

# CARE Bangladesh *BRUP* Project Baseline Study Report

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# CARE Bangladesh **BRUP** Project

## Baseline Study Report

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**Shaikh Ferdousur Rahman**

Chairperson

NIRAPAD

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# Acronyms

<b>BRUP</b>	Building Resilience of the Urban Poor
CCA	Climate Change Adaptation
CCDMC	City Corporation Disaster Management Committee
CDC	Community Development Committee
CEO	Chief Executive Officer
CI Sheet	Corrugated Iron Sheet
DRR	Disaster Risk Reduction
EKATA	Empowerment, Knowledge and Transformative Action
FSCD	Fire Service and Civil Defense
IGD	Interactive Group Discussion
KII	Key Informant Interview
MoU	Memorandum of Understanding
SOD	Standing Orders on Disaster
WBA	Wellbeing Analysis

# Executive Summary

CARE Bangladesh, with the support from C&A Foundation, has been implementing a project titled 'Building Resilience of the Urban Poor (**BRUP**)' through CARE's partner organization- Village Education Resource Center (VERC) in two wards (Tongi and Konabari) of Gazipur City Corporation. The overall goal of the project is to achieve enhanced resilience of targeted urban communities and targeted institutions to prepare for, mitigate, respond to, and recover from shocks and stresses. NIRAPAD (Network for Information, Response And Preparedness Activities on Disaster) has been commissioned to conduct the baseline study and to develop a Monitoring and Evaluation (M&E) framework for the project. This report describes the current situation of the project area in Gazipur as well as presents a Monitoring and Evaluation (M&E) framework based on the finding of the study.

The first chapter focuses on the background of the study, overall and specific objectives along with scope and limitations of this study. Chapter two describes the study framework is in. It also contains the methodology of the study including primary and secondary data collection, tools for analysis. The third chapter describes the study area profile which includes demographic and socio-economic situation of Gazipur City Corporation, along with its two wards 'Tongi' and 'Konabari', where the study was conducted.

Chapter four presents the socio-economic and demographic situation of the six communities of the study area. The survey data reveal that among 1,182 members of the households under the study, 684 are involved in income earning activities. Their involvement in the economic activities is varied by the nature of settlement's land ownership. Overall, around 60 percent of the employed household members work in formal sector (e.g. garments or other factories or local offices). Nearly 75 percent of the household members in the settlement on private land work in the formal sector compare to about 40 percent of the household members in the settlement on khas land (Government owned land). Among the studied households, around 22 percent are female headed. Around 58 percent of the employed female household heads work in garments or other factories which is the highest among the employment options. Among the employed female head of households living in the settlement of private land, nearly 90 percent work in garments or other factories. Whereas, about 40 percent employed female head of households living in the settlement of khas land work in garments or other factories or local offices and business houses. It is encouraging to learn that only 9 percent (28 out of 318) households have involved children in income generating activity.

Overall, around 72 percent of the surveyed houses have concrete floor. In the settlement on private land 96 percent houses have concrete floor. Whereas, in settlement on khas land, 47.3 percent of the houses has concrete floor, 23.7 percent has wooden floor and 29.1 percent has mud floor. Almost all of the houses of respondents' irrespectively the nature of land ownership has roofs made with CI sheets. All of the households in the settlement on private land as well as three-fourth of the households in the settlement on khas land use pipe water. In the settlement on khas land, commercial supplier supplies pipe water, whereas, in settlement on private land, land owner extract ground water and supply to their tenants through pipe line. They have to pay for water supply.

Overall, only 22 percent of total respondent households use sanitary latrine. About 34 percent of the respondent households in the settlement on khas land use hygienic latrine (sanitary latrine or pit latrine with ring slab). On the other hand, most of the households in the settlement on private land

uses hygienic latrine. Overall, around 37 percent of the surveyed households experienced seasonal inundation to their latrines. About 45 percent of the households in the settlement in the khas land get their latrines inundated whenever it rains heavily. Compared to settlement on khas land, fewer households of the settlement on private land experience inundation. Also, all of them share their latrines, bathrooms and kitchen with a numbers of neighboring households.

