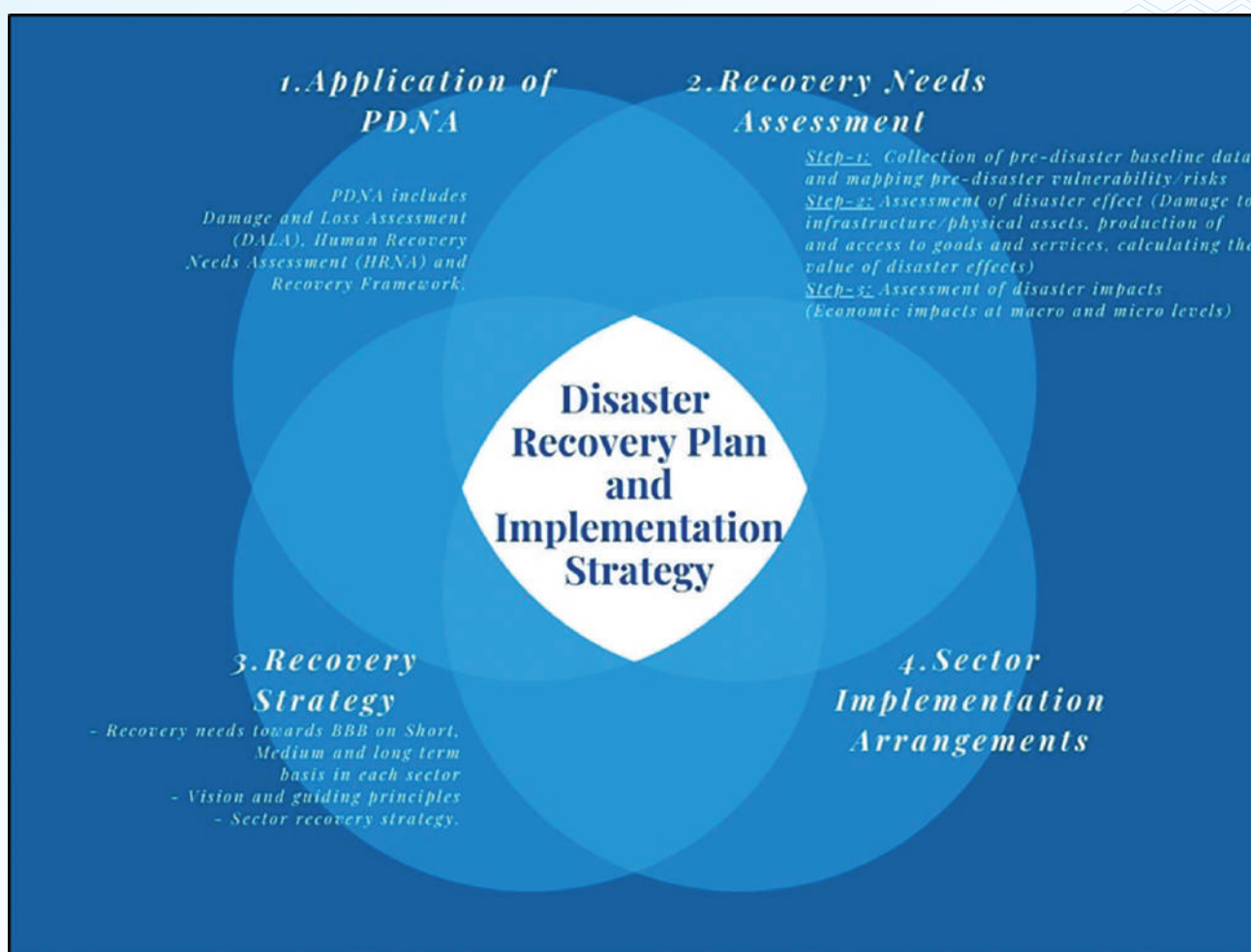


Figure 5.10: Proposed disaster recovery plan and implementation strategy for Bangladesh

In addition, Planning Commission conducted background studies (Report No. 11a and 11b) on disaster and climate change impacts to better understand the risks and vulnerabilities of the communities, which finally give directives to formulate related targets for Seventh Five Year Plan (SFYP). The Eighth Five Year Plan (that is currently underway) has incorporated a number of DRR indicators in the scope of actions. The CPEIR (Climate Public Expenditure and Institutions Review) study undertaken by Planning Commission, CFF (Climate Fiscal Framework) published by Ministry of Finance are significant documents that provided valuable insights in understanding local level disaster risks and vulnerabilities and may provide useful insights to promote decentralized DRM in Bangladesh. In parallel many other activities in allied fields were performed by different agencies, such as forest (e.g. REDD+, coastal afforestation project), water resources (e.g. Blue Gold Project by BWDB and DAE, The Bangladesh Delta Plan 2100), and education (e.g. production of report Climate Change Education for Sustainable Development, by the Ministry of Education through BANBEIS). These study reports supply useful information and conceptual construct to better understand disaster vulnerabilities and action plans to address disaster impacts and to reduce local disaster risks.

5.6.4 Dissemination of risk information and early warning at community levels

The Government of Bangladesh has strong Early Warning (EW) systems for cyclone and flooding. The Bangladesh Meteorological Department (BMD) and FFWC produce and disseminate disaster warning information through the media and institutions at the local level. The GSB (Geological Survey of Bangladesh) has established landslide EW systems in parts of Chittagong, Cox's Bazar, and Teknaf cities. MoDMR has also established local EW systems through 30 community radio stations.

5.7 Conclusion

Analysis of gaps is a prerequisite for promoting decentralization of DRM in Bangladesh. The areas of gaps may include capacity of local actors, needs assessment of the different communities in different hazard contexts, resource provisions, strategies for decentralized DRM execution (e.g. ICT based applications) and finally monitoring and accountability framework. The capacity of actors to play active roles in different phases of disaster management (e.g. risk assessments, early warning and evacuation, emergency response, disaster recovery) is pivotal to authorize them for responsible actions. Actor's capacity in using disaster risk assessment tools (also loss and damage tools) such as CRA/RRAP, MSNA/PDNA, D-Form etc. may help to receive proper understanding about local needs at different phases of DM cycle. The budget allocation and programme implementation strategy depend on this risk assessment results and local understanding.

CHAPTER-6

Conclusion

6.1 Introduction

NRP was started in 2018 and the baseline survey was supposed to be conducted in the same year, i.e. 2018. But it did not happen at that time due to a number of reasons. This two year delay might cause people to forget 2018 situations and thus might impact on the quality data collection process. However, recall method was used to gather data and necessary care was given to make sure that proper, pre-project situations are reflected in the survey. In addition, COVID-19 pandemic conditions along with the impacts prolonged flood (2020) and survey areas devastated by cyclone Amphan (2020) created additional challenge in the data collection process. The baseline survey was conducted in 1082 households from nine districts, i.e. Kurigram, Jamalpur, Tangail, Rangamati, Rangpur, Sunamgonj, Satkhira, Khulna and Cox's bazar. Among total respondents 66.6 percent (710 in numbers) were male and the rest 34.8 percent (372) were female. It is important to note that the results of the survey are presented in three contexts, viz. rural-urban, multi-hazard (floods-earthquake-cyclone) and gender dimensions.

- About one fourth (25 percent) of the respondents complained about health complications. The husband or wife in the households found to be suffering from Blood Pressure (14.5 percent) related complications followed by Diabetes (8.8%) disease. Mother of the family heads living in the households suffer from Blood Pressure (10.2 percent), Diabetes (9.7 percent) and Asthma or breathing difficulties (6.1 percent). This disease prevalence (or co-morbidity) in the households make the families at risk to a number of other vulnerabilities like COVID-19. This cause families incur additional health expenditures and keep families busy in managing the situations such as care giving and ensuring medication by visiting doctors or health centers.

6.2 Results of baseline survey (2018) and recommendations

NRP aims at improving policy-institutional processes of Bangladesh that may contribute more effective disaster management leading to resilience building of different actors, institutions and stakeholders at different levels. The project is unique in terms of multi-agency partnership development that is mutually beneficial for sectors agencies working on ground with common aim to reduce disaster risks, perform activities during disasters and post disaster recovery processes. The improvement of policies, designing and deploying a number of tools (e.g. AMS in LGED, DIA in Planning Commission, ICT Platform for humanitarian assistance for MoDMR) are the testimonies in this connection. Chapter five illustrates how 'resilience' should be conceptualized and operationalized. These chapter also advocated for strong disaster recovery actions as part of disaster risk reduction and improved risk governance. However, the major recommendations of the baseline survey could be as follows.

- (i) Resilience as a concept should be elaborated based on the aspects included in Chapter five of this baseline report. Stakeholder consultation is required in this regard to develop a common consensus on related issues. In addition a national disaster recovery framework should be developed which is currently missing in Bangladesh. Necessary funding modalities should be developed in this regard. A study is recommended in this connection.
- (ii) NRP should accommodate health (Ministry of Health) and water (Ministry of Water) sector agencies in the area of interest since strengths and resilience of these two sectors hugely influence the resilience of communities and institutions at local, regional and national levels.
- (iii) The baseline survey found that the disaster recovery capacities of municipalities are inadequate. Actions should be taken for enhancing their knowledge base, technical and logistical capacities so that they can perform effective disaster responsive actions in case of emergencies. A study is recommended to know the current gaps in this regard and to develop strategies to fill in the gaps.
- (iv) Developing of FPP (Flood Preparedness Program) is currently underway. But necessary data is currently non-existent at different scales. The FPP volunteers, union parisads, union digital centers and NDRTI/DDM in a coordinated fashion could work here. Spatial data, especially the land elevation data is an important requisite to model the disaster vulnerabilities that are spawned from hydrological, fluvial and meteorological events and processes. Introduction of state-of-the-art technologies such as drones, radar data, LiDAR, optical remote sensing along with GIS and GPS technologies could play vital roles here. Proper implementation of NSDI (National Spatial Data Infrastructure) would facilitate effective sharing of disaster related data among the agencies - what is utmost important. A study is recommended to know the current gaps in this regard and to develop strategies to fill in the gaps.
- (v) Simplified ICT based apps could be developed to facilitate quick and current data collection on infrastructural facilities as to enhance the AMS (Asset Management System) of LGED.
- (vi) Training on SOD should be arranged for government officials and also local government representatives since baseline survey indicates that professionals are not adequately aware of SOD.
- (vii) People are not well aware of 1090 hotline number and as a result they remain deprived of receiving guidance in case of emergencies. Adequate awareness campaign should be done in this connection.
- (viii) Efforts should be given to design and implement non-traditional livelihoods for local areas so that people can remain engaged in income generating activities amid disaster emergencies.
- (ix) People in the hilly terrains, especially in Rangamati and Cox's Bazar recommended for disaster shelters so that people can take shelter in cyclonic and also landslide disasters.
- (x) Disaster resilience programs should be properly aligned with poverty reduction programs due to the fact that poverty conditions of the households increase various forms of vulnerability that finally turn the households into disastrous conditions when they experience hazards.

Therefore it is strongly recommended that the Social Safety Net Programs (SSNPs) of Bangladesh should be reviewed for making sure that both poverty reduction and disaster risk reduction objectives are simultaneously achieved through these programs. These can be done when targeting the poor and disaster vulnerable people is more effective (than current approach) and overall resilience of the communities is achieved through smart disaster risk management mechanisms. The existing principles of prioritizing and implementing SSNPs for certain areas such as population density, size of the administrative area might not be appropriate for targeting the disaster vulnerable communities. Currently about 200 SSNPs are being implemented in Bangladesh through a number of Ministries. A study is recommended to thoroughly review the SSNPs in order to identify the harmonization gaps so that the existing SSNPs could be improved and play more effective roles in making the community disaster resilient.

6.3 Conclusion

Bangladesh has achieved a commendable success in Disaster Risk Management (DRM). This success is realized primarily based on a number of accomplishments happened at national levels. The major thematic areas of success are (i) effective policy formulation at central/national level (i.e. SOD⁸, NPDM, DM Act), (ii) building and reforming institutions (e.g. creation of MoDMR⁹ from MoFDM, establishment of DMB¹⁰ and then DDM), (iii) provisions of resource for disaster risk reduction (e.g. providing food and monetary support through a series of SSNP¹¹s), (iv) development of Early Warning mechanisms, especially for floods and cyclones, (v) investing on infrastructure development towards disaster risk mitigation (e.g. building of embankments, cyclone and flood shelters). These centralized national level efforts were evolved by addressing disaster risks/impacts at local levels and by implementing programs through partnerships with local government agencies and stakeholders. In this top-down DRM approach, the apex disaster management agency of Bangladesh such as MoDMR is responsible for policy formulation and performing oversight activities while DDM plays roles in implementing action programs at local levels. The major activities performed by these two central agencies include (i) disaster risk assessment by using tools like CRA/RRAP¹², (ii) undertaking disaster risk reduction activities at regional, community and household levels, (iii) perform disaster response activities during the occurrence of disasters, (iv) implement a limited scale of disaster recovery activities in post disaster conditions.

Involvement of local government agencies like Upazila and Union Parishad and disaster management committees set at different tiers (DDMC¹³, UzDMC, UDMC) and related stakeholders is crucial to attain success in the DM (Disaster Management) cycle of activities. In these cases, the local level agencies function within strong grip and control of central agencies. It is also pertinent to indicate that the local needs, priorities and capacities remain overlooked due to the absence of effective decentralized DRM systems in Bangladesh. As a result, achieving high degree of success

⁸Standing Orders on Disasters (2010), National Plan for Disaster Management (2016-2020), Disaster Management Act (2012).

⁹Ministry of Disaster Management and Relief (MoDMR), Ministry of Food and Disaster Management (MoFDM).

¹⁰Disaster Management Bureau (DMB), Department of Disaster Management (DDM).

¹¹Social Safety Net Programme (SSNP) like Food for Work (FFW), Gratuitous Relief (GR) etc.

¹²Community Risk Assessment/Risk Reduction Action Plan.

¹³District Disaster Management Committee (DDMC), Upazila Disaster Management Committee (UzDMC), Union Disaster Management Committee (UDMC).

in disaster risk management at local levels remain unfulfilled which is manifested in the existence of bulk masses of non-resilient communities in Bangladesh who recurrently suffers from disaster impacts despite having significant efforts given by central agencies. The centralized efforts contributed in reducing the number of deaths¹⁴ over the years but the number of disaster affected people who endured with disaster loss and damage has increased significantly. EM-DAT (<https://emdat.be>) suggests that 46.75 million people affected from natural disasters against 7392¹⁵ deaths during 2005-2015. The monetary value of (natural) disaster damage during the same period (2005-2015) was estimated to be 2.94 billion USD (as per EM-DAT 2020). The Bangladesh Bureau of Statistics (BBS, 2015¹⁶) gave accounts that the damage and loss caused by natural disasters between the years 2009 to 2015 was 2.3 billion USD. This suggests that reducing disaster loss and damage remain as a fault line in the whole disaster risk management environment in Bangladesh and absence of effective decentralized DRM system might be the major reason for this. However, the decentralized DRM along with disaster recovery planning mainstreamed through regular development processes may help to develop disaster resilient Bangladesh in near future. The first phase of the NRP has laid the necessary foundations by improving/reforming the policy-institutional architecture and developing a number of tools/models (e.g. DIA, DRIP, FPP, FbF, ICT platform for effective targeting of vulnerable households etc.) by involving four key agencies (Programming Division, LGED, DWA and DDM) of Bangladesh. Piloting these tools in different conditions is necessary for learning lessons and doing further refinements so that the scope of their applications can be effectively outlined. However, based on the findings of baseline survey it is highly recommended that, at least two additional agencies, viz. Bangladesh Water Development Board (BWDB) and Directorate General of Health Services (DGHS), should be included in the second phase of NRP to perform more comprehensive set of actions towards national disaster resilience. The development of institutional resilience will help the agencies to plan for, learn from and operate to address threats through solitary and collective contributions.

¹⁴According to Em-DAT (<https://emdat.be/>) 34506 people died between the year 1975 to 1989; 9701 people died between 1990 to 2004; 7392 people died between 2005 to 2016.

¹⁵Technological disaster deaths during this periods (2005-2015) was 3323.

¹⁶BBS (2015). Impact of Climate Change on Human Lives. Ministry of Planning, Government of the People's Republic of Bangladesh, Dhaka.

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ANNEX-1

NRP Baseline Survey 2018 Cross Tabulation

1. Age group (1.2.1) (cross by gender)

	Male	Female	Total
18-25	48 (6.8%)	43 (11.6%)	91 (8.4%)
26-35	180 (25.4%)	137 (36.8%)	317 (29.3%)
36-45	183 (25.8%)	104 (28.0%)	287 (26.5%)
46-55	154 (21.7%)	62 (16.7%)	216 (20.0%)
56-65	109 (15.4%)	20 (5.4%)	129 (11.9%)
above 65	36 (5.1%)	6 (1.6%)	42 (3.9%)
Total	710 (100.0%)	372 (100.0%)	1082 (100.0%)

2. Women headed households (1.10) (cross urban/rural, disaster hotspot)

	Urban	Rural	Total
Yes	26	39	65
	5.3%	6.6%	6.0%
No	469	548	1017
	94.7%	93.4%	94.0%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Yes	12	24	29	65
	4.4%	5.9%	7.1%	6.0%
No	258	381	378	1017
	95.6%	94.1%	92.9%	94.0%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
Yes	15	50	65
	2.1%	13.4%	6.0%
No	695	322	1017
	97.9%	86.6%	94.0%
Total	710	372	1082
	100.0%	100.0%	100.0%

3. Disabled (1.11)

	Male	Female	Total
Yes	31 (4.4%)	26 (7.0%)	57 (5.3%)
No	679 (95.6%)	346 (93.0%)	1025 (94.7%)
Total	710 (100.0%)	372 (100.0%)	1082 (100.0%)

4. Education (1.13) (cross urban/rural, disaster hotspot)

	Urban	Rural	Total
Below Primary	51	228	279
	10.3%	38.8%	25.8%
Primary	160	208	368
	32.3%	35.4%	34.0%
SSC	106	67	173
	21.4%	11.4%	16.0%
HHC	81	23	104
	16.4%	3.9%	9.6%
Graduate and above	58	18	76
	11.7%	3.1%	7.0%
Uneducated	39	43	82
	7.9%	7.3%	7.6%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Below Primary	92	46	141	279
	34.1%	11.4%	34.6%	25.8%
Primary	74	144	150	368
	27.4%	35.6%	36.9%	34.0%
SSC	43	83	47	173
	15.9%	20.5%	11.5%	16.0%
HHC	35	57	12	104
	13.0%	14.1%	2.9%	9.6%
Graduate and above	25	37	14	76
	9.3%	9.1%	3.4%	7.0%
Uneducated	1	38	43	82
	.4%	9.4%	10.6%	7.6%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
Below Primary	165	114	279
	23.2%	30.6%	25.8%
Primary	230	138	368
	32.4%	37.1%	34.0%
SSC	117	56	173
	16.5%	15.1%	16.0%
HHC	81	23	104
	11.4%	6.2%	9.6%
Graduate and above	66	10	76
	9.3%	2.7%	7.0%
Uneducated	51	31	82
	7.2%	8.3%	7.6%
Total	710	372	1082
	100.0%	100.0%	100.0%

5. Major profession (1.14) (cross gender,urban/rural, disaster hotspot)

	Urban	Rural	Total
Farmer	20	112	132
	4.0%	19.1%	12.2%
Fisherman	1	25	26
	.2%	4.3%	2.4%
Day laborer	79	202	281
	16.0%	34.4%	26.0%
Business	162	118	280
	32.7%	20.1%	25.9%
Service	31	10	41
	6.3%	1.7%	3.8%
Community worker	7	2	9
	1.4%	.3%	.8%
Others	195	118	313
	39.4%	20.1%	28.9%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Farmer	33	20	79	132
	12.2%	4.9%	19.4%	12.2%
Fisherman	11	1	14	26
	4.1%	.2%	3.4%	2.4%
Day laborer	78	77	126	281
	28.9%	19.0%	31.0%	26.0%
Business	77	123	80	280
	28.5%	30.4%	19.7%	25.9%
Service	14	25	2	41
	5.2%	6.2%	.5%	3.8%