The disaster vulnerability and level of resilience of the studied households and communities are analyzed in chapter five. Communities are exposed to flood, earthquake and few other local hazards. The major local hazards which are common in all communities are water logging, fire and environmental pollution due to mismanagement of garbage. To cope with the shock, communities rely on natural, physical, social, human and financial capitals; and it varies from community to community. Social capital which refers to social bonding and linkage is generally poor; however, communities in Medical Slum and Baimail Nadirpar (the two settlements on khas land) are marginally better in terms of social capital. Level of education of the respondents (about 78 percent lack any formal education) indicates low levels of human capital among the communities. The monthly income of the household varies from monthly 3,000 Taka to 200,000 tk. The median income of the communities is 12000 tk. with the mean income close to 14,000 tk. (13,859.18 tk. and income of 75th percentile is 15,000 tk. However, most families (55.7 percent) do not have stable income which greatly reduces their resilience. Around 73 percent households have no outstanding debt but only 25 percent households have some savings. The average savings and loan per household is 7,590.91 tk. and 12,467.53 tk. respectively. Although the communities are exposed to hazards, they are not much preparedness. In many cases, they are aware of the disaster risks; however, in practice, they do very little to minimize those risks. Very few people have contact numbers of emergency assistance such as the fire service or ambulance service. Only around 22 percent of the household keeps dry food to meet emergency; less than 10 percent households has portable cooker or keeps sandbags and water in their houses as a part of disaster preparedness. Only 14 percent of the population participated in mock drill on earthquake and fire fighting. The coping response strategy of the respondent households include taking loans from different sources, reducing food intake, buying goods on credits, selling household assets (land, production equipment) and migrating to other places.

Chapter six describes the scenario of women empowerment within the studied communities. In the studied communities, women's access to services is low. Women face considerable difficulties in collecting water and there is not adequate supply of water to meet their daily needs. Also, women and girls suffer acutely to access sanitation facilities. The survey reveals that accessing primary health care services in the targeted communities are higher compared to many areas in Bangladesh which is 73.3 percent. However, their access to necessary information is low, which is 26.1 percent. Women from around 40 percent respondent households have access to training relating to accessing credit services provided by NGOs. Only 22.3 percent women participate in women's organizations, 18.9 percent in GO-NGO committees and 23.3 percent in income and skill development forum. However, during the survey, no respondent mentioned about their participation in DRR platforms.

Increasingly women are playing decision-making role in both the family and community. 83.3 percent women can spend money for treatment during disaster or in normal times without consulting any other members of the household. Women can go to market, hospital, school, or other public places easily to support their family or to earn money, but they still cannot make decision on their own to go out for their entertainment, networking or any personal work. 21.7 percent can

make decision on temporary migration which is hinder to achieve resilience because sometimes it is required as survival strategy or to find employment opportunities. Survey shows that almost 57 percent women can take decision not to stop schooling of children to cope with loses of disaster.

Violence against women is widely prevalent in the community. Domestic violence and harassment in the form of eve teasing are most common – reported by 77.1 percent and 68.9 percent of the respondents, respectively. However, hardly any protection mechanism has been reported to stop violence against women in the communities.

The institutional arrangement regarding disaster management in the study area is discussed in chapter seven. City Corporation Disaster Management Committee – main coordinating body for disaster management mandated by the Disaster Management Act 2012, is yet to be formed. Therefore, the City Corporation could do very little mobilize necessary human resources or develop skills and expertise in disaster management and climate change adaptation. The prospective members of the committee, such as, CEO and the members of the City Corporation are well aware of the hazard risks.

Tongi Fire station, which is a Grade A fire station, having a Senior Station officer, more manpower and vehicles, serves a densely populated large catchment area that includes whole of the Tongi Thana, Borobari on the north, Ashulia in the west and large parts of Uttara (Uttarkhan and Dakkhinkhan) in the south. The areas are mainly industrial area Three communities (Medical Slum and Uttar Tetultola and Dakhin Tetultola) of the **BRUP** project are very close to Tongi Fire Station. The other three communities of the project (Baimail Nadirpar, Baimail Pukurpar and Baimail Hazir Colony) get firefighting support from Gazipur Fire Station, (Grade B fire Station, having less manpower and equipment) but this fire station is located at some distance from the project area.

Chapter Eight contains concluding remarks. It highlighted the fact among the targeted six communities, four are located on khas land and the other two are on the private land and explained that to achieve its goal, the project has planned to pursue three objectives – i) preparedness for risk management at household and community, ii) women’s risk management ability and iii) institutions’ responsiveness to communities’ needs.

The targeted communities are located in urban areas that featured with high density of human-created structure and population. The economy of this urban area is characterized by high degree of commercialization. Compared to their rural counterpart, communities in the project areas are culturally more diverse and socially more fragmented and the general characteristics of their social capitals are weak and ambiguous. People living there are exposed to a range of environmental and health hazards because, in majority cases, shelters of the poor households in the targeted communities are on polluted land close to industrial facilities, waste dumps or contaminated watercourses. Fire and water logging are the major concern for them. Access of the poor and extreme poor households in the targeted communities to water, sanitation, medical care, shelter and power supply is distinctly limited as well.

Therefore, efforts for enhancing disaster resilience for the communities should focus on raising communities’ risk awareness (through CDC, EKATA and children forum), improving service availability (through strengthening the service providers, as well, promoting consumer’s rights), establishing garbage disposal system (through infrastructure construction and improving communities’ garbage disposal practices) and promoting protection against gender based violence (through mass education and setting up community based mechanism).

# Chapter One

## Introduction

### 1.1. Background

CARE Bangladesh, with the support from C&A Foundation, has been implementing a project titled 'Building Resilience of the Urban Poor (**BRUP**) through its partner organization- Village Education Resource Center (VERC) since November, 2014. The project operates in two wards (Tongi and Konabari) of Gazipur City Corporation. The overall goal of the project is to achieve “enhanced resilience of six targeted urban communities and three targeted institutions, reaching a total of 8,000 individuals (directly and indirectly) who can prepare for, mitigate, respond to, and recover from shocks & stresses”. The specific objectives of the project are-

- 8,000 urban individuals (direct 2,000 and indirect 6,000) in six communities have enhanced resilience strategies to prepare for, mitigate, respond to and recover from shocks and stresses;
- 300 poor and extremely poor women in the six targeted communities are empowered to become better risk managers at the household and community levels, influencing decision making related to Disaster Risk Reduction (DRR); and
- Enhanced capacity and responsiveness of three targeted institutions to provide services to the communities to prepare for, mitigate, respond to, and recover from shocks and stresses.

The project focuses on urban disasters and the vulnerability of poor and extreme poor community living in urban areas. In particular, it acknowledged that Gazipur City Corporation which is prone to flooding and water-logging, earthquake as well as urban fire; and seeks to build resilience in three focused areas – a) Resilient household and community b) Women Empowerment c) Institutional capacity building. Under this project, approximately 8,000 urban individuals (direct 2,000 and indirect 6,000) in six poor communities are selected for the purpose of disaster risk mitigation and women empowerment. As well, the project will facilitate Gazipur City Corporation Disaster Management Committee and two fire stations at Tongi and Gazipur under the department of Fire Service and Civil Defense (FSCD) enhance their capacity for address the disaster risk more efficiently.

To understand the current situation of the project area, CARE has planned to conduct a baseline study at the onset of the project. Therefore, it commissioned NIRAPAD (Network for Information, Response And Preparedness Activities on Disaster) to conduct the baseline study and develop a detailed Monitoring and Evaluation (M&E) framework for the project. This baseline data will provide key reference to assess achievements of the project against the expected outcomes and impacts through an independent evaluation at the end of the project period.

## 1.2. Objectives

Overall objective of the baseline exercise is to assess the current situation of the project area where CARE and project partner VERC will be carrying out interventions over the next three years. Also, it seeks to develop a detailed Monitoring and Evaluation (M&E) framework based on the outcome of this study.

Specific objectives of the assignment are:

- To collect and analyze primary data relating project log frame indicators to draw the baseline benchmark situation of six targeted urban poor communities and three institutions;
- To understand the existing vulnerabilities, capacities and opportunities of the community dwellers specially women at household, community and institutional level for building their resilience;
- To collect and analyze current information on knowledge, attitudes and practices (KAP) of targeted population regarding disasters and disaster risk reduction measures;
- To understand the present household level risk reduction strategies and practices to respond to shocks and stresses;
- To know the existing gaps and resources at targeted institutions to perform their duties to mitigate and response the shocks and stresses as per their mandate.

## 1.3. Scope and Limitations

Scope of the baseline study included primary data collection through household questionnaire survey as well as consultation with different stakeholders including girls, boys, men, women, service providers and Local Government body to know the baseline condition of the selected communities on current and potential disaster risk. At the initial stage of the study some influential people in Baimail Hazir Colony did not allow the survey team to work some parts of the community. Therefore, to avoid conflict with influential members of the community, the sampling was recalculated and the study covered only one of the three parts of that community. Gazipur CCDMC is yet to be formed. It puts constraints on the research team to identify the actual working mechanism of this CCDMC and the challenges that it might face to implement its activities. Information on CCDMC was collected from CEO of the City Corporation.