Community worker	1	7	1	9
	.4%	1.7%	.2%	.8%
Others	56	152	105	313
	20.7%	37.5%	25.8%	28.9%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
Farmer	106	26	132
	14.9%	7.0%	12.2%
Fisherman	21	5	26
	3.0%	1.3%	2.4%
Day laborer	185	96	281
	26.1%	25.8%	26.0%
Business	227	53	280
	32.0%	14.2%	25.9%
Service	23	18	41
	3.2%	4.8%	3.8%
Community worker	3	6	9
	.4%	1.6%	.8%
Others	145	168	313
	20.4%	45.2%	28.9%
Total	710	372	1082
	100.0%	100.0%	100.0%

6. Secondary profession (1.15) (cross urban/rural, disaster hotspot)

	Urban	Rural	Total no. of responses
Farmer	17	72	89
	3.4%	12.3%	
Fisherman	1	48	49
	.2%	8.2%	
Day laborer	3	69	72
	.6%	11.8%	
Business	24	20	44
	4.8%	3.4%	
Service	4	1	5
	.8%	.2%	
Community worker	4	1	5
	.8%	.2%	
Others	10	14	24
	2.0%	2.4%	
None	434	377	811
	87.7%	64.2%	
Total no. of respondents	495	587	1082

	Flood	Earthquake	Cyclone	Total no of responses(1099)
Farmer	31	17	41	89
	11.5%	4.2%	10.1%	
Fisherman	16	1	32	49
	5.9%	.2%	7.9%	
Day laborer	25	2	45	72
	9.3%	.5%	11.1%	
Business	8	19	17	44
	3.0%	4.7%	4.2%	
Service	0	4	1	5
	0.0%	1.0%	.2%	
Community worker	1	3	1	5
	.4%	.7%	.2%	
Others	2	8	14	24
	.7%	2.0%	3.4%	
None	189	352	270	811
	70.0%	86.9%	66.3%	
Total respondents	270	405	407	1082

	Male	Total no of responses (1099)
Farmer	61	89
	8.6%	
Fisherman	42	49
	5.9%	
Day laborer	50	72
	7.0%	
Business	33	44
	4.6%	
Service	2	5
	.3%	
Community worker	2	5
	.3%	
Others	10	24
	1.4%	
None	519	811
	73.1%	
Total respondents	710	1082

7. Income from major profession (1.17) (cross urban/rural, disaster hotspot), in thousand Taka.

Income (in thousand Taka)	Urban	Rural	Total
<3	50	43	93
	10.1%	7.3%	8.6%
3 to 5	98	181	279
	19.8%	30.8%	25.8%
5 to 10	180	263	443
	36.4%	44.8%	40.9%
10 to 20	123	93	216
	24.8%	15.8%	20.0%
20+	44	7	51
	8.9%	1.2%	4.7%
Total	495	587	1082
	100.0%	100.0%	100.0%

Income (in thousand Taka)	Flood	Earthquake	Cyclone	Total
<3	34	32	27	93
	12.6%	7.9%	6.6%	8.6%
3 to 5	76	69	134	279
	28.1%	17.0%	32.9%	25.8%
5 to 10	137	140	166	443
	50.7%	34.6%	40.8%	40.9%
10 to 20	22	121	73	216
	8.1%	29.9%	17.9%	20.0%
20+	1	43	7	51
	.4%	10.6%	1.7%	4.7%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

Income (in thousand Taka)	Total
<3	93
	8.6%
3 to 5	279
	25.8%
5 to 10	443
	40.9%
10 to 20	216
	20.0%
20+	51
	4.7%
Total	1082
	100.0%

8. Ownership of land (1.19) (cross urban/rural, disaster hotspot), in decimal.

		Urban	Rural	Total
Agri	None	398	383	781
		80.4%	65.2%	72.2%
	1-10	22	16	38
		4.4%	2.7%	3.5%
	11-50	40	88	128
		8.1%	15.0%	11.8%
above 50	35	100	135	
	7.1%	17.0%	12.5%	
Total		495	587	1082
		100.0%	100.0%	100.0%

		Flood	Earthquake	Cyclone	Total
Agri	None	136	358	287	781
		50.4%	88.4%	70.5%	72.2%
	1-10	21	6	11	38
		7.8%	1.5%	2.7%	3.5%
	11-50	55	24	49	128
		20.4%	5.9%	12.0%	11.8%
above 50	58	17	60	135	
	21.5%	4.2%	14.7%	12.5%	
Total		270	405	407	1082
		100.0%	100.0%	100.0%	100.0%

		Total
Agri	None	781
		72.2%
	1-10	38
		3.5%
	11-50	128
		11.8%
above 50	135	
	12.5%	
Total		1082
		100.0%

		Urban	Rural	Total
Non-agri	None	87	82	169
		17.6%	14.0%	15.6%
	1-10	371	314	685
		74.9%	53.5%	63.3%
	11-50	32	167	199
		6.5%	28.4%	18.4%
	above 50	5	24	29
		1.0%	4.1%	2.7%
Total		495	587	1082
		100.0%	100.0%	100.0%

		Flood	Earthquake	Cyclone	Total
Non-agri	None	70	54	45	169
		25.9%	13.3%	11.1%	15.6%
	1-10	136	321	228	685
		50.4%	79.3%	56.0%	63.3%
	11-50	53	25	121	199
		19.6%	6.2%	29.7%	18.4%
	above 50	11	5	13	29
		4.1%	1.2%	3.2%	2.7%
Total		270	405	407	1082
		100.0%	100.0%	100.0%	100.0%

		Total
Non-agri	None	169
		15.6%
	1-10	685
		63.3%
	11-50	199
		18.4%
	above 50	29
		2.7%
Total		1082
		100.0%

9. Household dependency (1.20) (cross urban/rural, disaster hotspot), in ratio.

	Urban	Rural	Total
1:2	45	90	135
	9.1%	15.3%	12.5%
1:3	108	141	249
	21.8%	24.0%	23.0%
1:4	186	155	341
	37.6%	26.4%	31.5%
1:5	96	85	181
	19.4%	14.5%	16.7%
1:6	44	59	103
	8.9%	10.1%	9.5%
>1:6	16	57	73
	3.2%	9.7%	6.7%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
1:2	73	42	20	135
	27.0%	10.4%	4.9%	12.5%
1:3	74	98	77	249
	27.4%	24.2%	18.9%	23.0%
1:4	68	153	120	341
	25.2%	37.8%	29.5%	31.5%
1:5	35	69	77	181
	13.0%	17.0%	18.9%	16.7%
1:6	10	36	57	103
	3.7%	8.9%	14.0%	9.5%
>1:6	10	7	56	73
	3.7%	1.7%	13.8%	6.7%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Total
1:2	135
	12.5%
1:3	249
	23.0%
1:4	341
	31.5%
1:5	181
	16.7%
1:6	103
	9.5%
>1:6	73
	6.7%
Total	1082
	100.0%

10. Senior female members in the household (1.21) (cross urban/rural, disaster hotspot).

	Urban	Rural	Total responses (1117)
Mother	152	198	350
	30.7%	33.7%	
Mother-in-Law	84	27	111
	17.0%	4.6%	
Other In-Laws	23	22	45
	4.6%	3.7%	
None	242	327	569
	48.9%	55.7%	
Others	6	36	42
	1.2%	6.1%	
Total respondents	495	587	1082

	Flood	Earthquake	Cyclone	Total (1117)
Mother	110	102	138	350
	40.7%	25.2%	33.9%	
Mother-in-Law	26	71	14	111
	9.6%	17.5%	3.4%	
Other In-Laws	22	18	5	45
	8.1%	4.4%	1.2%	
None	115	217	237	569
	42.6%	53.6%	58.2%	
Others	5	4	33	42
	1.9%	1.0%	8.1%	
Total	270	405	407	1082

11. Years of living in the union (1.23) (cross urban/rural, disaster hotspot)

	Urban	Rural	Total
<10 years	158	58	216
	31.9%	9.9%	20.0%
<15 years	95	41	136
	19.2%	7.0%	12.6%
<20 years	242	488	730
	48.9%	83.1%	67.5%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
<10 years	75	116	25	216
	27.8%	28.6%	6.1%	20.0%
<15 years	43	72	21	136
	15.9%	17.8%	5.2%	12.6%
<20 years	152	217	361	730
	56.3%	53.6%	88.7%	67.5%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

12. Household ownership (1.24) (cross urban/rural, disaster hotspot)

	Urban	Rural	Total
Own	377	539	916
	76.2%	91.8%	84.7%
Rent	103	9	112
	20.8%	1.5%	10.4%
Living in others house	10	17	27
	2.0%	2.9%	2.5%
Living in fallow land	3	12	15
	.6%	2.0%	1.4%
Others land	2	10	12
	.4%	1.7%	1.1%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Own	210	329	377	916
	77.8%	81.2%	92.6%	84.7%
Rent	42	65	5	112
	15.6%	16.0%	1.2%	10.4%
Living in others house	10	8	9	27
	3.7%	2.0%	2.2%	2.5%
Living in fallow land	5	3	7	15
	1.9%	.7%	1.7%	1.4%
Others land	3	0	9	12
	1.1%	0.0%	2.2%	1.1%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

13. Household structure (1.25) (cross urban/rural, disaster hotspot)

	Urban	Rural	Total
Building	79	55	134
	16.0%	9.4%	12.4%
Semi-pucca	306	100	406
	61.8%	17.0%	37.5%
Kutcha	110	432	542
	22.2%	73.6%	50.1%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Building	10	69	55	134
	3.7%	17.0%	13.5%	12.4%
Semi-pucca	86	239	81	406
	31.9%	59.0%	19.9%	37.5%
Kutch	174	97	271	542
	64.4%	24.0%	66.6%	50.1%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

14. Electricity connection (1.26) (cross urban/rural, disaster hotspot), response in number and percentage.

	Urban	Rural	Total
National grid	437	447	884
	88.3%	76.1%	81.7%
Solar	6	11	17
	1.2%	1.9%	1.6%
National grid and solar	49	72	121
	9.9%	12.3%	11.2%
No connection	3	57	60
	.6%	9.7%	5.5%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
National grid	231	354	299	884
	85.6%	87.4%	73.5%	81.7%
Solar	7	0	10	17
	2.6%	0.0%	2.5%	1.6%
National grid and solar	6	48	67	121
	2.2%	11.9%	16.5%	11.2%
No connection	26	3	31	60
	9.6%	.7%	7.6%	5.5%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

15. Critical utility services/arrangements (1.28) (cross urban/rural, disaster hotspot), multiple response count.

	Urban	Rural	Total responses
water supply from government pipe connection	118	39	157
	23.8%	6.6%	
water supply from tube well	357	437	794
	72.1%	74.4%	
water supply from variety of sources	64	235	299
	12.9%	40.0%	
have pucca latrine	243	172	415
	49.1%	29.3%	
use kutcha latrine	107	348	455
	21.6%	59.3%	
I have no latrine of my own	1	29	30
	.2%	4.9%	
Total respondents			2150

	Flood	Earthquake	Cyclone	Total
water supply from government pipe connection	61	58	38	157
	22.6%	14.3%	9.3%	
water supply from tube well	235	291	268	794
	87.0%	71.9%	65.8%	
water supply from variety of sources	29	43	227	299
	10.7%	10.6%	55.8%	
have pucca latrine	76	181	158	415
	28.1%	44.7%	38.8%	
use kutcha latrine	135	99	221	455
	50.0%	24.4%	54.3%	
I have no latrine of my own	19	1	10	30
	7.0%	.2%	2.5%	
Total				2150

16. Use of energy (1.29) (cross urban/rural, disaster hotspot), multiple response.

	Urban	Rural	Total responses
I have government gas connection	185	0	185
	37.4%	0.0%	
I use gas cylinder	193	114	307
	39.0%	19.4%	
I use traditional chula using firewood, dry leaves, dried cow dung etc	235	582	817
	47.5%	99.1%	
Total respondents			1308

	Flood	Earthquake	Cyclone	Total
I have government gas connection	74	111	0	185
	27.4%	27.4%	0.0%	
I use gas cylinder	23	175	109	307
	8.5%	43.2%	26.8%	
I use traditional chula using firewood, dry leaves, dried cow dung etc	185	230	402	817
	68.5%	56.8%	98.8%	
Total				1309

	Male	Female	Total
I have government gas connection	156	29	185
	22.0%	7.8%	
I use gas cylinder	181	126	307
	25.5%	33.9%	
I use traditional chula using firewood, dry leaves, dried cow dung etc	512	305	817
	72.1%	82.0%	
Total			1309

17. Used 1090 hotline number (1.35) (cross urban/rural, disaster hotspot)

	Urban	Rural	Total
I never heard of it	300	441	741
	60.6%	75.1%	68.5%
I know about it but never used	185	130	315
	37.4%	22.1%	29.1%
I know it and call when there is a need	10	16	26
	2.0%	2.7%	2.4%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
I never heard of it	183	259	299	741
	67.8%	64.0%	73.5%	68.5%
I know about it but never used	87	136	92	315
	32.2%	33.6%	22.6%	29.1%
I know it and call when there is a need	0	10	16	26
	0.0%	2.5%	3.9%	2.4%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
I never heard of it	461	280	741
	64.9%	75.3%	68.5%
I know about it but never used	228	87	315
	32.1%	23.4%	29.1%
I know it and call when there is a need	21	5	26
	3.0%	1.3%	2.4%
Total	710	372	1082
	100.0%	100.0%	100.0%

18. Any member infected by COVID-19 (2.2) (cross 2.2 and urban/rural)

	Urban	Rural	Total
Yes	13	12	25
	2.6%	2.0%	2.3%
No	482	575	1057
	97.4%	98.0%	97.7%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Male	Female	Total
Yes	20	5	25
	2.8%	1.3%	2.3%
No	690	367	1057
	97.2%	98.7%	97.7%
Total	710	372	1082
	100.0%	100.0%	100.0%

19. Whom do you visit in case of illness (2.4) (cross 2.4 and urban/rural, disaster hotspot), multiple response.

	Urban	Rural	Total responses
visit local village doctors	50	496	546
	10.1%	84.5%	
Consult and buy medicine from the local pharmacy	313	420	733
	63.2%	71.6%	
visit government doctor	412	333	745
	83.2%	56.7%	
visit health centers run by NGOs	13	45	58
	2.6%	7.7%	
Others	36	3	39
	7.3%	.5%	
Total respondents			2121

	Flood	Earthquake	Cyclone	Total responses
visit local village doctors	188	28	330	546
	69.6%	6.9%	81.1%	
Consult and buy medicine from the local pharmacy	158	241	334	733
	58.5%	59.5%	82.1%	
visit government doctor	162	333	250	745
	60.0%	82.2%	61.4%	
visit health centers run by NGOs	39	1	18	58
	14.4%	.2%	4.4%	
Others	1	36	2	39
	.4%	8.9%	.5%	
Total respondents				2121

	Male	Female	Total
visit local village doctors	391	155	546
	55.1%	41.7%	
Consult and buy medicine from the local pharmacy	469	264	733
	66.1%	71.0%	
visit government doctor	519	226	745
	73.1%	60.8%	
visit health centers run by NGOs	49	9	58
	6.9%	2.4%	
Others	35	4	39
	4.9%	1.1%	
Total			2121

20. How far is the government health center from your house (2.5) (cross and urban/rural, disaster hotspot).

	Urban	Rural	Total
<1 km	68	185	253
	13.7%	31.5%	23.4%
1 to 2 km	269	256	525
	54.3%	43.6%	48.5%
3 to 4 km	129	60	189
	26.1%	10.2%	17.5%
4+ km	29	86	115
	5.9%	14.7%	10.6%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
<1 km	58	68	127	253
	21.5%	16.8%	31.2%	23.4%
1 to 2 km	148	209	168	525
	54.8%	51.6%	41.3%	48.5%
3 to 4 km	48	101	40	189
	17.8%	24.9%	9.8%	17.5%
4+ km	16	27	72	115
	5.9%	6.7%	17.7%	10.6%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

21. What is your understanding about COVID-19 disease (2.6) (cross 2.6 and 1.13, urban/rural)

It is a serious communicable disease	Below Primary	Primary	SSC	HHC	Graduate and above	Uneducated	Total
Most important	234	284	121	80	55	52	826
	83.9%	77.2%	69.9%	76.9%	72.4%	63.4%	76.3%
Moderately important	38	53	28	15	16	25	175
	13.6%	14.4%	16.2%	14.4%	21.1%	30.5%	16.2%
Important	3	22	18	5	4	5	57
	1.1%	6.0%	10.4%	4.8%	5.3%	6.1%	5.3%
Less important	0	5	4	0	1	0	10
	0.0%	1.4%	2.3%	0.0%	1.3%	0.0%	.9%
Least important	4	4	2	4	0	0	14
	1.4%	1.1%	1.2%	3.8%	0.0%	0.0%	1.3%
Total	279	368	173	104	76	82	1082
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

It is a serious communicable disease	Urban	Rural	Total
Most important	368	458	826
	74.3%	78.0%	76.3%
Moderately important	74	101	175
	14.9%	17.2%	16.2%
Important	44	13	57
	8.9%	2.2%	5.3%
Less important	4	6	10
	.8%	1.0%	.9%
Least important	5	9	14
	1.0%	1.5%	1.3%
Total	495	587	1082
	100.0%	100.0%	100.0%

It is a serious communicable disease	Male	Female	Total
Most important	538	288	826
	75.8%	77.4%	76.3%
Moderately important	116	59	175
	16.3%	15.9%	16.2%
Important	34	23	57
	4.8%	6.2%	5.3%
Less important	9	1	10
	1.3%	.3%	.9%
Least important	13	1	14
	1.8%	.3%	1.3%
Total	710	372	1082
	100.0%	100.0%	100.0%

Strong immune system may help to get cured quickly	Below Primary	Primary	SSC	HHC	Graduate and above	Uneducated	Total
Most important	150	173	71	29	30	36	489
	53.8%	47.0%	41.0%	27.9%	39.5%	43.9%	45.2%
Moderately important	85	93	50	32	25	24	309
	30.5%	25.3%	28.9%	30.8%	32.9%	29.3%	28.6%
Important	31	65	37	30	16	14	193
	11.1%	17.7%	21.4%	28.8%	21.1%	17.1%	17.8%
Less important	6	34	12	10	5	8	75
	2.2%	9.2%	6.9%	9.6%	6.6%	9.8%	6.9%
Least important	7	3	3	3	0	0	16
	2.5%	.8%	1.7%	2.9%	0.0%	0.0%	1.5%
Total	279	368	173	104	76	82	1082
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Strong immune system may help to get cured quickly	Urban	Rural	Total
Most important	220	269	489
	44.4%	45.8%	45.2%
Moderately important	99	210	309
	20.0%	35.8%	28.6%
Important	123	70	193
	24.8%	11.9%	17.8%
Less important	50	25	75
	10.1%	4.3%	6.9%
Least important	3	13	16
	.6%	2.2%	1.5%
Total	495	587	1082
	100.0%	100.0%	100.0%

Strong immune system may help to get cured quickly	Male	Female	Total
Most important	281	208	489
	39.6%	55.9%	45.2%
Moderately important	222	87	309
	31.3%	23.4%	28.6%
Important	143	50	193
	20.1%	13.4%	17.8%
Less important	51	24	75
	7.2%	6.5%	6.9%
Least important	13	3	16
	1.8%	.8%	1.5%
Total	710	372	1082
	100.0%	100.0%	100.0%

Washing hands for 20 seconds with soap could help to get protected	Below Primary	Primary	SSC	HHC	Graduate and above	Uneducated	Total
Most important	224	257	116	71	41	60	769
	80.3%	69.8%	67.1%	68.3%	53.9%	73.2%	71.1%
Moderately important	30	49	25	21	20	8	153
	10.8%	13.3%	14.5%	20.2%	26.3%	9.8%	14.1%
Important	13	37	24	7	11	11	103
	4.7%	10.1%	13.9%	6.7%	14.5%	13.4%	9.5%
Less important	5	15	6	2	2	2	32
	1.8%	4.1%	3.5%	1.9%	2.6%	2.4%	3.0%
Least important	7	10	2	3	2	1	25
	2.5%	2.7%	1.2%	2.9%	2.6%	1.2%	2.3%
Total	279	368	173	104	76	82	1082
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Washing hands for 20 seconds with soap could help to get protected	Urban	Rural	Total
Most important	316	453	769
	63.8%	77.2%	71.1%
Moderately important	78	75	153
	15.8%	12.8%	14.1%
Important	76	27	103
	15.4%	4.6%	9.5%
Less important	18	14	32
	3.6%	2.4%	3.0%
Least important	7	18	25
	1.4%	3.1%	2.3%
Total	495	587	1082
	100.0%	100.0%	100.0%

Washing hands for 20 seconds with soap could help to get protected	Male	Female	Total
Most important	486	283	769
	68.5%	76.1%	71.1%
Moderately important	112	41	153
	15.8%	11.0%	14.1%
Important	70	33	103
	9.9%	8.9%	9.5%
Less important	22	10	32
	3.1%	2.7%	3.0%
Least important	20	5	25
	2.8%	1.3%	2.3%
Total	710	372	1082
	100.0%	100.0%	100.0%

22. Reasons behind not following COVID-19 guidelines (2.8) (cross 2.8 and 1.13 and 1.14, 1.21, urban/rural), multiple response.