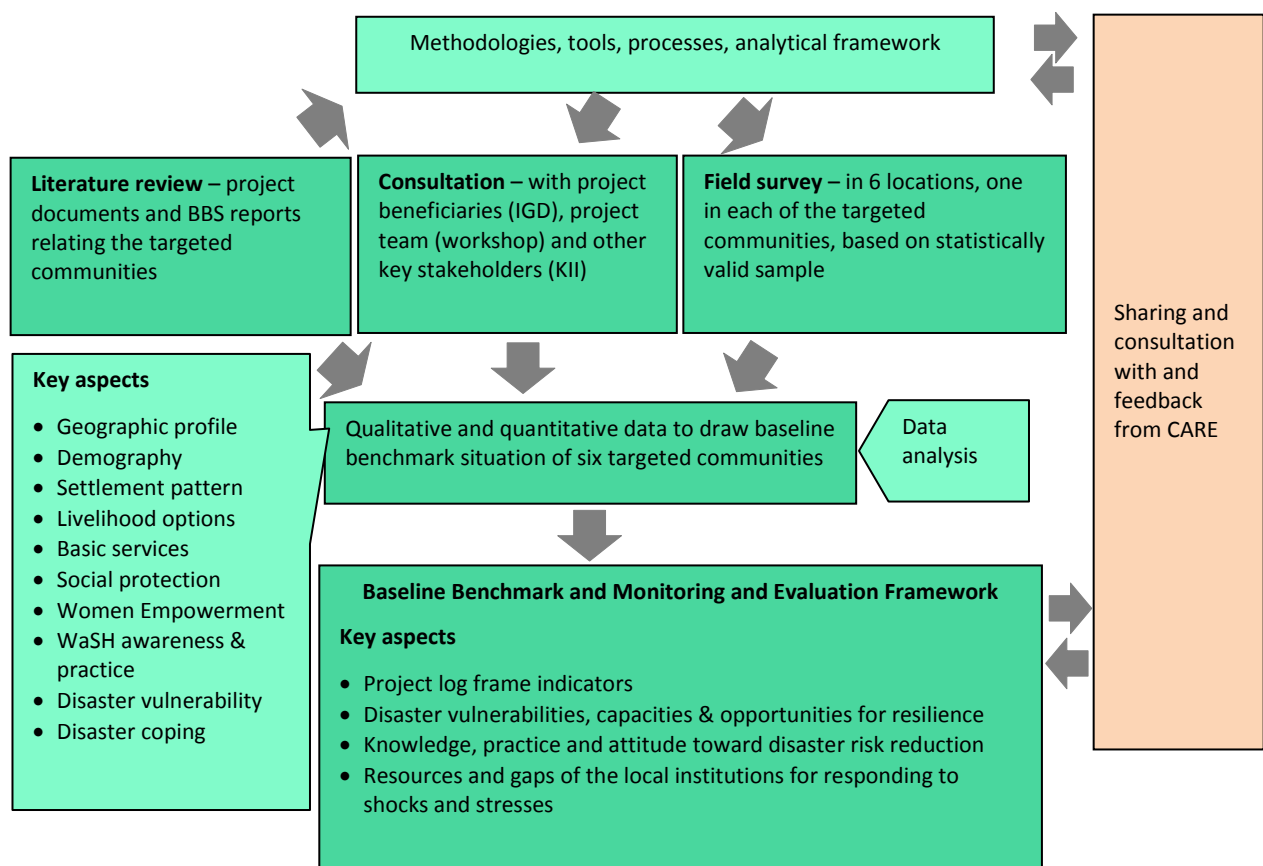
# Chapter Two

## Methodology of the Study

### 2.1. The Study Framework

The baseline study entails collecting primary data from field locations and analyzing them to draw the benchmark for six targeted urban poor communities and three institutions as well as facilitate the study team to develop a detailed Monitoring and Evaluation (M&E) framework for the project. It required firstly, review and analysis of project documents e.g. proposal and log frame and documents relating to context and area profile e.g. national policies and plan, statistics and census reports. Secondly, it needed accumulation of primary data - both qualitative and quantitative from the field location through household questionnaire survey and consultation with stakeholders including girls, boys, men, women, service providers and Local Government body. Thirdly, it required processing and analysis of data collected from the field location to develop the baseline report and M&E framework. Methodology was developed in consultation with CARE **BRUP** team.

Conceptual framework of the study is graphically presented below -



**Chart 1: Conceptual framework of the study**

## 2.2. Problem Framing and Scoping

### 2.2.1. The Study Team

A very careful thought has been given in forming the study team that includes individual members having adequate professional expertise and experience of conducting similar studies for making the team most effective to execute this assignment successfully. The team however consists of competent professionals in urban planning, women empowerment and DRR and CCA as well as in research. The field level operations and data collection had been conducted by six research associates (three female and three male). Before the fieldwork, the team received extensive orientation on data collection tools and techniques by the NIRAPAD team. Task Manager provided the necessary coordination in consultation with CARE officials.

### 2.2.2. Review of Secondary Information

In order to get insight into the problem as well as understanding of the study areas and issues, an attempt was made to review the available secondary documents. It included review of the project's documents and documents relating context and area profile. For the purpose of this review, following documents were collected:

- **BRUP** project documents e.g. proposal, logical framework analysis and other documents;
- Documents on socio economic features of study areas e.g. demography, settlement pattern and types, livelihood options, basic services, social protection, WaSH awareness and practice, disaster situation and trend, disaster vulnerability, disaster coping etc.;
- Policy and planning documents e.g. National Plan for Disaster Management, Standing Orders on Disaster, Thematic Papers on 7<sup>th</sup> Five Year Plan, Vision 2021, Hyogo Framework for Action etc.;
- Geographic information of study areas e.g. geographic location, physiographic features etc.;

Secondary documents provided general overview on context and area, project activities, outputs and outcomes; also helped to formulate an appropriate questionnaire and check lists for primary data collection from the field.

### 2.2.3. Survey Design

Wellbeing Analysis document prepared for the **BRUP** project was used as the basic household database for the research. The target population of this research was the poor and extreme poor households defined by the wellbeing analysis document. The research made use of probability sampling in order to select the respondents for investigation. This helped us to obtain the necessary data for the baseline with minimum cost and time. This study used structured questionnaires (SQ) as a quantitative tool for collecting data.

The sample size was estimated to ensure the representation of all the indicators set forth in the ToR. The sample size was determined using the following formula considering 95 percent confidence level with 5 percent level of errors. Considering this, 318 households were selected from the studied communities.



Formula:

$$SS = Z^2 * p * (1-p) / c^2;$$

Where SS is sample size, Z is Z value (1.95 for 95% confidence level), p percentage of picking a choice (0.5 is used for sample size needed) and c is acceptable level of error (in this case 5%).

In determining number of samples from each size of the poor and extreme poor households in wellbeing document was considered. Samples were collected using stratified random sampling. The number of samples was determined according to the ratio of poor and extreme poor household of the communities. From each community every fourth household listed in wellbeing analysis document was selected. If the selected household were unavailable then the next fourth households were selected. If the list were exhausted before the required numbers of samples were collected then the list was reorganized omitting the missing household and fourth household were selected till all the samples were collected. The sample distribution is represented in the following table.

Table 1: Household No. and Sample Size by Communities			
Area	Communities	Household	Sample Size
Tongi	Medical Slum	127	22
	Uttar Tetultola	447	78
	Dakhin Tetultola	442	77
	<b>Sub-Total</b>	<b>1016</b>	<b>177</b>
Konabari	Baimail Nadirpar	203	35
	Baimail Pukurpar	492	86
	Baimail Hazir Colony	116*	20
	<b>Sub-Total</b>	<b>811</b>	<b>141</b>
<b>Total</b>			<b>318</b>

\* Baimail Hazir Colony is consisted of three parts, total number of Poor and Extreme poor households in this three parts, put together, is 516; this study is conducted in one part of the community in which number of Poor and Extreme poor households is 116.

## 2.2.4. Tools and Techniques Used

The research made use of both qualitative and quantitative techniques. The quantitative part is anchored in survey method following sampling techniques. A questionnaire was developed based on literature review, analysis of the project proposal and logical framework and consultation with **BRUP** team. The questionnaire included structured questions, guiding notes and code sheets to collect quantitative data from the randomly selected respondents. Qualitative method was applied for the purpose of validation and cross check and reinforcing quantitative data. Checklists were developed in close consultation with **BRUP** team to apply different qualitative techniques, i.e. Interactive Group Discussion (IGD) and Key Informant Interview (KII). All the required tools and techniques were developed at the earlier stage of the research.

## 2.2.5. Field Test of the Tools and Techniques

The developed tools and techniques were grounded in the study area (Medical Slum in Tongi and Baimail Pukurpar in Konabari) for pre-testing. The study team conducted interactive group discussion and household survey to receive the response of the respondents. The questionnaire and checklists were corrected considering the field test outputs. Finally, a sharing meeting with CARE **BRUP** officials at NIRAPAD was conducted to finalize all the tools and techniques developed for this research.

## 2.3. Data Collection

### 2.3.1. Questionnaire Survey

Questionnaire survey has been conducted with community people to understand their knowledge, attitude, practice and capacity relating resilience to deal with hazards. Total 318 interviews have been conducted for questionnaire survey using printed form. The respondents of the questionnaire survey were poor and extreme poor households of the **BRUP** project area. Three team consisted of six members (one female and one male in each group) carried out the fieldwork over nine days, from 18<sup>th</sup> to 26<sup>th</sup> April 2015.

### 2.3.2. Interactive Group Discussion

Interactive group discussions have been conducted with community people in order to explore the knowledge, practice and vulnerability factors as well as peoples' capacity to deal with hazards. Three IGDs (one with men, one with women and one with children – both girls and boys) took place in each community. Discussions were conducted applying a checklist, which provided general and specific information about their knowledge, attitude, practice, vulnerability factors and capacity relating resilience to deal with hazards.