	Urban	Rural	Total responses
I need to earn for living therefore need to go outside	141	361	502
	86.0%	80.8%	
Continuous stay-home is suffocating and I need socializing	39	228	267
	23.8%	51.0%	
I saw people are moving around and that influenced me to go outside	52	303	355
	31.7%	67.8%	
I always use face masks whenever go outside	110	207	317
	67.1%	46.3%	
I use face masks but not strictly follow guidelines	37	74	111
	22.6%	16.6%	
Total respondents			1552

	Below Primary	Primary	SSC	HHC	Graduate and above	Uneducated	Total
I need to earn for living therefore need to go outside	173	162	58	48	24	37	502
	82.4%	81.4%	76.3%	88.9%	88.9%	82.2%	
Continuous stay-home is suffocating and I need socializing	93	84	35	19	13	23	267
	44.3%	42.2%	46.1%	35.2%	48.1%	51.1%	

I saw people are moving around and that influenced me to go outside	117	118	41	32	20	27	355
	55.7%	59.3%	53.9%	59.3%	74.1%	60.0%	
I always use face masks whenever go outside	75	113	46	36	21	26	317
	35.7%	56.8%	60.5%	66.7%	77.8%	57.8%	
I use face masks but not strictly follow guidelines	49	34	8	9	3	8	111
	23.3%	17.1%	10.5%	16.7%	11.1%	17.8%	
Total							1552

	Farmer	Fisherman	Day laborer	Business	Service	Community worker	Others	Total
I need to earn for living therefore need to go outside	91	19	157	113	13	3	106	502
	91.0%	86.4%	83.5%	85.6%	76.5%	100.0%	71.1%	
Continuous stay-home is suffocating and I need socializing	54	11	76	58	7	2	59	267
	54.0%	50.0%	40.4%	43.9%	41.2%	66.7%	39.6%	
I saw people are moving around and that influenced me to go outside	76	17	101	75	7	2	77	355
	76.0%	77.3%	53.7%	56.8%	41.2%	66.7%	51.7%	
I always use face masks whenever go outside	42	7	88	82	8	1	89	317
	42.0%	31.8%	46.8%	62.1%	47.1%	33.3%	59.7%	
I use face masks but not strictly follow guidelines	21	6	36	21	3	1	23	111
	21.0%	27.3%	19.1%	15.9%	17.6%	33.3%	15.4%	
Total								1552

	Male	Female	Total
I need to earn for living therefore need to go outside	376	126	502
	87.2%	70.0%	
Continuous stay-home is suffocating and I need socializing	199	68	267
	46.2%	37.8%	
I saw people are moving around and that influenced me to go outside	260	95	355
	60.3%	52.8%	
I always use face masks whenever go outside	244	73	317
	56.6%	40.6%	
I use face masks but not strictly follow guidelines	79	32	111
	18.3%	17.8%	
Total			1552

23. Impacts on income generation of COVID-19 (2.9) (cross 2.9 and 1.14, urban/rural, disaster hotspot)

	Farmer	Fisherman	Day laborer	Business	Service	Community worker	Others	Total
Monthly income has reduced by 25%	34	4	97	59	10	1	99	304
	25.8%	15.4%	34.5%	21.1%	24.4%	11.1%	31.6%	28.1%
Monthly income has reduced by 50%	62	11	94	129	26	6	120	448
	47.0%	42.3%	33.5%	46.1%	63.4%	66.7%	38.3%	41.4%
Monthly income has reduced by 75%	36	11	90	92	5	2	94	330
	27.3%	42.3%	32.0%	32.9%	12.2%	22.2%	30.0%	30.5%
Total	132	26	281	280	41	9	313	1082
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

	Urban	Rural	Total
Monthly income has reduced by 25%	148	156	304
	29.9%	26.6%	28.1%
Monthly income has reduced by 50%	202	246	448
	40.8%	41.9%	41.4%
Monthly income has reduced by 75%	145	185	330
	29.3%	31.5%	30.5%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Monthly income has reduced by 25%	95	121	88	304
	35.2%	29.9%	21.6%	28.1%
Monthly income has reduced by 50%	128	144	176	448
	47.4%	35.6%	43.2%	41.4%
Monthly income has reduced by 75%	47	140	143	330
	17.4%	34.6%	35.1%	30.5%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
Monthly income has reduced by 25%	166	138	304
	23.4%	37.1%	28.1%
Monthly income has reduced by 50%	321	127	448
	45.2%	34.1%	41.4%
Monthly income has reduced by 75%	223	107	330
	31.4%	28.8%	30.5%
Total	710	372	1082
	100.0%	100.0%	100.0%

24. Other impacts (2.10) (cross 2.10 and 1.14, urban/rural, disaster hotspots), multiple response.

	Farmer	Fisherman	Day laborer	Business	Service	Community worker	Others	Total 2439
Earning member of the family lost job	3	1	18	44	8	1	35	110
	2.3%	3.8%	6.4%	15.7%	19.5%	11.1%	11.2%	
Overseas wage earner had to return because of COVID-19 and thus earning dropped	8	1	20	41	9	0	40	119
	6.1%	3.8%	7.1%	14.6%	22.0%	0.0%	12.8%	
I had to borrow money/food to cope with current situation	101	20	229	161	24	6	218	759
	76.5%	76.9%	81.5%	57.5%	58.5%	66.7%	69.6%	
I was already in trouble, this situation has created more serious problems	80	15	155	136	13	2	178	579
	60.6%	57.7%	55.2%	48.6%	31.7%	22.2%	56.9%	

I had to mortgage/sell assets (jewelry, livestock, land etc.)	31	6	61	57	5	0	57	217
	23.5%	23.1%	21.7%	20.4%	12.2%	0.0%	18.2%	
I had to sell labor in advance	25	5	38	31	5	1	34	139
	18.9%	19.2%	13.5%	11.1%	12.2%	11.1%	10.9%	
I am scared about the future	71	13	124	146	15	5	142	516
	53.8%	50.0%	44.1%	52.1%	36.6%	55.6%	45.4%	
Total								2439

	Urban	Rural	Total
Earning member of the family lost job	78	32	110
	15.8%	5.5%	
Overseas wage earner had to return because of COVID-19 and thus earning dropped	79	40	119
	16.0%	6.8%	
I had to borrow money/food to cope with current situation	300	459	759
	60.6%	78.2%	
I was already in trouble, this situation has created more serious problems	261	318	579
	52.7%	54.2%	
I had to mortgage/sell assets (jewelry, livestock, land etc.)	54	163	217
	10.9%	27.8%	
I had to sell labor in advance	62	77	139
	12.5%	13.1%	
I am scared about the future	210	306	516
	42.4%	52.1%	
Total			2439

	Flood	Earthquake	Cyclone	Total
Earning member of the family lost job	41	58	11	110
	15.2%	14.3%	2.7%	
Overseas wage earner had to return because of COVID-19 and thus earning dropped	77	19	23	119
	28.5%	4.7%	5.7%	
I had to borrow money/food to cope with current situation	143	270	346	759
	53.0%	66.7%	85.0%	
I was already in trouble, this situation has created more serious problems	129	199	251	579
	47.8%	49.1%	61.7%	
I had to mortgage/sell assets (jewelry, livestock, land etc.)	112	20	85	217
	41.5%	4.9%	20.9%	
I had to sell labor in advance	35	43	61	139
	13.0%	10.6%	15.0%	
I am scared about the future	116	191	209	516
	43.0%	47.2%	51.4%	
Total				2439

	Male	Female	Total
Earning member of the family lost job	81	29	110
	11.4%	7.8%	
Overseas wage earner had to return because of COVID-19 and thus earning dropped	94	25	119
	13.2%	6.7%	
I had to borrow money/food to cope with current situation	471	288	759
	66.3%	77.4%	
I was already in trouble, this situation has created more serious problems	370	209	579
	52.1%	56.2%	
I had to mortgage/sell assets (jewelry, livestock, land etc.)	139	78	217
	19.6%	21.0%	
I had to sell labor in advance	86	53	139
	12.1%	14.2%	
I am scared about the future	343	173	516
	48.3%	46.5%	
Total			2439

25. What are the challenges to follow government COVID-19 guidelines (2.11) (cross 2.11 1.14, urban/rural, disaster hotspots), multiple response.

Major Profession	Farmer	Fisherman	Day laborer	Business	Service	Community worker	Others	Total responses
I need to go outside for generating income	121	23	254	247	35	9	239	928
	91.7%	88.5%	90.4%	88.2%	85.4%	100.0%	76.4%	
Need to visit grocery shops for household needs	94	17	195	203	32	8	195	744
	71.2%	65.4%	69.4%	72.5%	78.0%	88.9%	62.3%	
Purchase mobile balance	75	20	124	170	20	4	151	564
	56.8%	76.9%	44.1%	60.7%	48.8%	44.4%	48.2%	
I cannot stay home long time without socializing with friends	51	13	89	83	13	2	89	340
	38.6%	50.0%	31.7%	29.6%	31.7%	22.2%	28.4%	
Me or members of my family needs to outside to collect safety net benefits	21	8	48	90	16	6	68	257
	15.9%	30.8%	17.1%	32.1%	39.0%	66.7%	21.7%	
Need to visit health care centers for me/members of my family	37	6	86	106	20	7	132	394
	28.0%	23.1%	30.6%	37.9%	48.8%	77.8%	42.2%	
Total respondents								3227

	Urban	Rural	Total
I need to go outside for generating income	450	478	928
	90.9%	81.4%	
Need to visit grocery shops for household needs	348	396	744
	70.3%	67.5%	
Purchase mobile balance	225	339	564
	45.5%	57.8%	
I cannot stay home long time without socializing with friends	112	228	340
	22.6%	38.8%	
Me or members of my family needs to outside to collect safety net benefits	152	105	257
	30.7%	17.9%	
Need to visit health care centers for me/members of my family	215	179	394
	43.4%	30.5%	
Total			3227

	Flood	Earthquake	Cyclone	Total
I need to go outside for generating income	207	382	339	928
	76.7%	94.3%	83.3%	
Need to visit grocery shops for household needs	179	300	265	744
	66.3%	74.1%	65.1%	
Purchase mobile balance	174	158	232	564
	64.4%	39.0%	57.0%	
I cannot stay home long time without socializing with friends	93	71	176	340
	34.4%	17.5%	43.2%	
Me or members of my family needs to outside to collect safety net benefits	90	115	52	257
	33.3%	28.4%	12.8%	
Need to visit health care centers for me/members of my family	26	208	160	394
	9.6%	51.4%	39.3%	
Total				3227

	Male	Female	Total
I need to go outside for generating income	628	300	928
	88.5%	80.6%	
Need to visit grocery shops for household needs	504	240	744
	71.0%	64.5%	
Purchase mobile balance	450	114	564
	63.4%	30.6%	
I cannot stay home long time without socializing with friends	249	91	340
	35.1%	24.5%	
Me or members of my family needs to outside to collect safety net benefits	181	76	257
	25.5%	20.4%	
Need to visit health care centers for me/members of my family	235	159	394
	33.1%	42.7%	

26. Did you receive any assistance for address COVID-19 challenges (2.12) (cross 2.12 and 2.2, 1.10, 1.17, rural/urban)

Women headed	Yes	No	Total
Received required assistance	2	71	73
	3.1%	7.0%	6.7%
Yes but very insignificant	27	394	421
	41.5%	38.7%	38.9%
No	36	552	588
	55.4%	54.3%	54.3%
Total	65	1017	1082
	100.0%	100.0%	100.0%

Income	<3	3 to 5	5 to 10	10 to 20	20+	Total
Received required assistance	4	22	36	10	1	73
	4.3%	7.9%	8.1%	4.6%	2.0%	6.7%
Yes but very insignificant	30	134	182	67	8	421
	32.3%	48.0%	41.1%	31.0%	15.7%	38.9%
No	59	123	225	139	42	588
	63.4%	44.1%	50.8%	64.4%	82.4%	54.3%
Total	93	279	443	216	51	1082
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Any member effected by covid-19	Yes	No	Total
Received required assistance	9	64	73
	36.0%	6.1%	6.7%
Yes but very insignificant	11	410	421
	44.0%	38.8%	38.9%
No	5	583	588
	20.0%	55.2%	54.3%
Total	25	1057	1082
	100.0%	100.0%	100.0%

	Urban	Rural	Total
Received required assistance	38	35	73
	7.7%	6.0%	6.7%
Yes but very insignificant	155	266	421
	31.3%	45.3%	38.9%
No	302	286	588
	61.0%	48.7%	54.3%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Male	Female	Total
Received required assistance	56	17	73
	7.9%	4.6%	6.7%
Yes but very insignificant	267	154	421
	37.6%	41.4%	38.9%
No	387	201	588
	54.5%	54.0%	54.3%
Total	710	372	1082
	100.0%	100.0%	100.0%

27. Do you receive disaster early warning messages during emergencies (4.3.1) (cross 4.3.1 and 1.10, 1.17, 1.25, rural/urban, disaster hotspots)

Women headed	Yes	No	Total
Yes, sometimes I directly receive	26	531	557
	40.0%	52.2%	51.5%
Yes, sometimes I receive from the neighbors	35	370	405
	53.8%	36.4%	37.4%
No	4	116	120
	6.2%	11.4%	11.1%
Total	65	1017	1082
	100.0%	100.0%	100.0%

House structure	Building	Semi-pucca	Kutcha	Total
Yes, sometimes I directly receive	85	235	237	557
	63.4%	57.9%	43.7%	51.5%
Yes, sometimes I receive from the neighbors	28	114	263	405
	20.9%	28.1%	48.5%	37.4%
No	21	57	42	120
	15.7%	14.0%	7.7%	11.1%
Total	134	406	542	1082
	100.0%	100.0%	100.0%	100.0%

	<3	3 to 5	5 to 10	10 to 20	20+	Total
Yes, sometimes I directly receive	49	136	208	136	28	557
	52.7%	48.7%	47.0%	63.0%	54.9%	51.5%
Yes, sometimes I receive from the neighbors	24	111	198	64	8	405
	25.8%	39.8%	44.7%	29.6%	15.7%	37.4%
No	20	32	37	16	15	120
	21.5%	11.5%	8.4%	7.4%	29.4%	11.1%
Total	93	279	443	216	51	1082
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

	Urban	Rural	Total
Yes, sometimes I directly receive	285	272	557
	57.6%	46.3%	51.5%
Yes, sometimes I receive from the neighbors	124	281	405
	25.1%	47.9%	37.4%
No	86	34	120
	17.4%	5.8%	11.1%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Yes, sometimes I directly receive	67	261	229	557
	24.8%	64.4%	56.3%	51.5%
Yes, sometimes I receive from the neighbors	161	69	175	405
	59.6%	17.0%	43.0%	37.4%
No	42	75	3	120
	15.6%	18.5%	.7%	11.1%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
Yes, sometimes I directly receive	367	190	557
	51.7%	51.1%	51.5%
Yes, sometimes I receive from the neighbors	256	149	405
	36.1%	40.1%	37.4%
No	87	33	120
	12.3%	8.9%	11.1%
Total	710	372	1082
	100.0%	100.0%	100.0%

28. What are the main sources of early warning messages (4.3.2) (cross 4.3.2 and 1.10, 1.11, 1.17, rural/urban, disaster hotspots), multiple response.