### 2.3.3. Key Informants Interview

Key informants interviews have been conducted with key stakeholders of the target institutions (CCDMC and FSCD) in order to explore the technical and human resources available, vulnerability factors as well as institution's capacity to deal with hazards. Total four KIIs (one with CEO of Gazipur City Corporation, two with ward counselors of Tongi and Konabari and one with key person of FSCD) were conducted. Discussions were conducted applying a previously developed checklist, which provided specific and vital information about the technical and human resources available, vulnerability factors as well as institution's capacity to deal with hazards.

## 2.4. Data Processing and Screening

### 2.4.1. Quality Control Measures

The study team emphasized on achieving and maintaining the highest level of quality possible throughout the performance of the research. All collected, accepted and analyzed data in this research had undergone specific quality control assessment. All data were critically assessed during and after collection to ensure the quality of the data. These assessments included independent performance audits, data processing audits as well as external review of the tool and templates used to collect the data.

At large, the data accepted for processing had passed through extensive screening process for quality assurance based on interpretative and diagnostic analysis on the following criteria,

1. Precision;
2. Accuracy;
3. Representativeness;
4. Completeness; and
5. Comparability.

Following data entry, all data had extensively been reviewed to identify all problematic and missing data points through cleaning and sample checking.

### **2.4.2. Data Processing and Analysis**

The quantitative data was analyzed through statistical analysis. The quantitative data was processed through SPSS Programme. Tools for data entry and analysis as well as the dummy tables were prepared on the basis of indicators required. Qualitative data were crossed check against findings from different sources and triangulated. The study team explored the possible linkages and relations between different categories of data.

## **2.5. Report Preparation and Finalization**

The draft report had been shared with CARE. After incorporating of the Initial feedbacks, the draft report was presented and shared in a meeting participated by research team members, CARE members and delegates from PNGO. The gap analysis was done through a detailed discussion during the meeting. The final draft report was submitted to CARE for reviewing before final submission. The report contains seven chapters. Beside the introductory and concluding chapters and chapter on methodology and profile on study area the report contain chapter on socio-economic condition of the communities, household and community resilience, woman empowerment and institutional capacity. Though development of M&E framework is one of the key outputs of this task, no separate chapter was considered for this. Instead the framework is incorporated as an appendix (Annex 2) in discussion CARE **BRUP** team.

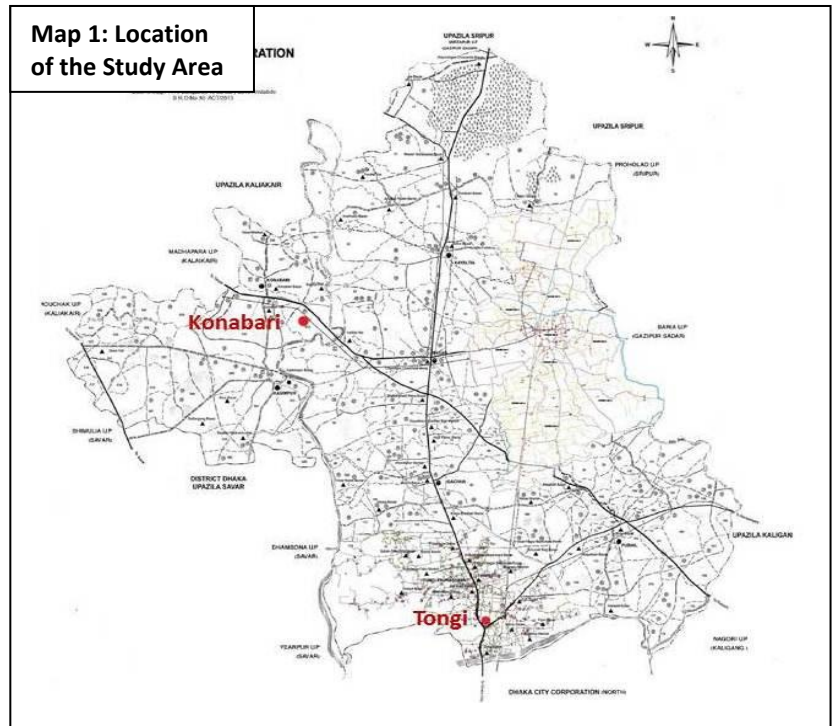
# Chapter Three

## The Study Area

### 3.1. Location and Physical Features of the Study Area

The study area is located in Gazipur City Corporation. This City Corporation is composed of 57 wards that include **BRUP** project area- Konabari (ward 12) and Tongi (ward 55). Konabari is located at 24°00'40.63"N and 90°19'18.84"E. It is situated by the Dhaka-Tangail highway, in north-west corner of the City Corporation. Tongi is located at 23° 53' 24" N and 90° 24' 21" E. It is at the southern part of the City Corporation.

The study area includes three communities (Baimail Nadirpar, Baimail Pukurpar, and Baimail Hazir Colony) in Konabari and three communities (Medical Slum, Uttar Tetultola, and Dakhin Tetultola) in Tongi. A key feature of the communities is high density of population and built up area. Also, they are surrounded by heavy concentration of industries, factories, warehouse and trading installations. There are numerous roads and thoroughfares that connect the communities to the highways, but within the communities, roads are very narrow and poorly maintained. Furthermore, the communities are located on lands close to industrial facilities, waste dumps and contaminated water forces; as well, they are in low line grounds susceptible to water logging and flooding. In addition, river Bangsai flows along the east within one km of the communities in Konabari and river Turag flows along the west within one km of the communities in Tongi.



**Table 2: Communities of the Study Area by Nature of Land Ownership and Ward**

Settlement on Khas Land	Ward	Settlement on Private Land	Ward
Medical Slum	Tongi	Baimail Pukurpar	Konabari
Uttar Tetultola		Baimail Hazir Colony	
DakhinTetultola		Baimail Nadirpar	

### Communities in Konabari

**Baimail Nadirpar-** Baimail Nadirpar (Nayapara) community is located at 24°00'30.01"N and 90°20'35.01"E (Google Earth). It is established on Government land (Khash land) beside the Dhaka-Tangail highway at the west end of Gazipur City Corporation. It is bounded by Kodda bazar and Bangshai River on east side and three brick-fields on north side. Total household number of this community is 203 (Well Being Analysis).

**Baimail Pukurpar-** Baimail Pukurpar community is located at 24°00'19.48"N and 90°19'52.78"E (Google Earth). It is on privately owned land beside the Dhaka-Tangail highway at the west end of Gazipur City Corporation. It is bounded by Palli Biddut office, Arif College and Dhaka Tangail highway on north, Kader market on south, Moddha Baimail on east and Ward-9, Konabari on west. As this settlement is established on private land, it is managed by the individual owners of the land.

**Baimail Hazir Colony-** Baimail Hazir Colony is situated beside the Dhaka-Tangail highway on west end of Gazipur City Corporation. This settlement is established on private land; and is managed by Hazi Nurul Islam who is the owner of the property.

### Communities in Tongi

**Medical Slum-** Medical Slum is located at 23°53'39.30"N and 90°24'05.07"E (Google Earth). It is bounded by Dhaka-Mymensingh Highway on West, Drug International on North, Aseantech Jame Musjid on east and Tongi Thana on south. This community is situated just behind of the Tongi Medical Hospital, that is why, the community is known as Medical Slum.

**Tetultola community-** Tetultola community is located at 23°53'50.58"N and 90°23'41.49"E (Google Earth). This community is divided by two parts, Uttar Tetultola and Dakhin Tetultola. It is a part of Masimpur area under Tongi Ward of Gazipur City Corporation. For convenience the local people has divided it into two sections, namely, i) Uttar Tetultola and ii) Dakhin Tetultola.

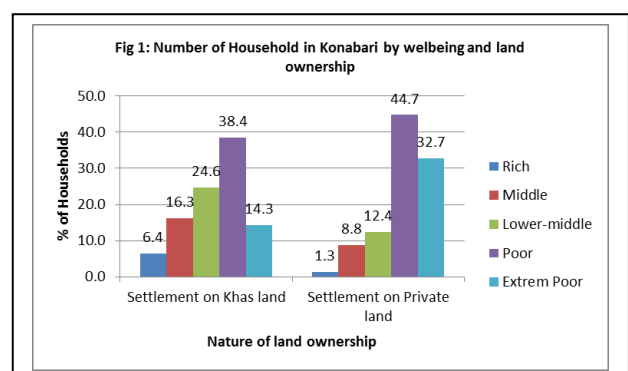
i) Uttar Tetultola community - It is bounded by Shipahipara on North, Kolabagan on West and Dakhin Tetultola on South.

ii) Dakhin Tetultola community - It is bounded by Tongi Mill gate on Northwest, Uttar Tetultola on North, Kalabagan on west and Zinnat Garment on South.

## 3.2. Demographic and Socio-economic Features of the Study Area

### 3.2.1. Demography

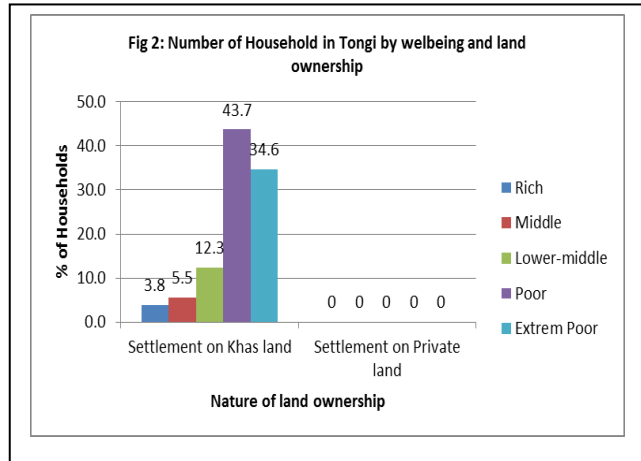
**Konabari-** According to the WBA, the numbers of total households are 203, 492 and 516\* in the three communities (Baimail Nadirpar, Baimail Pukurpar and Baimail Hazir Colony respectively) in Konabari. Most of households are poor and extreme poor in these communities.