Women headed	Yes	No	Total responses
Television	43	703	746
	66.2%	69.1%	
Radio	3	38	41
	4.6%	3.7%	
Mobile phone	34	562	596
	52.3%	55.3%	
Local CPP announcements	45	542	587
	69.2%	53.3%	
I get from the others/neighbors	43	618	661
	66.2%	60.8%	
Other	1	16	17
	1.5%	1.6%	
Total respondents			2648

Are you living with disability	Yes	No	Total (2648)
Television	34	712	746
	59.6%	69.5%	
Radio	0	41	41
	0.0%	4.0%	
Mobile phone	35	561	596
	61.4%	54.7%	
Local CPP announcements	33	554	587
	57.9%	54.0%	
I get from the others/neighbors	37	624	661
	64.9%	60.9%	
Other	0	17	17
	0.0%	1.7%	
Total			2648

Income	<3	3 to 5	5 to 10	10 to 20	20+	Total (2648)
Television	58	140	311	187	50	746
	62.4%	50.2%	70.2%	86.6%	98.0%	
Radio	5	9	15	7	5	41
	5.4%	3.2%	3.4%	3.2%	9.8%	
Mobile phone	57	135	230	130	44	596
	61.3%	48.4%	51.9%	60.2%	86.3%	
Local CPP announcements	49	186	231	96	25	587
	52.7%	66.7%	52.1%	44.4%	49.0%	
I get from the others/neighbors	49	202	271	119	20	661
	52.7%	72.4%	61.2%	55.1%	39.2%	
Other	4	5	6	1	1	17
	4.3%	1.8%	1.4%	.5%	2.0%	
Total						2648

29. Did any female members of your family receive disaster early warning messages at the awake of disasters (4.3.2a) (cross 4.3.2a and 1.10, 1.21, rural/urban, disaster hotspots)

Women headed	Yes	No	Total
Yes	36	518	554
	55.4%	50.9%	51.2%
No	29	499	528
	44.6%	49.1%	48.8%
Total	65	1017	1082
	100.0%	100.0%	100.0%

	Urban	Rural	Total
Yes	196	358	554
	39.6%	61.0%	51.2%
No	299	229	528
	60.4%	39.0%	48.8%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Yes	85	163	306	554
	31.5%	40.2%	75.2%	51.2%
No	185	242	101	528
	68.5%	59.8%	24.8%	48.8%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
Yes	338	216	554
	47.6%	58.1%	51.2%
No	372	156	528
	52.4%	41.9%	48.8%
Total	710	372	1082
	100.0%	100.0%	100.0%

30. What actions do you take as response to receiving early warning messages (4.3.3) (cross 4.3.3 and rural/urban, disaster hotspots)

	Urban	Rural	Total (2409)
Taking shelter outside in stronger places	269	467	736
	54.3%	79.6%	
buy food/medicines	372	477	849
	75.2%	81.3%	
Preserve water and other items for emergencies	234	399	633
	47.3%	68.0%	
I do not do any of these since I expect that government/others will do for me	31	137	168
	6.3%	23.3%	
Others	21	2	23
	4.2%	.3%	
Total			2409

	Flood	Earthquake	Cyclone	Total (2409)
Taking shelter outside in stronger places	208	195	333	736
	77.0%	48.1%	81.8%	
buy food/medicines	198	317	334	849
	73.3%	78.3%	82.1%	
Preserve water and other items for emergencies	175	182	276	633
	64.8%	44.9%	67.8%	
I do not do any of these since I expect that government/others will do for me	41	14	113	168
	15.2%	3.5%	27.8%	
Others	2	21	0	23
	.7%	5.2%	0.0%	
Total				2409

	Male	Female	Total (2409)
Taking shelter outside in stronger places	483	253	736
	68.0%	68.0%	
buy food/medicines	571	278	849
	80.4%	74.7%	
Preserve water and other items for emergencies	434	199	633
	61.1%	53.5%	
I do not do any of these since I expect that government/others will do for me	98	70	168
	13.8%	18.8%	
Others	7	16	23
	1.0%	4.3%	
Total			2409

31. Did you ever watch or listen to talk shows or interviews on GRR, DRR, CCA (4.4.1) (cross 4.4.1 and 4.3.1, rural/urban, disaster hotspots)

Receive disaster early warning	Yes, sometimes I directly receive	Yes, sometimes I receive from the neighbors	No	Total
Yes	48	71	4	123
	8.6%	17.5%	3.3%	11.4%
No	509	334	116	959
	91.4%	82.5%	96.7%	88.6%
Total	557	405	120	1082
	100.0%	100.0%	100.0%	100.0%

	Urban	Rural	Total
Yes	66	57	123
	13.3%	9.7%	11.4%
No	429	530	959
	86.7%	90.3%	88.6%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Yes	43	42	38	123
	15.9%	10.4%	9.3%	11.4%
No	227	363	369	959
	84.1%	89.6%	90.7%	88.6%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
Yes	92	31	123
	13.0%	8.3%	11.4%
No	618	341	959
	87.0%	91.7%	88.6%
Total	710	372	1082
	100.0%	100.0%	100.0%

32. What is your opinion about the state of violence against women and children during disaster in the area (4.4.3) (cross 4.4.3 and 1.10, 1.17, rural/urban, disaster hotspots)

Women headed	Yes	No	Total
Increased significantly	5	96	101
	7.7%	9.4%	9.3%
Increased moderately	16	284	300
	24.6%	27.9%	27.7%
Same as before	17	344	361
	26.2%	33.8%	33.4%
Decreased than before	8	124	132
	12.3%	12.2%	12.2%
I do not know	19	169	188
	29.2%	16.6%	17.4%
Total	65	1017	1082
	100.0%	100.0%	100.0%

	<3	3 to 5	5 to 10	10 to 20	20+	Total
Increased significantly	7	29	39	18	8	101
	7.5%	10.4%	8.8%	8.3%	15.7%	9.3%
Increased moderately	22	82	135	55	6	300
	23.7%	29.4%	30.5%	25.5%	11.8%	27.7%
Same as before	35	102	122	83	19	361
	37.6%	36.6%	27.5%	38.4%	37.3%	33.4%
Decreased than before	6	26	65	30	5	132
	6.5%	9.3%	14.7%	13.9%	9.8%	12.2%
I do not know	23	40	82	30	13	188
	24.7%	14.3%	18.5%	13.9%	25.5%	17.4%
Total	93	279	443	216	51	1082
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

	Urban	Rural	Total
Increased significantly	58	43	101
	11.7%	7.3%	9.3%
Increased moderately	91	209	300
	18.4%	35.6%	27.7%
Same as before	145	216	361
	29.3%	36.8%	33.4%
Decreased than before	36	96	132
	7.3%	16.4%	12.2%
I do not know	165	23	188
	33.3%	3.9%	17.4%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Increased significantly	38	49	14	101
	14.1%	12.1%	3.4%	9.3%
Increased moderately	82	47	171	300
	30.4%	11.6%	42.0%	27.7%
Same as before	70	111	180	361
	25.9%	27.4%	44.2%	33.4%
Decreased than before	66	33	33	132
	24.4%	8.1%	8.1%	12.2%
I do not know	14	165	9	188
	5.2%	40.7%	2.2%	17.4%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
Increased significantly	49	52	101
	6.9%	14.0%	9.3%
Increased moderately	206	94	300
	29.0%	25.3%	27.7%
Same as before	257	104	361
	36.2%	28.0%	33.4%
Decreased than before	100	32	132
	14.1%	8.6%	12.2%
I do not know	98	90	188
	13.8%	24.2%	17.4%
Total	710	372	1082
	100.0%	100.0%	100.0%

33. Do you think that your/households' capacity has increased compared to the past to recover from crisis and prevent relapses if any disaster of similar magnitude happens in future (4.4.4) (cross 4.4.4 and 1.10, rural/urban, disaster hotspots)

Women headed	Yes	No	Total
Yes	18	274	292
	27.7%	26.9%	27.0%
I do not know	9	315	324
	13.8%	31.0%	29.9%
No	38	428	466
	58.5%	42.1%	43.1%
Total	65	1017	1082
	100.0%	100.0%	100.0%

	Urban	Rural	Total
Yes	151	141	292
	30.5%	24.0%	27.0%
I do not know	113	211	324
	22.8%	35.9%	29.9%
No	231	235	466
	46.7%	40.0%	43.1%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Yes	128	115	49	292
	47.4%	28.4%	12.0%	27.0%
I do not know	87	74	163	324
	32.2%	18.3%	40.0%	29.9%
No	55	216	195	466
	20.4%	53.3%	47.9%	43.1%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
Yes	188	104	292
	26.5%	28.0%	27.0%
I do not know	231	93	324
	32.5%	25.0%	29.9%
No	291	175	466
	41.0%	47.0%	43.1%
Total	710	372	1082
	100.0%	100.0%	100.0%

34. Based on what you think that your capacities have increased (4.4.5) (cross 4.4.5 and rural/urban, disaster hotspots)

	Urban	Rural	Total (595)
My economic conditions improved	86	57	143
	57.0%	40.4%	
I have more knowledge how to address disaster challenges	88	113	201
	58.3%	80.1%	
I reduced disaster risks of different kinds at household level	89	59	148
	58.9%	41.8%	
I have good networks with community leaders	25	40	65
	16.6%	28.4%	
The overall support of the government contributed	27	11	38
	17.9%	7.8%	
Total			595

	Flood	Earthquake	Cyclone	Total (595)
My economic conditions improved	61	72	10	143
	47.7%	62.6%	20.4%	
I have more knowledge how to address disaster challenges	104	68	29	201
	81.3%	59.1%	59.2%	
I reduced disaster risks of different kinds at household level	41	69	38	148
	32.0%	60.0%	77.6%	
I have good networks with community leaders	28	10	27	65
	21.9%	8.7%	55.1%	
The overall support of the government contributed	12	22	4	38
	9.4%	19.1%	8.2%	
Total				595

	Male	Female	Total (595)
My economic conditions improved	79	64	143
	42.0%	61.5%	
I have more knowledge how to address disaster challenges	140	61	201
	74.5%	58.7%	
I reduced disaster risks of different kinds at household level	109	39	148
	58.0%	37.5%	
I have good networks with community leaders	54	11	65
	28.7%	10.6%	
The overall support of the government contributed	27	11	38
	14.4%	10.6%	
Total			595

35. Based on what you think that your capacities have not increased adequately (4.4.6) (cross 4.4.6 and 1.10, 1.14, rural/urban, disaster hotspots)

Women headed	Yes	No	Total (926)
I am in debt	31	287	318
	81.6%	67.1%	
My condition was improved gradually but COVID-19 made the situations bad due to unemployment	28	321	349
	73.7%	75.0%	
Family expenditures increased as children are in grown up phase and I cannot save enough	16	183	199
	42.1%	42.8%	
Recent health expenditures crippled me	2	58	60
	5.3%	13.6%	
Total			926

Major Profession	Farmer	Fisherman	Day laborer	Business	Service	Others	Total (926)
I am in debt	37	6	85	79	8	103	318
	86.0%	85.7%	64.4%	68.1%	80.0%	65.2%	
My condition was improved gradually but COVID-19 made the situations bad due to unemployment	37	4	112	68	8	120	349
	86.0%	57.1%	84.8%	58.6%	80.0%	75.9%	
Family expenditures increased as children are in grown up phase and I cannot save enough	25	4	70	36	3	61	199
	58.1%	57.1%	53.0%	31.0%	30.0%	38.6%	
Recent health expenditures crippled me	11	5	20	14	1	9	60
	25.6%	71.4%	15.2%	12.1%	10.0%	5.7%	
Total							926

	Urban	Rural	Total (926)
I am in debt	133	185	318
	57.6%	78.7%	
My condition was improved gradually but COVID-19 made the situations bad due to unemployment	159	190	349
	68.8%	80.9%	
Family expenditures increased as children are in grown up phase and I cannot save enough	47	152	199
	20.3%	64.7%	
Recent health expenditures crippled me	9	51	60
	3.9%	21.7%	
Total	231	235	466

	Flood	Earthquake	Cyclone	Total (926)
I am in debt	38	123	157	318
	69.1%	56.9%	80.5%	
My condition was improved gradually but COVID-19 made the situations bad due to unemployment	41	151	157	349
	74.5%	69.9%	80.5%	
Family expenditures increased as children are in grown up phase and I cannot save enough	17	41	141	199
	30.9%	19.0%	72.3%	
Recent health expenditures crippled me	4	9	47	60
	7.3%	4.2%	24.1%	
Total				926

	Male	Female	Total (926)
I am in debt	211	107	318
	72.5%	61.1%	
My condition was improved gradually but COVID-19 made the situations bad due to unemployment	204	145	349
	70.1%	82.9%	
Family expenditures increased as children are in grown up phase and I cannot save enough	117	82	199
	40.2%	46.9%	
Recent health expenditures crippled me	47	13	60
	16.2%	7.4%	
Total			926

36. What role do women at your HH play during and post disaster period (4.4.7) (cross 4.4.7 and 1.13, rural/urban, disaster hotspots)

	Below Primary	Primary	SSC	HHC	Graduate and above	Uneducated	Total (2901)
Food storage	222	280	131	72	55	49	809
	79.6%	76.1%	75.7%	69.2%	72.4%	59.8%	
Fuel wood storage	214	284	111	47	40	63	759
	76.7%	77.2%	64.2%	45.2%	52.6%	76.8%	
Take care of livestock	139	158	55	31	24	24	431
	49.8%	42.9%	31.8%	29.8%	31.6%	29.3%	
take part in reconstruction of houses	172	220	81	32	26	48	579
	61.6%	59.8%	46.8%	30.8%	34.2%	58.5%	
Borrow from microcredit institutions for supporting family's rehabilitation	86	96	44	18	11	20	275
	30.8%	26.1%	25.4%	17.3%	14.5%	24.4%	
Others	4	13	4	13	7	7	48
	1.4%	3.5%	2.3%	12.5%	9.2%	8.5%	
Total							2901

	Urban	Rural	Total (2901)
Food storage	356	453	809
	71.9%	77.2%	
Fuel wood storage	275	484	759
	55.6%	82.5%	
Take care of livestock	97	334	431
	19.6%	56.9%	
take part in reconstruction of houses	209	370	579
	42.2%	63.0%	
Borrow from microcredit institutions for supporting family's rehabilitation	89	186	275
	18.0%	31.7%	
Others	47	1	48
	9.5%	.2%	
Total			2901

	Flood	Earthquake	Cyclone	Total (2901)
Food storage	183	302	324	809
	67.8%	74.6%	79.6%	
Fuel wood storage	221	207	331	759
	81.9%	51.1%	81.3%	
Take care of livestock	173	54	204	431
	64.1%	13.3%	50.1%	
take part in reconstruction of houses	179	168	232	579
	66.3%	41.5%	57.0%	
Borrow from microcredit institutions for supporting family's rehabilitation	43	80	152	275
	15.9%	19.8%	37.3%	
Others	0	47	1	48
	0.0%	11.6%	.2%	
Total				2901

	Male	Female	Total (2901)
Food storage	550	259	809
	77.5%	69.6%	
Fuel wood storage	502	257	759
	70.7%	69.1%	
Take care of livestock	318	113	431
	44.8%	30.4%	
take part in reconstruction of houses	366	213	579
	51.5%	57.3%	
Borrow from microcredit institutions for supporting family's rehabilitation	172	103	275
	24.2%	27.7%	
Others	23	25	48
	3.2%	6.7%	
Total			2901

37. Who plays the main roles in taking decisions while transferring to cyclone shelters (4.4.8) (only for Satkhira, Khulna. Cross 4.4.8 and 1.10, 1.13)

Women headed		Yes	No	Total responses
Satkhira	I take the decision	3	143	146
		100.0%	80.3%	
	My wife/Husband	0	33	33
		0.0%	18.5%	
	We both discuss/examine the situations and take decisions collectively	2	154	156
		66.7%	86.5%	
We don't go to the shelters unless CPP volunteers force us to do so	0	20	20	
	0.0%	11.2%		
Total no of respondents				355
Khulna	I take the decision	3	3	6
		60.0%	3.5%	
	My wife/Husband	0	1	1
		0.0%	1.2%	
	We both discuss/examine the situations and take decisions collectively	2	82	84
		40.0%	95.3%	
Total no of respondents				446

		Below Primary	Primary	SSC	HHC	Graduate and above	Uneducated	Total responses
Satkhira	I take the decision	46	54	20	4	10	12	146
		85.2%	72.0%	87.0%	66.7%	90.9%	100.0%	
	My wife/Husband	10	14	2	0	3	4	33
		18.5%	18.7%	8.7%	0.0%	27.3%	33.3%	
	We both discuss/examine the situations and take decisions collectively	40	69	20	5	10	12	156
		74.1%	92.0%	87.0%	83.3%	90.9%	100.0%	
	We don't go to the shelters unless CPP volunteers force us to do so	4	8	3	2	0	3	20
		7.4%	10.7%	13.0%	33.3%	0.0%	25.0%	

Total no of respondents								
Khulna	I take the decision	3	1	0	0	0	2	6
		10.0%	2.8%	0.0%	0.0%	0.0%	15.4%	
	My Wife/Husband	1	0	0	0	0	0	1
		3.3%	0.0%	0.0%	0.0%	0.0%	0.0%	
	We both discuss/examine the situations and take decisions collectively	26	35	8	2	2	11	84
86.7%		97.2%	100.0%	100.0%	100.0%	84.6%		
							446	

		Male	Female	Total responses (446)
Satkhira	I take the decision	120	26	146
		81.6%	76.5%	
	My wife/Husband	28	5	33
		19.0%	14.7%	
	We both discuss/examine the situations and take decisions collectively	129	27	156
		87.8%	79.4%	
We don't go to the shelters unless CPP volunteers force us to do so	18	2	20	
	12.2%	5.9%		
Total no of respondents				
Khulna	I take the decision	1	5	6
		1.3%	31.3%	
	My wife/Husband	1	0	1
		1.3%	0.0%	
	We both discuss/examine the situations and take decisions collectively	73	11	84
97.3%		68.8%		
Total no of respondents			446	

38. What are the reasons/factors that restrict them to go to shelters (4.4.9) (only for Satkhira, Khulna. Cross 4.4.9 and 1.10)

Women Headed		Yes	No	Total no of responses (747)
Satkhira	My asset back home might be stolen	3	132	135
		100.0%	74.2%	
	Taking poultry and livestock with us is a problem	2	107	109
		66.7%	60.1%	
	Spaces in the cyclone shelters are inadequate	1	48	49
		33.3%	27.0%	
	Toilet facilities there is a problem specially for the females	0	26	26
		0.0%	14.6%	
	Travelling long distance with all family members is difficult	1	35	36
		33.3%	19.7%	
Sometimes cyclones are not that much devastating as it is mentioned in the early warning messages	1	101	102	
	33.3%	56.7%		
Others	0	1	1	
	0.0%	.6%		
Khulna	My asset back home might be stolen	4	62	66
		80.0%	72.1%	
	Taking poultry and livestock with us is a problem	4	52	56
		80.0%	60.5%	
	Spaces in the cyclone shelters are inadequate	5	83	88
		100.0%	96.5%	
	Toilet facilities there is a problem specially for the females	4	64	68
		80.0%	74.4%	
	Travelling long distance with all family members is difficult	1	8	9
		20.0%	9.3%	
Sometimes cyclones are not that much devastating as it is mentioned in the early warning messages	0	2	2	
	0.0%	2.3%		
Total respondents			747	

		Male	Female	Total no of responses
Satkhira	My asset back home might be stolen	110	25	135
		74.8%	73.5%	
	Taking poultry and livestock with us is a problem	93	16	109
		63.3%	47.1%	
	Spaces in the cyclone shelters are inadequate	33	16	49
		22.4%	47.1%	
	Toilet facilities there is a problem specially for the females	19	7	26
		12.9%	20.6%	
	Travelling long distance with all family members is difficult	29	7	36
		19.7%	20.6%	
Sometimes cyclones are not that much devastating as it is mentioned in the early warning messages	93	9	102	
	63.3%	26.5%		
Others	1	0	1	
	0.7%	0.0%		
Khulna	My asset back home might be stolen	53	13	66
		70.7%	81.3%	
	Taking poultry and livestock with us is a problem	47	9	56
		62.7%	56.3%	
	Spaces in the cyclone shelters are inadequate	72	16	88
		96.0%	100.0%	
	Toilet facilities there is a problem specially for the females	56	12	68
		74.7%	75.0%	
	Travelling long distance with all family members is difficult	7	2	9
		9.3%	12.5%	
Sometimes cyclones are not that much devastating as it is mentioned in the early warning messages	1	1	2	
	1.3%	6.3%		
				747

39. Do women from your family or community participate in disaster preparedness and management committees (4.4.8) (cross 4.4.8 and rural/urban, disaster hotspots)

	Urban	Rural	Total
Yes	46	42	88
	9.3%	7.2%	8.1%
No	449	545	994
	90.7%	92.8%	91.9%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Yes	22	33	33	88
	8.1%	8.1%	8.1%	8.1%
No	248	372	374	994
	91.9%	91.9%	91.9%	91.9%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
Yes	55	33	88
	7.7%	8.9%	8.1%
No	655	339	994
	92.3%	91.1%	91.9%
Total	710	372	1082
	100.0%	100.0%	100.0%

40. Do you know is there any women led organization under NRP DWA in this area (4.4.11) (cross 4.4.11 and 1.13, 1.23, rural/urban, disaster hotspots)

	Below Primary	Primary	SSC	HHC	Graduate and above	Uneducated	Total
Yes	19	17	7	11	6	1	61
	6.8%	4.6%	4.0%	10.6%	7.9%	1.2%	5.6%
No	260	351	166	93	70	81	1021
	93.2%	95.4%	96.0%	89.4%	92.1%	98.8%	94.4%
Total	279	368	173	104	76	82	1082
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Years of living	<10 years	<15 years	<20 years	Total
Yes	28	8	25	61
	13.0%	5.9%	3.4%	5.6%
No	188	128	705	1021
	87.0%	94.1%	96.6%	94.4%
Total	216	136	730	1082
	100.0%	100.0%	100.0%	100.0%

	Urban	Rural	Total
Yes	39	22	61
	7.9%	3.7%	5.6%
No	456	565	1021
	92.1%	96.3%	94.4%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Yes	32	24	5	61
	11.9%	5.9%	1.2%	5.6%
No	238	381	402	1021
	88.1%	94.1%	98.8%	94.4%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
Yes	36	25	61
	5.1%	6.7%	5.6%
No	674	347	1021
	94.9%	93.3%	94.4%
Total	710	372	1082
	100.0%	100.0%	100.0%

41. Is there any disaster volunteer active in the locality (4.4.13) (cross 4.4.13 and rural/urban, disaster hotspots)

	Urban	Rural	Total
Yes, I know them personally	61	152	213
	12.3%	25.9%	19.7%
Yes but do not know them	151	160	311
	30.5%	27.3%	28.7%
There is no CPP volunteer	56	112	168
	11.3%	19.1%	15.5%
I have no idea about it	227	163	390
	45.9%	27.8%	36.0%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Yes, I know them personally	42	38	133	213
	15.6%	9.4%	32.7%	19.7%
Yes but do not know them	65	107	139	311
	24.1%	26.4%	34.2%	28.7%
There is no CPP volunteer	31	41	96	168
	11.5%	10.1%	23.6%	15.5%
I have no idea about it	132	219	39	390
	48.9%	54.1%	9.6%	36.0%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
Yes, I know them personally	177	36	213
	24.9%	9.7%	19.7%
Yes but do not know them	205	106	311
	28.9%	28.5%	28.7%
There is no CPP volunteer	107	61	168
	15.1%	16.4%	15.5%
I have no idea about it	221	169	390
	31.1%	45.4%	36.0%
Total	710	372	1082
	100.0%	100.0%	100.0%

42. How do the CPP volunteers inform about floods/cyclones (4.4.14) (Only for Satkhira and Khulna. Cross 4.4.14)

		Male	Female	Total no of responses 470
Satkhira	They visit us and requests to go to shelters	41	6	47
		30.4%	25.0%	
	They come to the community and the community members ask us to go to shelters	36	7	43
		26.7%	29.2%	
	They move around and announce in loud speakers	130	23	153
		96.3%	95.8%	
Others	2	0	2	
	1.5%	0.0%		
Total respondents				

Khulna	They visit us and requests to go to shelters	66	11	77
		93.0%	78.6%	
	They come to the community and the community members ask us to go to shelters	67	12	79
		94.4%	85.7%	
	They move around and announce in loud speakers	60	9	69
		84.5%	64.3%	
Total respondents			470	

43. Is any women led organization works in your area then any female members of your family participate in the activities of that organization (4.4.13) (Cross 4.4.13 and rural/urban, disaster hotspots)

	Urban	Rural	Total
Yes	84	37	121
	17.0%	6.3%	11.2%
No	411	550	961
	83.0%	93.7%	88.8%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Yes	51	47	23	121
	18.9%	11.6%	5.7%	11.2%
No	219	358	384	961
	81.1%	88.4%	94.3%	88.8%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
Yes	73	48	121
	10.3%	12.9%	11.2%
No	637	324	961
	89.7%	87.1%	88.8%
Total	710	372	1082
	100.0%	100.0%	100.0%

44. Do women in your family go to government departments for seeking supports during disasters and post disaster period (4.4.14) (Cross 4.4.14 and rural/urban, disaster hotspots)

	Urban	Rural	Total
Yes	71	184	255
	14.3%	31.3%	23.6%
No	424	403	827
	85.7%	68.7%	76.4%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Yes	40	47	168	255
	14.8%	11.6%	41.3%	23.6%
No	230	358	239	827
	85.2%	88.4%	58.7%	76.4%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
Yes	155	100	255
	21.8%	26.9%	23.6%
No	555	272	827
	78.2%	73.1%	76.4%
Total	710	372	1082
	100.0%	100.0%	100.0%

45. Is any member of your household receive benefits from any SSNP of the government (5.1.1) (Cross 5.1.1 and 1.17, 1.20, rural/urban, disaster hotspots)

	<3	3 to 5	5 to 10	10 to 20	20+	Total
Yes	3	24	48	15	0	90
	3.2%	8.6%	10.8%	6.9%	0.0%	8.3%
No	90	255	395	201	51	992
	96.8%	91.4%	89.2%	93.1%	100.0%	91.7%
Total	93	279	443	216	51	1082
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

	1:2	1:3	1:4	1:5	1:6	>1:6	Total
Yes	29	23	14	13	9	2	90
	21.5%	9.2%	4.1%	7.2%	8.7%	2.7%	8.3%
No	106	226	327	168	94	71	992
	78.5%	90.8%	95.9%	92.8%	91.3%	97.3%	91.7%
Total	135	249	341	181	103	73	1082
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

	Urban	Rural	Total
Yes	9	81	90
	1.8%	13.8%	8.3%
No	486	506	992
	98.2%	86.2%	91.7%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Yes	52	9	29	90
	19.3%	2.2%	7.1%	8.3%
No	218	396	378	992
	80.7%	97.8%	92.9%	91.7%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
Yes	44	46	90
	6.2%	12.4%	8.3%
No	666	326	992
	93.8%	87.6%	91.7%
Total	710	372	1082
	100.0%	100.0%	100.0%

46. Are you aware of the purpose of SSNP (5.1.2) (Cross 5.1.2 and 1.13, rural/urban, disaster hotspots)

	Below Primary	Primary	SSC	HHC	Graduate and above	Uneducated	Total
Yes	7	11	2	4	0	12	36
	17.1%	44.0%	40.0%	80.0%	0.0%	92.3%	40.0%
No	34	14	3	1	1	1	54
	82.9%	56.0%	60.0%	20.0%	100.0%	7.7%	60.0%
Total	41	25	5	5	1	13	90
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

	Urban	Rural	Total
Yes	6	30	36
	66.7%	37.0%	40.0%
No	3	51	54
	33.3%	63.0%	60.0%
Total	9	81	90
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Yes	9	6	21	36
	17.3%	66.7%	72.4%	40.0%
No	43	3	8	54
	82.7%	33.3%	27.6%	60.0%
Total	52	9	29	90
	100.0%	100.0%	100.0%	100.0%

47. What are the purposes you think SSNP is being implemented for (5.1.3) (Cross 5.1.3 and 1.13, rural/urban, disaster hotspots)

	Below Primary	Primary	SSC	HHC	Uneducated	Total responses (58)
To inject money for livelihoods/poverty reduction	2	6	1	3	11	23
	28.6%	54.5%	50.0%	75.0%	91.7%	
To strengthen the resilience of communities	4	1	1	1	1	8
	57.1%	9.1%	50.0%	25.0%	8.3%	
Strengthen public infrastructure through community labor	3	2	0	0	0	5
	42.9%	18.2%	0.0%	0.0%	0.0%	
Strengthen the resilience of household infrastructure	2	2	2	0	4	10
	28.6%	18.2%	100.0%	0.0%	33.3%	
Facilitate DRR issues	0	1	0	0	0	1
	0.0%	9.1%	0.0%	0.0%	0.0%	
Help people to make savings	1	4	0	3	2	10
	14.3%	36.4%	0.0%	75.0%	16.7%	
I do not know	0	1	0	0	0	1
	0.0%	9.1%	0.0%	0.0%	0.0%	
Total respondents						58

	Urban	Rural	Total (58)
To inject money for livelihoods/poverty reduction	4	19	23
	66.7%	63.3%	
To strengthen the resilience of communities	1	7	8
	16.7%	23.3%	
Strengthen public infrastructure through community labor	1	4	5
	16.7%	13.3%	
Strengthen the resilience of household infrastructure	3	7	10
	50.0%	23.3%	
Facilitate DRR issues	0	1	1
	0.0%	3.3%	
Help people to make savings	0	10	10
	0.0%	33.3%	
I do not know	0	1	1
	0.0%	3.3%	
Total			58

	Flood	Earthquake	Cyclone	Total (58)
To inject money for livelihoods/poverty reduction	1	4	18	23
	11.1%	66.7%	85.7%	
To strengthen the resilience of communities	5	1	2	8
	55.6%	16.7%	9.5%	
Strengthen public infrastructure through community labor	2	1	2	5
	22.2%	16.7%	9.5%	
Strengthen the resilience of household infrastructure	2	3	5	10
	22.2%	50.0%	23.8%	
Facilitate DRR issues	1	0	0	1
	11.1%	0.0%	0.0%	
Help people to make savings	3	0	7	10
	33.3%	0.0%	33.3%	
I do not know	1	0	0	1
	11.1%	0.0%	0.0%	
Total				58

	Male	Female	Total (58)
To inject money for livelihoods/poverty reduction	12	11	23
	57.1%	73.3%	
To strengthen the resilience of communities	5	3	8
	23.8%	20.0%	
Strengthen public infrastructure through community labor	4	1	5
	19.0%	6.7%	
Strengthen the resilience of household infrastructure	5	5	10
	23.8%	33.3%	
Facilitate DRR issues	1	0	1
	4.8%	0.0%	
Help people to make savings	5	5	10
	23.8%	33.3%	
I do not know	1	0	1
	4.8%	0.0%	
Total			58

48. What type of SSNP schemes of your household is involved in (5.1.1.1.) (Cross 5.1.1.1 and rural/urban, disaster hotspots)

	Urban	Rural	Total (1094)
TR	14	59	73
	2.8%	10.1%	
EGPP	8	4	12
	1.6%	.7%	
GR	16	46	62
	3.2%	7.8%	
FFW	9	4	13
	1.8%	.7%	
Other	46	77	123
	9.3%	13.1%	
None	408	403	811
	82.4%	68.7%	
Total			1094

	Flood	Earthquake	Cyclone	Total (1094)
TR	64	7	2	73
	23.7%	1.7%	.5%	
EGPP	10	2	0	12
	3.7%	.5%	0.0%	
GR	57	0	5	62
	21.1%	0.0%	1.2%	
FFW	6	3	4	13
	2.2%	.7%	1.0%	
other	26	43	54	123
	9.6%	10.6%	13.3%	
None	118	351	342	811
	43.7%	86.7%	84.0%	
Total				1094

49. How does the SSNP schemes are chosen (5.1.2a.) (Cross 5.1.2a and rural/urban, disaster hotspots)

	Urban	Rural	Total (356)
Through community consultation	24	31	55
	27.3%	16.8%	
By political leaders	25	64	89
	28.4%	34.8%	
I went to Chairman/member and then name was included	31	94	125
	35.2%	51.1%	
Do not know	45	42	87
	51.1%	22.8%	
Total			356

	Flood	Earthquake	Cyclone	Total (356)
Through community consultation	46	2	7	55
	30.3%	3.6%	10.8%	
By political leaders	68	6	15	89
	44.7%	10.9%	23.1%	
I went to Chairman/member and then name was included	100	4	21	125
	65.8%	7.3%	32.3%	
Do not know	15	45	27	87
	9.9%	81.8%	41.5%	
Total				356

	Male	Female	Total (356)
Through community consultation	45	10	55
	25.3%	10.6%	
By political leaders	69	20	89
	38.8%	21.3%	
I went to Chairman/member and then name was included	79	46	125
	44.4%	48.9%	
Do not know	53	34	87
	29.8%	36.2%	
Total			356

50. Your impression about SSNP (5.1.2b) (Cross 5.1.2b and rural/urban, disaster hotspots)

	Urban	Rural	Total
inadequate but useful	29	88	117
	33.0%	47.8%	43.0%
adequate and I am happy to receive it	11	36	47
	12.5%	19.6%	17.3%
I was entitled but did not receive that	14	42	56
	15.9%	22.8%	20.6%
I need to know the beneficiary selection criteria	3	6	9
	3.4%	3.3%	3.3%
I am not interested in it	31	12	43
	35.2%	6.5%	15.8%
Total	88	184	272
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
inadequate but useful	65	15	37	117
	42.8%	27.3%	56.9%	43.0%
adequate and I am happy to receive it	38	1	8	47
	25.0%	1.8%	12.3%	17.3%
I was entitled but did not receive that	42	6	8	56
	27.6%	10.9%	12.3%	20.6%
I need to know the beneficiary selection criteria	5	2	2	9
	3.3%	3.6%	3.1%	3.3%
I am not interested in it	2	31	10	43
	1.3%	56.4%	15.4%	15.8%
Total	152	55	65	272
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
inadequate but useful	76	41	117
	42.7%	43.6%	43.0%
adequate and I am happy to receive it	30	17	47
	16.9%	18.1%	17.3%
I was entitled but did not receive that	40	16	56
	22.5%	17.0%	20.6%
I need to know the beneficiary selection criteria	7	2	9
	3.9%	2.1%	3.3%
I am not interested in it	25	18	43
	14.0%	19.1%	15.8%
Total	178	94	272
	100.0%	100.0%	100.0%

51. How did you use the SSN benefits (5.1.3) (Cross 5.1.3 and rural/urban, disaster hotspots)

	Urban	Rural	Total (553)
received necessary food	43	158	201
	48.9%	85.9%	
medicine bought	41	93	134
	46.6%	50.5%	
used to repay loan	26	68	94
	29.5%	37.0%	
used in reducing disaster risks such as house repair and plinth raising, fixing water supply systems	25	50	75
	28.4%	27.2%	
The support helped me to get rid of anxiety/fear	5	13	18
	5.7%	7.1%	
No	25	6	31
	28.4%	3.3%	
Total			553

	Flood	Earthquake	Cyclone	Total (553)
received necessary food	139	15	47	201
	91.4%	27.3%	72.3%	
medicine bought	90	20	24	134
	59.2%	36.4%	36.9%	
used to repay loan	84	7	3	94
	55.3%	12.7%	4.6%	
used in reducing disaster risks such as house repair and plinth raising, fixing water supply systems	63	3	9	75
	41.4%	5.5%	13.8%	
The support helped me to get rid of anxiety/fear	14	2	2	18
	9.2%	3.6%	3.1%	
No	1	25	5	31
	.7%	45.5%	7.7%	
Total				553

	Male	Female	Total (553)
received necessary food	131	70	201
	73.6%	74.5%	
medicine bought	88	46	134
	49.4%	48.9%	
used to repay loan	72	22	94
	40.4%	23.4%	
used in reducing disaster risks such as house repair and plinth raising, fixing water supply systems	61	14	75
	34.3%	14.9%	
The support helped me to get rid of anxiety/fear	12	6	18
	6.7%	6.4%	
No	24	7	31
	13.5%	7.4%	
Total			553

52. Does person with disability need special support during emergencies (5.2.3) (cross 5.2.3 and 1.11, 1.20, rural/urban, disaster hotspots)

Are you living with disability	Yes	No	Total
Yes, I need external support	45	615	660
	78.9%	60.0%	61.0%
Support is needed but no external support needed	12	410	422
	21.1%	40.0%	39.0%
Total	57	1025	1082
	100.0%	100.0%	100.0%

Dependency ratio	1:2	1:3	1:4	1:5	1:6	>1:6	Total
Yes, I need external support	97	163	206	103	54	37	660
	71.9%	65.5%	60.4%	56.9%	52.4%	50.7%	61.0%
Support is needed but no external support needed	38	86	135	78	49	36	422
	28.1%	34.5%	39.6%	43.1%	47.6%	49.3%	39.0%
Total	135	249	341	181	103	73	1082
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

	Urban	Rural	Total
Yes, I need external support	247	413	660
	49.9%	70.4%	61.0%
Support is needed but no external support needed	248	174	422
	50.1%	29.6%	39.0%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Yes, I need external support	179	202	279	660
	66.3%	49.9%	68.6%	61.0%
Support is needed but no external support needed	91	203	128	422
	33.7%	50.1%	31.4%	39.0%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
Yes, I need external support	418	242	660
	58.9%	65.1%	61.0%
Support is needed but no external support needed	292	130	422
	41.1%	34.9%	39.0%
Total	710	372	1082
	100.0%	100.0%	100.0%

53. Did you suffer from any mega-disaster during last two years (5.3.1) (Cross 5.3.1 and 1.17, rural/urban, disaster hotspots)

	<3	3 to 5	5 to 10	10 to 20	20+	Total (1585)
Flood	60	198	280	106	15	659
	64.5%	71.0%	63.2%	49.1%	29.4%	
Cyclone	28	126	138	40	5	337
	30.1%	45.2%	31.2%	18.5%	9.8%	
River bank erosion	12	48	60	17	0	137
	12.9%	17.2%	13.5%	7.9%	0.0%	
Earthquake	9	52	63	25	3	152
	9.7%	18.6%	14.2%	11.6%	5.9%	
None	24	52	101	89	34	300
	25.8%	18.6%	22.8%	41.2%	66.7%	
Total						1585

	Urban	Rural	Total (1585)
Flood	154	505	659
	31.1%	86.0%	
Cyclone	44	293	337
	8.9%	49.9%	
River bank erosion	22	115	137
	4.4%	19.6%	
Earthquake	38	114	152
	7.7%	19.4%	
None	280	20	300
	56.6%	3.4%	
Total			1585

	Flood	Earthquake	Cyclone	Total (1585)
Flood	267	67	325	659
	98.9%	16.5%	79.9%	
Cyclone	28	42	267	337
	10.4%	10.4%	65.6%	
River bank erosion	54	11	72	137
	20.0%	2.7%	17.7%	
Earthquake	66	37	49	152
	24.4%	9.1%	12.0%	
None	2	278	20	300
	.7%	68.6%	4.9%	
Total				1585

54. Major damage and loss happened (5.3.2) (cross 5.3.2 and 1.25, rural/urban, disaster hotspots), multiple response.

	Building	Semi-pucca	Kutchra	Total (2730)
Income generation affected	81	170	308	559
	60.4%	41.9%	56.8%	
House damaged	44	124	416	584
	32.8%	30.5%	76.8%	
Local communication disrupted	52	146	343	541
	38.8%	36.0%	63.3%	
Death	1	7	41	49
	.7%	1.7%	7.6%	
Illness	29	102	221	352
	21.6%	25.1%	40.8%	
Education of children disrupted	45	147	222	414
	33.6%	36.2%	41.0%	
No such damage happened	38	130	63	231
	28.4%	32.0%	11.6%	
Total				2730

	Urban	Rural	Total (2730)
Income generation affected	165	394	559
	33.3%	67.1%	
House damaged	107	477	584
	21.6%	81.3%	
Local communication disrupted	101	440	541
	20.4%	75.0%	
Death	2	47	49
	.4%	8.0%	
Illness	100	252	352
	20.2%	42.9%	
Education of children disrupted	156	258	414
	31.5%	44.0%	
No such damage happened	214	17	231
	43.2%	2.9%	
Total			2730

	Flood	Earthquake	Cyclone	Total (2730)
Income generation affected	164	106	289	559
	60.7%	26.2%	71.0%	
House damaged	212	66	306	584
	78.5%	16.3%	75.2%	
Local communication disrupted	162	58	321	541
	60.0%	14.3%	78.9%	
Death	37	1	11	49
	13.7%	.2%	2.7%	
Illness	185	34	133	352
	68.5%	8.4%	32.7%	
Education of children disrupted	180	81	153	414
	66.7%	20.0%	37.6%	
No such damage happened	3	214	14	231
	1.1%	52.8%	3.4%	
Total				2730

	Male	Female	Total (2730)
Income generation affected	398	161	559
	56.1%	43.3%	
House damaged	382	202	584
	53.8%	54.3%	
Local communication disrupted	374	167	541
	52.7%	44.9%	
Death	34	15	49
	4.8%	4.0%	
Illness	261	91	352
	36.8%	24.5%	
Education of children disrupted	300	114	414
	42.3%	30.6%	
No such damage happened	131	100	231
	18.5%	26.9%	
Total			2730

55. How did the local government respond to community in times of disasters over the two years prior to the survey (5.3.3) (cross 5.3.3 and rural/urban, disaster hotspots), multiple response.

	Urban	Rural	Total (1889)
Early warning	398	485	883
	80.4%	82.6%	
Evacuation	116	63	179
	23.4%	10.7%	
Shelters	210	248	458
	42.4%	42.2%	
Humanitarian assistance	171	198	369
	34.5%	33.7%	
Total	1889		

	Flood	Earthquake	Cyclone	Total (1889)
Early warning	227	322	334	883
	84.1%	79.5%	82.1%	
Evacuation	26	99	54	179
	9.6%	24.4%	13.3%	
Shelters	84	167	207	458
	31.1%	41.2%	50.9%	
Humanitarian assistance	106	131	132	369
	39.3%	32.3%	32.4%	
Total				1889

	Male	Female	Total (1889)
Early warning	585	298	883
	82.4%	80.1%	
Evacuation	89	90	179
	12.5%	24.2%	
Shelters	289	169	458
	40.7%	45.4%	
Humanitarian assistance	242	127	369
	34.1%	34.1%	
Total	710	372	1082

56. How government SSNP could help women to address cyclone/flood vulnerabilities (5.5.1) (cross 5.5.1 and rural/urban, disaster hotspots), multiple response.

	Urban	Rural	Total (4158)
Water sources restoration	362	404	766
	73.1%	68.8%	
Improve sanitation process	327	496	823
	66.1%	84.5%	
Improvement of local roads	373	464	837
	75.4%	79.0%	
Support for shelter protection	265	357	622
	53.5%	60.8%	
Support for asset protection like livestock/poultry	155	325	480
	31.3%	55.4%	
Support for skill based livelihoods (handicrafts, mobile/online based IGA etc.)	195	161	356
	39.4%	27.4%	
Build up a killa/raised land so that women can stay safe during flood disasters	132	142	274
	26.7%	24.2%	
Total			4158

	Flood	Earthquake	Cyclone	Total (4158)
Water sources restoration	193	282	291	766
	71.5%	69.6%	71.5%	
Improve sanitation process	207	276	340	823
	76.7%	68.1%	83.5%	
Improvement of local roads	201	311	325	837
	74.4%	76.8%	79.9%	
Support for shelter protection	197	210	215	622
	73.0%	51.9%	52.8%	
Support for asset protection like livestock/poultry	157	102	221	480
	58.1%	25.2%	54.3%	
Support for skill based livelihoods (handicrafts, mobile/online based IGA etc.)	38	178	140	356
	14.1%	44.0%	34.4%	
Build up a killa/raised land so that women can stay safe during flood disasters	16	124	134	274
	5.9%	30.6%	32.9%	
Total	270	405	407	1082

	Male	Female	Total (4158)
Water sources restoration	533	233	766
	75.1%	62.6%	
Improve sanitation process	550	273	823
	77.5%	73.4%	
Improvement of local roads	550	287	837
	77.5%	77.2%	
Support for shelter protection	386	236	622
	54.4%	63.4%	
Support for asset protection like livestock/poultry	321	159	480
	45.2%	42.7%	
Support for skill based livelihoods (handicrafts, mobile/online based IGA etc.)	234	122	356
	33.0%	32.8%	
Build up a killa/raised land so that women can stay safe during flood disasters	178	96	274
	25.1%	25.8%	
Total			4158

57. Are there any non-traditional livelihood options pursued by any woman in your area (5.6.1) (cross 5.6.1 and rural/urban, disaster hotspots)

	Urban	Rural	Total
Yes	95	12	107
	19.2%	2.0%	9.9%
No	400	575	975
	80.8%	98.0%	90.1%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Yes	3	93	11	107
	1.1%	23.0%	2.7%	9.9%
No	267	312	396	975
	98.9%	77.0%	97.3%	90.1%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
Yes	55	52	107
	7.7%	14.0%	9.9%
No	655	320	975
	92.3%	86.0%	90.1%
Total	710	372	1082
	100.0%	100.0%	100.0%

58. Will the women of the area be willing to do that if opportunities/training are provided (5.6.2) (cross 5.6.2 and rural/urban, disaster hotspots)

	Urban	Rural	Total
Yes	259	350	609
	52.3%	59.6%	56.3%
I am not sure	115	185	300
	23.2%	31.5%	27.7%
No	121	52	173
	24.4%	8.9%	16.0%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Yes	123	223	263	609
	45.6%	55.1%	64.6%	56.3%
I am not sure	118	72	110	300
	43.7%	17.8%	27.0%	27.7%
No	29	110	34	173
	10.7%	27.2%	8.4%	16.0%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
Yes	351	258	609
	49.4%	69.4%	56.3%
I am not sure	219	81	300
	30.8%	21.8%	27.7%
No	140	33	173
	19.7%	8.9%	16.0%
Total	710	372	1082
	100.0%	100.0%	100.0%

59. Are you involved in any project run by yourself or by any govt. agency such as DWA or NGO (5.7.1) (cross 5.7.1 and rural/urban, disaster hotspots)

	Urban	Rural	Total (1111)
I have small tailoring business	35	19	54
	7.1%	3.2%	
I have small shop	49	35	84
	9.9%	6.0%	
I have agricultural farm (livestock/poultry/garden/fishery)	12	23	35
	2.4%	3.9%	
I run small cottage industry	6	8	14
	1.2%	1.4%	
I have no project on my own but I participate in the project run by others	12	10	22
	2.4%	1.7%	
No	396	506	902
	80.0%	86.2%	
Total			1111

	Flood	Earthquake	Cyclone	Total (1111)
I have small tailoring business	17	20	17	54
	6.3%	4.9%	4.2%	
I have small shop	16	38	30	84
	5.9%	9.4%	7.4%	
I have agricultural farm (livestock/poultry/garden/fishery)	11	2	22	35
	4.1%	.5%	5.4%	
I run small cottage industry	4	2	8	14
	1.5%	.5%	2.0%	
I have no project on my own but I participate in the project run by others	15	3	4	22
	5.6%	.7%	1.0%	
No	217	346	339	902
	80.4%	85.4%	83.3%	
Total				1111

	Male	Female	Total (1111)
I have small tailoring business	33	21	54
	4.6%	5.6%	
I have small shop	69	15	84
	9.7%	4.0%	
I have agricultural farm (livestock/poultry/garden/fishery)	28	7	35
	3.9%	1.9%	
I run small cottage industry	10	4	14
	1.4%	1.1%	
I have no project on my own but I participate in the project run by others	19	3	22
	2.7%	.8%	
No	571	331	902
	80.4%	89.0%	
Total			1111

60. Is your involvement in the project contributed in reducing asset loss (last disaster) compared to the loss happened in the disaster earlier? (5.7.2) (cross 5.7.2 and rural/urban, disaster hotspots)

	Urban	Rural	Total
little reduced, 20%	12	13	25
	13.8%	18.3%	15.8%
Moderately reduced, <50%	21	34	55
	24.1%	47.9%	34.8%
Significantly reduced, >50%	52	17	69
	59.8%	23.9%	43.7%
Not reduced at all	2	7	9
	2.3%	9.9%	5.7%
Total	87	71	158
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
little reduced, 20%	6	9	10	25
	15.8%	16.1%	15.6%	15.8%
Moderately reduced, <50%	23	2	30	55
	60.5%	3.6%	46.9%	34.8%
Significantly reduced, >50%	9	43	17	69
	23.7%	76.8%	26.6%	43.7%
Not reduced at all	0	2	7	9
	0.0%	3.6%	10.9%	5.7%
Total	38	56	64	158
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
little reduced, 20%	13	12	25
	10.8%	31.6%	15.8%
Moderately reduced, <50%	46	9	55
	38.3%	23.7%	34.8%
Significantly reduced, >50%	53	16	69
	44.2%	42.1%	43.7%
Not reduced at all	8	1	9
	6.7%	2.6%	5.7%
Total	120	38	158
	100.0%	100.0%	100.0%

61. Are the road widths adequate in your community so that large units of FSCD units can enter in your neighborhoods in case of an emergency like for fire or earthquake situation management? (5.11.1) (only urban)

	Urban	Total (562)
Road are narrow, unsuitable for large FSCD units	298	298
	60.2%	
Roads are wide enough but the turns are difficult for large units	128	128
	25.9%	
Road condition is good	136	136
	27.5%	
Total		562

Only Urban	Male	Female	Total (562)
Road are narrow, unsuitable for large FSCD units	186	112	298
	60.4%	59.9%	
Roads are wide enough but the turns are difficult for large units	66	62	128
	21.4%	33.2%	
Road condition is good	81	55	136
	26.3%	29.4%	
Total			562

62. Are there locally available water sources like lakes, ponds, rivers from where necessary water can be collected during emergencies (5.11.2) (only urban)

	Urban	Total
Yes	203	203
	41.0%	41.0%
No	292	292
	59.0%	59.0%
Total	495	495
	100.0%	100.0%

Only Urban	Male	Female	Total
Yes	138	65	203
	44.8%	34.8%	41.0%
No	170	122	292
	55.2%	65.2%	59.0%
Total	308	187	495
	100.0%	100.0%	100.0%

63. Is there adequate open place in the area like parks, open field for mass gathering in case of any earthquake emergency (5.11.3) (only urban)

	Urban	Total
Yes but used for other purposes	121	121
	24.4%	24.4%
Yes, we could go there	153	153
	30.9%	30.9%
No such place in the area	221	221
	44.6%	44.6%
Total	495	495
	100.0%	100.0%

Only urban	Male	Female	Total
Yes but used for other purposes	72	49	121
	23.4%	26.2%	24.4%
Yes, we could go there	101	52	153
	32.8%	27.8%	30.9%
No such place in the area	135	86	221
	43.8%	46.0%	44.6%
Total	308	187	495
	100.0%	100.0%	100.0%

64. Do you know about the earthquake preparedness measures (5.11.4) (only urban)

	Urban	Total
I knew but forgot	184	184
	37.2%	37.2%
I know very well but not prepared	182	182
	36.8%	36.8%
I know and I am prepared	129	129
	26.1%	26.1%
Total	495	495
	100.0%	100.0%

Only Urban	Male	Female	Total
I knew but forgot	103	81	184
	33.4%	43.3%	37.2%
I know very well but not prepared	116	66	182
	37.7%	35.3%	36.8%
I know and I am prepared	89	40	129
	28.9%	21.4%	26.1%
Total	308	187	495
	100.0%	100.0%	100.0%

65. Did you ever participate in earthquake mock-drills (5.11.5) (only urban)

	Urban	Total
Yes	56	56
	11.3%	11.3%
No but I am willing to participate	241	241
	48.7%	48.7%
No and I am not willing to participate	198	198
	40.0%	40.0%
Total	495	495
	100.0%	100.0%

Only Urban	Male	Female	Total
Yes	42	14	56
	13.6%	7.5%	11.3%
No but I am willing to participate	141	100	241
	45.8%	53.5%	48.7%
No and I am not willing to participate	125	73	198
	40.6%	39.0%	40.0%
Total	308	187	495
	100.0%	100.0%	100.0%

66. Do you know the emergency telephone numbers (5.11.6) (cross 5.11.6 and rural/urban, disaster hotspots)

	Urban	Rural	Total
Yes I keep those handy	245	126	371
	49.5%	21.5%	34.3%
I had but lost now	41	197	238
	8.3%	33.6%	22.0%
Other family members know	126	116	242
	25.5%	19.8%	22.4%
I will get from website when I need it	5	14	19
	1.0%	2.4%	1.8%
I do not need those	78	134	212
	15.8%	22.8%	19.6%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Yes I keep those handy	132	166	73	371
	48.9%	41.0%	17.9%	34.3%
I had but lost now	36	40	162	238
	13.3%	9.9%	39.8%	22.0%
Other family members know	77	116	49	242
	28.5%	28.6%	12.0%	22.4%
I will get from website when I need it	1	5	13	19
	.4%	1.2%	3.2%	1.8%
I do not need those	24	78	110	212
	8.9%	19.3%	27.0%	19.6%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

	Male	Female	Total
Yes I keep those handy	275	96	371
	38.7%	25.8%	34.3%
I had but lost now	153	85	238
	21.5%	22.8%	22.0%
Other family members know	125	117	242
	17.6%	31.5%	22.4%
I will get from website when I need it	11	8	19
	1.5%	2.2%	1.8%
I do not need those	146	66	212
	20.6%	17.7%	19.6%
Total	710	372	1082
	100.0%	100.0%	100.0%

67. Will you be willing to act as a volunteer (5.11.7) (cross 5.11.7 and 1.2.1 and rural/urban, disaster hotspots)

	18-25	26-35	36-45	46-55	56-65	above 65	Total
Yes	51	176	142	87	59	16	531
	56.0%	55.5%	49.5%	40.3%	45.7%	38.1%	49.1%
I am not sure	22	70	68	51	28	12	251
	24.2%	22.1%	23.7%	23.6%	21.7%	28.6%	23.2%
No	18	71	77	78	42	14	300
	19.8%	22.4%	26.8%	36.1%	32.6%	33.3%	27.7%
Total	91	317	287	216	129	42	1082
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

	Urban	Rural	Total
Yes	205	326	531
	41.4%	55.5%	49.1%
I am not sure	103	148	251
	20.8%	25.2%	23.2%
No	187	113	300
	37.8%	19.3%	27.7%
Total	495	587	1082
	100.0%	100.0%	100.0%

	Flood	Earthquake	Cyclone	Total
Yes	159	147	225	531
	58.9%	36.3%	55.3%	49.1%
I am not sure	79	71	101	251
	29.3%	17.5%	24.8%	23.2%
No	32	187	81	300
	11.9%	46.2%	19.9%	27.7%
Total	270	405	407	1082
	100.0%	100.0%	100.0%	100.0%

68. Is the area where you are living susceptible to landslide disaster? (6.2) (Only Rangamati)

Only Rangamati	Male	Female	Total
Yes	32	68	100
	59.3%	84.0%	74.1%
Maybe	12	9	21
	22.2%	11.1%	15.6%
I don't know	10	4	14
	18.5%	4.9%	10.4%
Total	54	81	135
	100.0%	100.0%	100.0%

69. How do you rate the degree of impacts and related consequences of landslide disaster (6.3) (only Rangamati)

Only Rangamati	Male	Female	Total
Extremely high as it devastates lives and destroy properties and assets	26	62	88
	48.1%	76.5%	65.2%
The impacts are moderate and we can cope with it	12	4	16
	22.2%	4.9%	11.9%
Impacts are insignificant and we do not bother much about it	9	12	21
	16.7%	14.8%	15.6%
I have no idea	7	3	10
	13.0%	3.7%	7.4%
Total	54	81	135
	100.0%	100.0%	100.0%

	Below Primary	Primary	SSC	HHC	Graduate and above	Uneducated	Total
Extremely high as it devastates lives and destroy properties and assets	11	38	19	7	2	11	88
	44.0%	67.9%	79.2%	58.3%	28.6%	100.0%	65.2%
The impacts are moderate and we can cope with it	2	6	2	4	2	0	16
	8.0%	10.7%	8.3%	33.3%	28.6%	0.0%	11.9%
Impacts are insignificant and we do not bother much about it	5	11	2	1	2	0	21
	20.0%	19.6%	8.3%	8.3%	28.6%	0.0%	15.6%
I have no idea	7	1	1	0	1	0	10
	28.0%	1.8%	4.2%	0.0%	14.3%	0.0%	7.4%
Total	25	56	24	12	7	11	135
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

70. In your opinion, why landslides occur (6.4) (only Rangamati)

Earthquake triggers landslide disaster	Male	Female	Total
extremely important factor for landslide occurrence	32	64	96
	59.3%	79.0%	71.1%
Insignificant factor	22	17	39
	40.7%	21.0%	28.9%
Total	54	81	135
	100.0%	100.0%	100.0%

Earthquake triggers landslide disaster	Below Primary	Primary	SSC	HHC	Graduate and above	Uneducated	Total
extremely important factor for landslide occurrence	12	37	21	11	4	11	96
	48.0%	66.1%	87.5%	91.7%	57.1%	100.0%	71.1%
Insignificant factor	13	19	3	1	3	0	39
	52.0%	33.9%	12.5%	8.3%	42.9%	0.0%	28.9%
Total	25	56	24	12	7	11	135
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Deforestation influences landslides to occur	Male	Female	Total
extremely important factor for landslide occurrence	50	79	129
	92.6%	97.5%	95.6%
Insignificant factor	4	2	6
	7.4%	2.5%	4.4%
Total	54	81	135
	100.0%	100.0%	100.0%

Deforestation influences landslides to occur	Below Primary	Primary	SSC	HHC	Graduate and above	Uneducated	Total
extremely important factor for landslide occurrence	24	53	23	11	7	11	129
	96.0%	94.6%	95.8%	91.7%	100.0%	100.0%	95.6%
Insignificant factor	1	3	1	1	0	0	6
	4.0%	5.4%	4.2%	8.3%	0.0%	0.0%	4.4%
Total	25	56	24	12	7	11	135
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Heavy rainfall has increased the chance of occurrence	Male	Female	Total
extremely important factor for landslide occurrence	54	79	133
	100.0%	97.5%	98.5%
Insignificant factor	0	2	2
	0.0%	2.5%	1.5%
Total	54	81	135
	100.0%	100.0%	100.0%

Heavy rainfall has increased the chance of occurrence	Below Primary	Primary	SSC	HHC	Graduate and above	Uneducated	Total
extremely important factor for landslide occurrence	25	56	23	11	7	11	133
	100.0%	100.0%	95.8%	91.7%	100.0%	100.0%	98.5%
Insignificant factor	0	0	1	1	0	0	2
	0.0%	0.0%	4.2%	8.3%	0.0%	0.0%	1.5%
Total	25	56	24	12	7	11	135
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Hill cutting increases the landslide risks	Male	Female	Total
extremely important factor for landslide occurrence	54	80	134
	100.0%	98.8%	99.3%
Insignificant factor	0	1	1
	0.0%	1.2%	.7%
Total	54	81	135
	100.0%	100.0%	100.0%

Hill cutting increases the landslide risks	Below Primary	Primary	SSC	HHC	Graduate and above	Uneducated	Total
extremely important factor for landslide occurrence	25	56	24	11	7	11	134
	100.0%	100.0%	100.0%	91.7%	100.0%	100.0%	99.3%
Insignificant factor	0	0	0	1	0	0	1
	0.0%	0.0%	0.0%	8.3%	0.0%	0.0%	.7%
Total	25	56	24	12	7	11	135
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

It becomes big threats when hill cutting, deforestation and heavy rainfall happens together	Male	Female	Total
extremely important factor for landslide occurrence	54	81	135
	100.0%	100.0%	100.0%
Total	54	81	135
	100.0%	100.0%	100.0%

It becomes big threats when hill cutting, deforestation and heavy rainfall happens together	Below Primary	Primary	SSC	HHC	Graduate and above	Uneducated	Total
extremely important factor for landslide occurrence	25	56	24	12	7	11	135
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	25	56	24	12	7	11	135
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

71. In your opinion, has the occurrence of landslide disaster increased or decreased in recent times (6.5) (only Rangamati)

	Male	Female	Total
It has highly increased	26	26	52
	48.1%	32.1%	38.5%
It has moderately increased	10	10	20
	18.5%	12.3%	14.8%
The rate of recurrence is same compared to the past	18	26	44
	33.3%	32.1%	32.6%
It has decreased	0	18	18
	0.0%	22.2%	13.3%
I have no idea	0	1	1
	0.0%	1.2%	.7%
Total	54	81	135
	100.0%	100.0%	100.0%

72. Is there any landslide early warning mechanism exists in your area (6.6) (only Rangamati)

	Male	Female	Total (259)
Yes, the administration gives warning before it occurs	45	78	123
	83.3%	96.3%	
We anticipate about the likely occurrence from our traditional wisdom and understanding	21	29	50
	38.9%	35.8%	
Local NGO/CBO come forward and inform us about likely disaster	29	57	86
	53.7%	70.4%	
Total			259

73. How landslide disasters can be mitigated (6.7) (only Rangamati)

Landslide early warning should be given	Male	Female	Total
Extremely important	42	72	114
	77.8%	88.9%	84.4%
Moderate important	12	8	20
	22.2%	9.9%	14.8%
Important	0	1	1
	0.0%	1.2%	.7%
Total	54	81	135
	100.0%	100.0%	100.0%

Landslide early warning should be given	Below Primary	Primary	SSC	HHC	Graduate and above	Uneducated	Total
Extremely important	23	48	20	8	6	9	114
	92.0%	85.7%	83.3%	66.7%	85.7%	81.8%	84.4%
Moderate important	2	8	3	4	1	2	20
	8.0%	14.3%	12.5%	33.3%	14.3%	18.2%	14.8%
Important	0	0	1	0	0	0	1
	0.0%	0.0%	4.2%	0.0%	0.0%	0.0%	.7%
	25	56	24	12	7	11	135
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Hill cutting should be stopped	Male	Female	Total
Extremely important	51	77	128
	94.4%	95.1%	94.8%
Moderate important	3	3	6
	5.6%	3.7%	4.4%
Less important	0	1	1
	0.0%	1.2%	.7%
	54	81	135
	100.0%	100.0%	100.0%

Hill cutting should be stopped	Below Primary	Primary	SSC	HHC	Graduate and above	Uneducated	Total
Extremely important	25	52	21	12	7	11	128
	100.0%	92.9%	87.5%	100.0%	100.0%	100.0%	94.8%
Moderate important	0	4	2	0	0	0	6
	0.0%	7.1%	8.3%	0.0%	0.0%	0.0%	4.4%
Less important	0	0	1	0	0	0	1
	0.0%	0.0%	4.2%	0.0%	0.0%	0.0%	.7%
	25	56	24	12	7	11	135
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Landslide management plan at community level should be developed	Male	Female	Total
Extremely important	42	62	104
	77.8%	76.5%	77.0%
Moderate important	12	18	30
	22.2%	22.2%	22.2%
Not important at all	0	1	1
	0.0%	1.2%	.7%
	54	81	135
	100.0%	100.0%	100.0%

Landslide management plan at community level should be developed	Below Primary	Primary	SSC	HHC	Graduate and above	Uneducated	Total
Extremely important	22	47	19	6	6	4	104
	88.0%	83.9%	79.2%	50.0%	85.7%	36.4%	77.0%
Moderate important	3	9	4	6	1	7	30
	12.0%	16.1%	16.7%	50.0%	14.3%	63.6%	22.2%
Not important at all	0	0	1	0	0	0	1
	0.0%	0.0%	4.2%	0.0%	0.0%	0.0%	.7%
	25	56	24	12	7	11	135
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Landslide contingency plan (for response and recovery phases) should exist with local government administration	Male	Female	Total
Extremely important	27	54	81
	50.0%	66.7%	60.0%
Moderate important	22	23	45
	40.7%	28.4%	33.3%
Important	5	3	8
	9.3%	3.7%	5.9%
Less important	0	1	1
	0.0%	1.2%	.7%
	54	81	135
	100.0%	100.0%	100.0%

Landslide contingency plan (for response and recovery phases) should exist with local government administration	Below Primary	Primary	SSC	HHC	Graduate and above	Uneducated	Total
Extremely important	17	40	9	2	6	7	81
	68.0%	71.4%	37.5%	16.7%	85.7%	63.6%	60.0%
Moderate important	6	13	11	10	1	4	45
	24.0%	23.2%	45.8%	83.3%	14.3%	36.4%	33.3%
Important	2	3	3	0	0	0	8
	8.0%	5.4%	12.5%	0.0%	0.0%	0.0%	5.9%
Less important	0	0	1	0	0	0	1

Community awareness campaign should be done on preparedness issues	Male	Female	Total
Extremely important	25	56	81
	46.3%	69.1%	60.0%
Moderate important	15	17	32
	27.8%	21.0%	23.7%
Important	12	7	19
	22.2%	8.6%	14.1%
Less important	2	1	3
	3.7%	1.2%	2.2%
	54	81	135
	100.0%	100.0%	100.0%

Community awareness campaign should be done on preparedness issues	Below Primary	Primary	SSC	HHC	Graduate and above	Uneducated	Total
Extremely important	14	38	14	4	4	7	81
	56.0%	67.9%	58.3%	33.3%	57.1%	63.6%	60.0%
Moderate important	4	10	6	7	1	4	32
	16.0%	17.9%	25.0%	58.3%	14.3%	36.4%	23.7%
Important	6	8	3	1	1	0	19
	24.0%	14.3%	12.5%	8.3%	14.3%	0.0%	14.1%
Less important	1	0	1	0	1	0	3
	4.0%	0.0%	4.2%	0.0%	14.3%	0.0%	2.2%
	25	56	24	12	7	11	135
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

ANNEX-2

Baseline Survey Questionnaire and Checklist National Resilience Programme (NRP)

Name of the enumerator:

Mobile number:

Date:

Demographic and socio-economic information

- 1.1. Name of the respondent:
- 1.2. Sex: (1-Male, 2-Female, 3-Other Gender)
- 1.2.1. Age:
- 1.3. Current Address (Ward/Village, Union, Upazila, District):
- 1.4. Permanent Address (Upazila, District):
- 1.5. Latitude, Longitude (use GPS Logger of mobile):
- 1.7. Mobile number:
- 1.8. Religion: (1 - Buddhist, 2 - Christian, 3 - Hindu, 4 - Muslim, 5-Others)
- 1.8.1 Your position in the household: (1. Household head, 2. Household member)
- 1.9 Indigenous: (1 - Yes, 2 - No)
- 1.10. Woman headed: (1 - Yes, 2 - No)
- 1.11. Are you living with disability?:(1-Yes, 2-No)
- 1.12. If yes then what type: (1 - Hearing impairment, 2 - Physically challenged, 3 - Mental illness, 4 - Old age complicacies, 5 - Speech difficulty, 6 - Other)
- 1.13. Education of the respondent: (1 - Below Primary, 2 - Primary, 3 - SSC, 4 - HHC, 5 -Graduate and above, 6. Uneducated)
- 1.14. Major profession: (1 - Farmer, 2 - Fisherman, 3 - Day laborer, 4 -Business, 5 - Service, 6 - Community worker, 7 - Others)
- 1.15. Secondary profession: (1 - Farmer, 2 - Fisherman, 3 - Day laborer, 4 - Business, 5 - Service, 6 - Community worker, 7 - Others, 8- N/A)
- 1.16. Are any female members of your family engaged in non-traditional livelihoods? (1 - Yes, 2 - No)
- 1.17. Income from major profession (monthly in thousand Taka): (1 - < 3, 2 - 3 to 5, 3 - 5 to 10, 4 - 10 to 20, 5 - 20+)
- 1.18. Income from secondary profession (monthly in thousand Taka): (1 - < 3, 2 - 3 to 5, 3 - 5 to 10, 4 - 10 to 20, 5 - 20+)
- 1.19. Ownership of land (in decimal. Agriculture: Non-agriculture:)
- 1.20. Household dependency ratio: (1 - 1:2, 2 - 1:3, 3 - 1:4, 4 - 1:5, 5 - 1:6, 6 - >1:6)

- 1.21. Senior female members in the household: (Mother - check box, Mother-in-Law - check box, Other In-Laws - check box, No, Others)
- 1.22. Person with disability in the household: (count number, multiple response allowed. Physically challenged, Deaf/hearing difficulties, Mental illness, Speech difficulty, Old age difficulties, Others)
- 1.23. Years of living in this union/ward: (1 - < 10 years, 2 - < 15 years, 3 - < 20 + years)
- 1.24. Household ownership: (1 - Own, 2 - Rent, 3 - Living in others house, 4 - Living in fallow land, 5 - Others land)
- 1.25. House structure: (1 - Building, 2 - Semi-pucca, 3 - Kutcha)
- 1.26. Electricity connection: (1 - National grid, 2 - Solar, 3 National grid and solar, 4 - No connection)
- 1.27. Electrical appliances in the household: (count number, multiple responses allowed. 1 - Iron, 2 - Television, 3 - Fan, 4 - Fridge, 5 - Electric cooking devices, 6 - electric kettle, 7 - Computer)
- 1.28. Critical utility services/arrangements. (multiple response allowed. 1 - water supply from government pipe connection, 2 - water supply from tube well, 3 - water supply from variety of sources, 4 - have pucca latrine, 5 - use kutcha latrine, 6 - I have no latrine of my own)
- 1.29. Use of energy (Multiple response allowed. 1 - I have government gas connection, 2 - I use gas cylinder, 3 - I use traditional chula using firewood, dry leaves, dried cow dung etc.)
- 1.30. Energy options during disasters (Multiple responses allowed. 1 - I generally do not face problems, 2 - I depend on gathering firewood from nearby areas and collections become difficult during this times, 3 - Firewood get wet and cooking becomes difficult, 4 - Need to visit others house and use their chula/stove for cooking, 5 - Others.)
- 1.31. Livestock and poultry: (Number. Cow: , Goat/sheep: , poultry:)
- 1.32. How many times have you been affected by disasters during last 5 years: (Insert total number of times for each category: Flood, flash flood, River bank erosion, Cyclone, Tidal surge, Earthquake)
- 1.33. How many times have you moved from your original place due to river erosion?
- 1.34. Sources and means of receiving information (Multiple responses allowed. 1 - Television, 2 - Radio, 3 - Mobile phone, 4 - Local announcements)
- 1.35. Have you ever used 1090 hotline number? (1 - I never heard of it, 2 - I know about it but never used, 3 - I know it and call when there is a need)
- 1.36. If you dialed hotline 1090, was it helpful? (1-Yes, 2-No)

Health Issues including COVID-19 information

- 2.1. Prevalence of non-communicable disease in your household (1 - BP, 2 - Diabetes, 3 - Heart complicacies, 4 - Kidney disease, 5 - Cancer, 6 - Asthma/breathing difficulties, 7 - N/A ; multiple responses allowed): (Please make a table for the respondents such as: , Wife/Husband: , Mother: , Father: , Mother-in-Law: , Father-in-Law:)
- 2.2. Any member infected by COVID-19? : (1 - Yes, 2 - No; If yes then we will communicate further for more detailed qualitative information on impact, management and recovery)
 - 2.2.a. Any death incident occurred in your household due to COVID? (Yes/No). if answer Yes then go to 2.2.b.

- 2.2.b How many (male, female....., Total:)
- 2.3. Information about weekly food intake/nutrition in the household: (Carbohydrate/Rice: adequate/not adequate, Egg: Everyday/every other day/once in two days/once in a week/not taken; Milk: adequate/satisfactory/not taken, Meat: Everyday/every other day/once in two days/once in a week/not taken, Fish: Everyday/every other day/once in two days/once in a week/not taken, Seasonal fruits: Everyday/every other day/once in two days/not taken)
- 2.4. Whom do you visit in case of illness: (1 - visit local village doctors, 2 - Consult and buy medicine from the local pharmacy, 3 - visit government doctor, 4 - visit health centers run by NGOs, 5 - Others)
- 2.5. How far is the government health center from your house: (1 - < 1 km, 2 - 1 to 2 km, 3 - 3 to 4 km, 4 - 4+ km)
- 2.6. What is your understanding about COVID-19 disease: (Rate 1 to 5 where 1 is most important, 2 is moderately important, 3 is important, 4 less important and 5 is least important; It is a serious communicable disease - , It is a serious disease for old people - , Strong immune system may help to get cured quickly- , It has a co-morbidity issue - , we should eat healthy food to fight against the disease - , we should maintain social distancing and wear masks - , washing hands for 20 seconds with soap could help to get protected - , we should not be scared of it and be sympathize with the patients - ,) COVID-19
- 2.7. Have your family members followed health guidelines related to COVID-19 (1 - We followed strictly, 2 - We followed but not regularly, 3 - Did not follow). If the answer is option '2 or 3', then please respond to the following question.
- 2.8. Reasons behind not following the COVID-19 related health guidelines (Multiple response allowed. 1 - I need to earn for living therefore need to go outside, 2 - Continuous stay-home is suffocating and I need socializing, 3 - I saw people are moving around and that influenced me to go outside, 4 - I always use face masks whenever go outside, 5 - I use face masks but not strictly follow guidelines) COVID-19
- 2.9. Impacts on income generation of COVID-19 (choose any one from the options/checkbox; Monthly income has reduced by 25% - , Monthly income has reduced by 50% - , Monthly income has reduced by 75% -)
- 2.10. Other impacts. (Tick multiple checkbox allowed. Earning member of the family lost job - , Overseas wage earner had to return because of COVID-19 and thus earning dropped - , I had to borrow money/food to cope with current situation - , I was already in trouble, this situation has created more serious problems - , I had to mortgage/sell assets (jewelry, livestock, land etc.) - , I had to sell labor in advance - , I am scared about the future - ,)
- 2.11. What are the challenges to follow government protective guidelines to avoid COVID-19? (I need to go outside for generating income - , Need to visit grocery shops for household needs - , Purchase mobile balance - , I cannot stay home long time without socializing with friends - , Me or members of my family need to go outside to collect safety net benefits - , Need to visit health care centers for me/members of my family -). COVID-19
- 2.12. Did you receive any assistance (cash, kind) from Government, private sector, NGO/CBO, relatives etc. (1 - Received required assistance, 2 - Yes but very insignificant, 3 - No)
- 2.13. What kind of support do you feel needed now to recover from COVID? -

Questions for NRP indicators

Enhanced women's leadership capacities for, gender-responsive disaster management decisions, investments and policies at national and local

- 4.3.1. Do you receive disaster early warning messages during emergencies? (1- Yes, sometimes I directly receive, 2- Yes, sometimes I receive from the neighbors, 3- No)
- 4.3.2. What are the main sources of early warning messages (Multiple responses allowed. 1 - Television, 2 - Radio, 3 - Mobile phone, 4 - Local CPP announcements, 5 - I get from the others/neighbors, 6 - Other)
- 4.3.2. a. Did any female members of your family receive disaster early warning messages at the awake of disasters? (1 - Yes, 2 - No).
- 4.3.3. What actions do you take as response to receiving early warning messages (1 - Taking shelter outside in stronger places, 2 - buy food/medicines, 3 - Preserve water and other items for emergencies, 4 - I do not do any of these since I expect that government/others will do for me, 5 - Others)
- 4.4.1. Did you ever watch or listen to talk shows or interviews on GRR, DRR, CCA? (1- Yes, 2- No).
- 4.4.2. What discussion topics will you recommend for producing television or radio programmes relating to DRR, CCA, GRR? (choose one option where 1 is most important, 2 is moderately important, 3 is important, 4 less important and 5 is least important; early warning- 1,2,3,4,5, precautions during emergencies-1,2,3,4,5, how to safeguard assets during emergencies-1,2,3,4,5, what to do for long term recovery- 1,2,3,4,5, what pre-disaster actions I could take that will reduce asset loss- 1,2,3,4,5 how to cope with multi-hazard conditions - 1,2,3,4,5)
- 4.4.3. What is your opinion about the state of violence against women and children during disaster in the area? (1 - Increased significantly, 2 - Increased moderately, 3 - Same as before, 4 - Decreased than before, 5 - I do not know)
- 4.4.4. Do you think that your/households' capacity has increased compared to the past to recover from crisis and prevent relapses if any disaster of similar magnitude happens in future (1- Yes, 2- I do not know, 3- No); if answer is yes then answer 4.4.5., if no then 4.4.6.
- 4.4.5. Based on what you think that your capacities have increased (Multiple response can be taken, 1- My economic conditions improved, 2- I have more knowledge how to address disaster challenges, 3- I reduced disaster risks of different kinds at household level, 4- I have good networks with community leaders, 5- The overall support of the government contributed)
- 4.4.6. Based on what you think that your capacities have not increased adequately (Multiple responses can be taken, 1- I am in debt, 2- My condition was improved gradually but COVID-19 made the situations bad due to unemployment, 3- Family expenditures increased as children are in grown up phase and I cannot save enough, 4- Recent health expenditures crippled me)
- 4.4.7. What role do women at your HH play during and post disaster period? 1. Food storage, 2. Fuel wood storage, 3. Take care of livestock, 4. Take part in reconstruction of houses, 5. Borrow from microcredit institutions for supporting family's rehabilitation, 6. Others (specify)
- 4.4.8. Who plays the main roles in taking decisions while transferring to cyclone shelters (1 - I take the decision, 2 - My wife/Husband, 3 - We both discuss/examine the situations and take decisions collectively, 4 - We don't go to the shelters unless CPP volunteers force us to do so, 5 - Other)

- 4.4.9. What are the reasons/factors that restrict them to go to shelters (Multiple response allowed. 1 - My asset back home might be stolen, 2 - Taking poultry and livestock with us is a problem, 3 - Spaces in the cyclone shelters are inadequate, 4 - Toilet facilities there is a problem specially for the females, 5 - Travelling long distance with all family members is difficult, 6 - Sometimes cyclones are not that much devastating as it is mentioned in the early warning messages, 7 - Others)
- 4.4.8. Do women from your family or community participate in disaster preparedness and management committees? (1 - Yes, 2 - No)
- 4.4.9. If yes mention the activities, they perform (please explain)
- 4.4.10. If no, why (please explain)
- 4.4.11. Do you know is there any women led organization under NRP DWA in this area? (1 - Yes, 2 - No)
- 4.4.12. If yes mention their names and activities (please mention/explain).
- 4.4.13. Is there any disaster volunteer active in the locality? (1 - Yes, I know them personally, 2 - Yes but do not know them, 3 - There is no CPP volunteer, 4 - I have no idea about it). If the answer is '1 or 2', then please respond to the following question.
- 4.4.14. How do the CPP volunteers inform about floods/cyclones? (1 - They visit us and requests to go to shelters, 2 - They come to the community and the community members ask us to go to shelters, 3 - They move around and announce in loud speakers, 4 - Others)
- 4.4.13. If any women led organization works in your area then any female members of your family participate in the activities of that organization(1 - Yes, 2 - No)
- 4.4.14. Do women in your family go to government departments for seeking supports during disasters and post disaster period? (1 - Yes, 2 - No)
- 4.4.15. If no, why? (please mention/explain)
- 4.4.16. If yes which departments and for what services? (please mention/explain)

Strengthened disability inclusive, gender responsive community preparedness, response and recovery capacities for recurrent and mega disasters

- 5.1.1. Is any member of your household receive benefits from any SSNP of the government? (1=yes, 2=no). If yes, what kind of SSNP you are involved with (please mention/explain)? If yes, please respond to the following question.
- 5.1.2. Are you aware of the purpose of SSNP? (1 - Yes, 2 - No) If yes, please respond to the following question.
- 5.1.3. What are the purposes you think SSNP is being implemented for? (Multiple response allowed) 1 - To inject money for livelihoods/poverty reduction 2 -To strengthen the resilience of communities, 3 - Strengthen public infrastructure through community labor, 4 -Strengthen the resilience of household infrastructure 5 - Facilitate DRR issues, 6 - Help people to make savings, 7 - I do not know, 8 - Other, if any.
- 5.1.1.1 What type of SSNP schemes of your household is involved in? (1 - TR, 2 - EGPP, 3 - GR, 4 - FFW, 5 - Other, 6. No)
- 5.1.2a. How does the SSNP schemes are chosen? 1 - Through community consultation 2 - By political leaders 3 - I went to Chairman/member and then name was included, 4 - Do not know

- 5.1.2b. Your impression about SSNP? (choose one option. 1 - inadequate but useful, 2-adequate and I am happy to receive it, 3- I was entitled but did not receive that, 4- I need to know the beneficiary selection criteria, 5-I am not interested in it)
- 5.1.3. How did you use the SSN benefits (if received)? (multiple response allowed. 1- received necessary food, 2- medicine bought, 3- used to repay loan, 4- used in reducing disaster risks such as house repair and plinth raising, fixing water supply systems, 5- The support helped me to get rid of anxiety/fear since (I think) I will not be affected in next disaster due to the repair works). 6. No.
- 5.2.2. If there is a person with disability, does he/she receive support from government or any NGO? (1-Yes, 2-No)
- 5.2.3. Is she/he individually engaged with any organization, committee, platform to raise voices? (1 - Yes, 2 - No). If yes, please respond to the following question.
- 5.2.4. How does she/he contribute? 1 - She/he advocates for improved accessibility 2 - Works/suggests for disability friendly early warning, 3 - He helps designing device that are useful for the people like her/him, 4 - He works promote better support provisions in the Infrastructural facilities such as shelter, rescue boats, toilets, tube-well etc.
- 5.2.3. Does she/he (person with disability) need special support during emergencies (1-Yes, I need external support, 2-Support is needed but no external support needed).
- 5.3.1. Did you suffer from any mega-disaster during last two years? (multiple options allowed. 1-Flood, 2-Cyclone, 3-River bank erosion, 4-Earthquake, 5-No)
- 5.3.2. Major damage and loss happened (multiple options allowed. 1-Income generation affected, 2- House damaged, 3- Local communication disrupted, 4- Death, 5- Illness, 6- Education of children disrupted, 7- No such damage happened)
- 5.3.3. How did the local government respond to community in times of disasters over the two years prior to the survey (Multiple options allowed. 1- Early warning 2- Evacuation 3- Shelters 4- Humanitarian assistance etc.)
- 5.5.1. How government SSNP could help women to address cyclone/flood vulnerabilities? (Multiple options allowed. 1- Water sources restoration, 2-Improve sanitation process, 3- Improvement of local roads, 4- Support for shelter protection, 5- Support for asset protection like livestock/poultry, 6- Support for skill based livelihoods (handicrafts, mobile/online based IGA etc.), 7 - Build up a killa/raised land so that women can stay safe during flood disasters)
- 5.6.1. Are there any non-traditional livelihood options pursued by any woman in your area (like internet/mobile based earning, marketing products using apps, working in small industries located nearby areas etc.) that are generally free from flood or cyclone risks? (1- Yes, 2-No). Please give examples so that we can do some case stories.
- 5.6.2. Will the women of the area be willing to do that if opportunities/training are provided? (1- Yes, 2- I am not sure, 3- No)
- 5.6.3. What kinds of non-traditional livelihood options are suitable for your area? (open ended questions that the enumerators will write down and submit separately)
- 5.7.1. Are you involved in any project run by yourself or by any govt. agency such as DWA or NGO? (multiple options allowed. 1- I have small tailoring business, 2- I have small shop, 3- I have agricultural farm (livestock/poultry/garden/fishery), 4- I run small cottage industry, 5- I have no project on my own but I participate in the project run by others, 6- No)
- 5.7.2. Is your involvement in the project contributed in reducing asset loss (last disaster) compared to the loss happened in the disaster earlier? (One option. 1- little reduced, 20%, 2- Moderately reduced, <50%, 3- Significantly reduced, >50%, 4- Not reduced at all)
- 5.11.1. Are the road widths adequate in your community so that large units of FSCD units can enter

- in your neighborhoods in case of an emergency like for fire or earthquake situation management? (multiple options allowed. 1- Roads are narrow, unsuitable for large FSCD units, 2- Roads are wide enough but the turns are difficult for large units, 3- Road condition is good)
- 5.11.2. Are there locally available water sources like lakes, ponds, rivers from where necessary water can be collected during emergencies? (1- Yes, 2- No)
- 5.11.3. Is there adequate open place in the area like parks, open field for mass gathering in case of any earthquake emergency? (1- Yes but used for other purposes, 2- Yes, we could go there, 3- No such place in the area)
- 5.11.4. Do you know about the earthquake preparedness measures? (1- I knew but forgot, 2- I know very well but not prepared, 3- I know and I am prepared)
- 5.11.5. Did you ever participate in earthquake mock-drills? (1- Yes, 2- No but I am willing to participate, 3- No and I am not willing to participate)
- 5.11.6. Do you know the emergency telephone numbers (e.g. FSCD, Municipality, Police thana) to call in case of emergencies such as fire incidence? (1- Yes I keep those handy, 2- I had but lost now, 3- Other family members know, 4- I will get from website when I need it, 5- I do not need those)
- 5.11.7. Will you be willing to act as a volunteer (necessary trainings will be provided) when there is a disaster? (1- Yes, 2- I am not sure, 3- No)
- 6.1 Are you living in Rangamati? (1 Yes, 2 No)
- 6.2. Is the area where you are living susceptible to landslide disaster? (1 - Yes, 2 - Maybe, 3- I don't know)
- 6.3. How do you rate the degree of impacts and related consequences of landslide disaster (1 - Extremely high as it devastates lives and destroy properties and assets, 2 - The impacts are moderate and we can cope with it, 3 - Impacts are insignificant and we do not bother much about it, 4 - I have no idea).
- 6.4. In your opinion, why landslides occur (please respond using a rating scale where 1 extremely important factor for landslide occurrence and 5 denotes for insignificant factor: (Earthquake triggers landslide disaster - _____, Deforestation influences landslides to occur - _____, Heavy rainfall has increased the chance of occurrence - _____, Hill cutting increases the landslide risks - _____, It becomes big threats when hill cutting, deforestation and heavy rainfall happens together - _____).
- 6.5. In your opinion, has the occurrence of landslide disaster increased or decreased in recent times (1 - It has highly increased, 2 - It has moderately increased, 3 - The rate of recurrence is same compared to the past, 4 - It has decreased, 5 - I have no idea).
- 6.6. Is there any landslide early warning mechanism exists in your area? (Multiple response allowed: 1 - Yes, the administration gives warning before it occurs, 2 - We anticipate about the likely occurrence from our traditional wisdom and understanding, 3 - Local NGO/CBO come forward and inform us about likely disaster, 4 - There is no mechanism to know about the likely occurrence of landslide).
- 6.7. How landslide disasters can be mitigated? (Please respond using a rating scale where 1 is extremely important, 2 moderately important, 3 important, 4 less important and 5 not important at all: 1 - Landslide early warning should be given _____, 2 - Hill cutting should be stopped _____, 3 - Landslide management plan at community level should be developed _____, 4 - Landslide contingency plan (for response and recovery phases) should exist with local government administration _____, 5 - Communitary awareness campaign should be done on preparedness issues).

National Resilience Programme (NRP) District Level KII Checklist

Name of the District:..... Name of the respondent:

Organization name:..... Designation:.....Mobile No.:.....

OUTPUT 1: Improved capacities for risk-informed and gender-responsive development planning / Programming Division

1.3.1. Degree of knowledge of planning officials on risks and gender-equality dimensions in project formulation?

OUTPUT 2: Strengthened disability inclusive, gender-responsive national capacities to address recurrent and mega disasters / DDM

2.1.1. District and Upazila level official's knowledge on the gaps, strengths and constraints for mega-disaster (e.g. earthquake, flood, and cyclone) preparedness.

2.1.2. Did District level officials ever exercise SOD in managing disasters? Any examples.

2.2.1. What was the use of D-Form? How the gathered data are being archived, disseminated? Are they SADD? Examples.

2.4.1. What is the process of SAR strategy (past, present) you follow during a disaster? Did you receive any training where SAR issues were discussed?

2.4.2. In your consideration why women and person with disability should receive special focus in DRM in Bangladesh?

2.5. Any special measures taken for overall safety of women and adolescent girls (what are those)?

2.6. What are the measures taken to rehabilitate women and children once the disaster onslaught is over (post disaster situations)?

2.7. What kinds of psycho-social supports are provided to women and girls?

2.8. How do you explain that social safety measures taken are women friendly and how that could be improved?

2.9. Your opinions on the provision of food distribution to women directly during and after disasters.

2.10. Whether relief packs contain women's need based materials? How that could be improved?

2.11. Provision of mother's corner for pregnant, lactating mothers and breast-feeding corner in disaster shelters (e.g. flood and cyclone shelters).

2.12. Provision for distressed women during and post disaster.

2.14. What motivates you to know about the technicalities of SAR?

DDM Part

1. The whole idea is making SSNP flexible to DRR. So it is to examine how the business is being done and what needs to improve from DRR point of view. Is s/he aware of the purpose of SSNP?

OUTPUT 3: Improved capacity of selected public institutions to achieve resilience outcomes through designing and constructing risk-informed, disability inclusive and gender-responsive infrastructure / LGED

- 3.1. What is the current strategy to collect (baseline) information on infrastructure/asset? Is there any disaster resilience indicators or standards to assess the disaster resilience of the infrastructure? How data are being collected and maintained or updated?
- 3.2. Do you think that disaster induced losses have reduced over the years in local infrastructure (why, why not)? What actions of LGED contributed in this regard?
- 3.3. What is women's role in infrastructure development and whether and how gender friendly structures are planned (access-roads, health structures, market structures etc.)
- 3.4. How need of persons with disability in general and women in particular could be addressed?
- 3.5. What kinds of health infrastructure and infrastructure in rural market places you make? How they are contributing/facilitating local communities to increase their economic capacities towards long term resilience and maintain health to face challenges, please explain.
- 3.6. What was the strategy in absence of Gender Marker? How Gender Marker is currently contributing?

OUTPUT 4: Strengthened disability inclusive, gender responsive community preparedness, response and recovery capacities for recurrent and mega disasters /DDM

- 5.1.1. What are the new DRR-sensitive criteria taken into consideration for selecting SSNP beneficiaries?
- 5.1.2. How did you identify/develop (process like stakeholder consultation etc.) those criteria? Did the new-criteria consider multiple disaster contexts like COVID-19 (like unemployment, reduced earning, restricted movement etc.)? Your idea about the SSNP scheme selection process? How flexible the existing SSNP guidelines/systems are to integrate into
- 5.2. Do you think there is a policy gap to make DRR inclusive to disability? What can be done for Disability inclusive DRR? (Please mention some areas are critical for persons with disability like -EWS, evacuation, shelter management and accessorially issues and participate in planning and decision making- the heart of inclusion in NRP)
- 5.3.1. What are key gaps in existing flood preparedness (science, policy and practices)? How to institutionalize the flood preparedness system like CPP?How the FPP (Flood Protection Programme) will work (modalities, organizational framework, operation, funding, community engagement; will it be like CPP)?
- 5.3.2. How the gender issues will be embedded into the operational process of FPP?
- 5.4. How current early warning signals could be made more effective for persons with disability (deaf, blind, physically challenged, people with speech difficulty, mental illness etc.)?

- 5.5.1. How COVID-19 affected people (multi-hazard contexts) could be included in the SSNP (e.g. returned from overseas employment, income generation provisions hugely damaged, restricted movement etc.). COVID-19
- 5.5.2. Possibilities of building projects using SSNP like (i) make raised lands. i.e. killas, (ii) repair local roads, (iii) repair damaged fresh water sources, (iv) alternative/skill based resilient livelihoods. Do you think policy review is necessary to make SSNP sensitive to DRR, CCA? How inter-sectoral cooperation could be made supportive to each other towards making more gains (many recommendations made but not taken into consideration)?
- 5.6. Will you (NRP or DDM) provide support if any private sector entrepreneur is willing to establish business ventures in disaster affected areas with aim to support vulnerable women (as to support non-traditional livelihoods). (for example, giving them tax holiday, prioritize in establishing support infrastructure such as high bandwidth internet etc.; Can you go for policy improvements in this connection or take efforts for connecting with existing policies, (e.g. 7th FYP for lag-behind regions), so that this plan could be taken forward).
- 5.7. How DWA actions might be improved to encourage local women for involving in non-traditional income generating activities that eventually help to protect their assets?
- 5.10. What is the plan for forming the ward level DMCs, volunteers' groups, training of volunteer groups, and mass awareness through simulation exercises?
 - 5.10.1 Existence of Disaster Management committees at city/pourashava and ward levels? Does the DMC meet in regular intervals?
 - 5.10.2 Existence of Risk Assessments, Risk Reduction Action Plans, Contingency Plans for the cities/wards?
 - 5.10.3 Do they have trained First line defense at the community (volunteers)? Are the volunteers equipped with required knowledge and tools to conduct light search and rescue?
- 5.11.1. How many wards and percentage of city population are covered with the existing institutional strengths (e.g. logistics, financial, human-resources etc.) of City Corporation (Rangpur) or Municipality like Tangail and Rangamati? What are the areas of improvements?
- 5.11.2. Is the city (other than Dhaka city) dwellers legally obliged to follow the existing BNBC 2012? What is the current status of approval of Draft BNBC 2015? What is your idea about the enforcement of BNBC?
- 5.11.3 In your opinion, what is the best way to upscale and sustain the best practices?

National Resilience Programme (NRP) Upazila Level KII Checklist

Name of the District:..... Name of the respondent:

Organization name:..... Designation:.....Mobile No.:.....

OUTPUT 1: Improved capacities for risk-informed and gender-responsive development planning / Programming Division

- 1.4. What does the multi-hazard assessment mean (how is that different from regular disaster assessments)? Is the CRA (Community Risk Assessment) tool smart enough to take into account of the multi-hazard components/conditions? Or revisions are required here and also in the RRAP (Risk Reduction Action Plan) process? How level-wise assessments (national, sub-national, local) will differ from one another? Why URA (Urban Risk Assessment) tool is not widely used like CRA?

OUTPUT 2: Strengthened disability inclusive, gender-responsive national capacities to address recurrent and mega disasters / DDM

- 2.1.1. District and Upazila level official's knowledge on the gaps, strengths and constraints for mega-disaster (e.g. earthquake, flood, and cyclone) preparedness.
- 2.1.2. Did District level officials ever exercise SOD in managing disasters? Any examples.
- 2.3.1. What is gender responsive recovery planning (meaning, scope, what are the new agenda)?
- 2.4.1. What is the process of SAR strategy (past, present) you follow during a disaster? Did you receive any training where SAR issues were discussed?
- 2.4.2. In your consideration why women and person with disability should receive special focus in DRM in Bangladesh?
- 2.5. Any special measures taken for overall safety of women and adolescent girls (what are those)?
- 2.6. What are the measures taken to rehabilitate women and children once the disaster onslaught is over (post disaster situations)?
- 2.7. What kinds of psycho-social supports are provided to women and girls?
- 2.8. How do you explain that social safety measures taken are women friendly and how that could be improved?
- 2.9. Your opinions on the provision of food distribution to women directly during and after disasters.
- 2.10. Whether relief packs contain women's need based materials? How that could be improved?
- 2.11. Provision of mother's corner for pregnant, lactating mothers and breast-feeding corner in disaster shelters (e.g. flood and cyclone shelters).

- 2.12. Provision for distressed women during and post disaster.
- 2.13. How to ensure effective women's participation in disaster management?
- 2.14. What motivates you to know about the technicalities of SAR?

DDM Part

1. The whole idea is making SSNP flexible to DRR. So it is to examine how the business is being done and what needs to improve from DRR point of view. Is s/he aware of the purpose of SSNP?
2. Enumerator should explain 'mega disaster' in an understandable manner. For flood they can refer 1988/1998 and for cyclone may be 1991 and Sidr of 2007.
3. Was there Disaster Management Committee (DMCs) at ward level?
4. Did WDMC meet regularly/periodically?
5. Did you have a contingency plan for your family?
6. Did you have volunteers to help in emergencies?
7. How was the community cohesion/social bonding two years back? [multiple options -
1. Neighbors came forward to help when one was in danger 2. One could borrow money from neighbors 3. Neighbors didn't come forward to help neighbors
8. What can be done to make your ward earthquake resilient? 1) Make building strong 2) Provision for open space 3) Create mass awareness on Dos and Don'ts 4) capacity building of institutions and communities 5) Improve women's leadership 6) Other.

OUTPUT 3: Improved capacity of selected public institutions to achieve resilience outcomes through designing and constructing risk-informed, disability inclusive and gender-responsive infrastructure / LGED

- 3.3. What is women's role in infrastructure development and whether and how gender friendly structures are planned (access-roads, health structures, market structures etc.)
- 3.4. How need of persons with disability in general and women in particular could be addressed?

OUTPUT 4: Enhanced women's leadership capacities for, gender-responsive disaster management decisions, investments and policies at national and local levels /DWA

- 4.5. Leadership of women in disaster management at community level (current opportunities and areas of improvements).
- 4.6. Role of women UZP vice chair, women UP members in disaster management.
- 4.7. Role of women led CSOs in disaster management.

OUTPUT 5: Strengthened disability inclusive, gender responsive community preparedness, response and recovery capacities for recurrent and mega disasters /DDM

- 5.1. What are the new DRR-sensitive criteria taken into consideration for selecting SSNP beneficiaries?
- 5.1.2. How did you identify/develop (process like stakeholder consultation etc.) those criteria? Did the new-criteria consider multiple disaster contexts like COVID-19 (like unemployment, reduced earning, restricted movement etc.)? Your idea about the SSNP scheme selection process? How flexible the existing SSNP guidelines/systems are to integrate into DRR?
- 5.1.3. Has it (criteria) been widely circulated among the potential beneficiaries at local level?
- 5.2. Do you think there is a policy gap to make DRR inclusive to disability? What can be done for Disability inclusive DRR? (Please mention some areas are critical for persons with disability like -EWS, evacuation, shelter management and accessorially issues and participate in planning and decision making- the heart of inclusion in NRP)
- 5.3.1. What are key gaps in existing flood preparedness (science, policy and practices)? How to institutionalize the flood preparedness system like CPP? How the FPP (Flood Protection Programme) will work (modalities, organizational framework, operation, funding, community engagement; will it be like CPP)?
- 5.3.2. How the gender issues will be embedded into the operational process of FPP?
- 5.4. How current early warning signals could be made more effective for persons with disability (deaf, blind, physically challenged, people with speech difficulty, mental illness etc.)?
- 5.5.1. How COVID-19 affected people (multi-hazard contexts) could be included in the SSNP (e.g. returned from overseas employment, income generation provisions hugely damaged, restricted movement etc.
- 5.5.2. Possibilities of building projects using SSNP like (i) make raised lands. i.e. killas, (ii) repair local roads, (iii) repair damaged fresh water sources, (iv) alternative/skill based resilient livelihoods. Do you think policy review is necessary to make SSNP sensitive to DRR, CCA? How inter-sectoral cooperation could be made supportive to each other towards making more gains (many recommendations made but not taken into consideration)?
- 5.6. Will you (NRP or DDM) provide support if any private sector entrepreneur is willing to establish business ventures in disaster affected areas with aim to support vulnerable women (as to support non-traditional livelihoods). (for example, giving them tax holiday, prioritize in establishing support infrastructure such as high bandwidth internet etc.; Can you go for policy improvements in this connection or take efforts for connecting with existing policies, (e.g. 7th FYP for lag-behind regions), so that this plan could be taken forward).
- 5.7. How DWA actions might be improved to encourage local women for involving in non-traditional income generating activities that eventually help to protect their assets?
- 5.8. Do you think our policy environment and institutional arrangement are enabling enough to do forecast based financing/actions?
- 5.10. What is the plan for forming the ward level DMCs, volunteers' groups, training of volunteer groups, and mass awareness through simulation exercises?

- 5.10.1 Existence of Disaster Management committees at city/pourashava and ward levels? Does the DMC meet in regular intervals?
- 5.10.2 Existence of Risk Assessments, Risk Reduction Action Plans, Contingency Plans for the cities/wards?
- 5.10.3 Do they have trained First line defense at the community (volunteers)? Are the volunteers equipped with required knowledge and tools to conduct light search and rescue?
- 5.11.1. How many wards and percentage of city population are covered with the existing institutional strengths (e.g. logistics, financial, human-resources etc.) of City Corporation (Rangpur) or Municipality like Tangail and Rangamati? What are the areas of improvements?
- 5.11.2. Is the city (other than Dhaka city) dwellers legally obliged to follow the existing BNBC 2012? What is the current status of approval of Draft BNBC 2015? What is your idea about the enforcement of BNBC?
- 5.11.3 In your opinion, what is the best way to upscale and sustain the best practices?

Interviewer's name:

signature

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