\* Baimail Hazir Colony is consisted of three parts, total number of Poor and Extreme poor households in this three parts, put together, is 516; this study is conducted in one part of the community in which number of Poor and Extreme poor households is 116.

In Baimail Pukurpar 30.48 percent and 42.88 percent of the population are poor and extreme poor, respectively; in Baimail Nadirpar 38.42 percent of the people is poor and 14.28 percent is extreme poor; and in Baimail Hazir Colony community 46.51 percent poor and 34.88 percent extreme poor (WBA, 2015). These poor and extreme poor people work as day laborers, unskilled labor in the local factories, van pullers, transport driver or assistant, petty trades (grocery shop and vending fruits or vegetables) and house maid. On the other hand, rich people are, mainly, the owners of lands, shops and transports.

**Tongi-** According to the WBA, the numbers of total households are 127, 447 and 442 in the three communities (Medical Slum, Uttar Tetultola and Dakhin Tetultola, respectively) in Tongi. Most of the households in these communities are poor. In Medical Slum, 34.64 percent and 13.00 percent of the population are poor and extreme poor, respectively; in Uttar Tetultala, 49.44 percent of the population is poor and 36.46 percent is extreme poor; and in Dakhin Tetultola 40.49 percent of the population is poor and 38.91 percent is extreme poor (WBA, 2015).



These poor and extreme people are involved in different occupations, such as, working in garment factories or textile mills, chain cooper, daily labor, rickshaw and van pulling, truck driving or transport assistant, petty business (shop keeper or vendors selling vegetables, fruits or electronics items), textile workers and domestic workers. On the other hand, rich people of the communities in Tongi are landowners, transport owners or intermediaries who control water and power supply as well as labor supply to the factories located nearby.

### 3.2.2. Issue of Land ownership

**Konabari-** Among the three communities in Konabari, one (Baimail Nadirpar) is located on khas land and other two (Baimail Pukurpar and Baimail Hazir Colony) are on private lands. In Baimail Nadirpar settlement, many families, somehow, were able to get holding numbers and are paying taxes for their holdings (IGD in Baimile Nadirpar, 2015). These families have built their houses there. Some of these households, subsequently, have rented out parts of their houses. As noted above, settlements in Baimail Pukurpar and Baimail Hazir Colony are on private property. Generally, the owners of the land had constructed the houses and rented them out. In few cases, some local entrepreneurs have taken plots on lease agreement; then, constructed houses to rent out.

**Tongi-** Three communities in Tongi are located on khas land. Individual households cannot own any part of the land officially. 39 people, including six women, have occupied the total area of land in these communities (WBA, 2015). Although, they did not have legal documents to claim their ownership, they have built house and rented out that to other people. The *de facto* landowners hope that because they have physical presence, one day they might be able to get the legal ownership of the land. Until they get legal rights, the risk of eviction by the government remains high.

### 3.2.3. Service

**Konabari-** In the three targeted communities, all households have access to power supply (either directly from the main power line or through extension from their land-owners' connection). In Baimail Nadirpar, people get water from tubewells. But they only have three tubewells, which is inadequate to meet their needs for water supply. In other two communities the landlords have installed submersible pumps to extract ground water to supply to their tenants. Costs are included in housing rent.

**Tongji-** The targeted communities live in informal and illegal settlements. Therefore, the basic services provided through the City Corporation, such as water, sanitation and power, are not extended to these communities. Residents obtain water and power supply through commercial suppliers. On average a household uses 18 jars of water per day for cooking and drinking, at a cost of tk. 1 per jar. Households have to pay additionally for bathing or washing clothes. Sanitation facility in these communities is very limited. CARE had built three public latrines in Medical Slum through their earlier project interventions. Community leaders manage and maintain these latrines. People use them paying a fixed rate of service charge per use. Most of the male members of Medical Slum, Uttar Tetultola and Dakhin Tetultola communities use open toilets on the drain. Women, being concerned about privacy, usually, do not use these latrines during daylight hours. Instead, they use them at night, or use plastic bags or potties, and latter dispose that in the main drain.

# Chapter Four

## Demographic and Socio-economic Profile

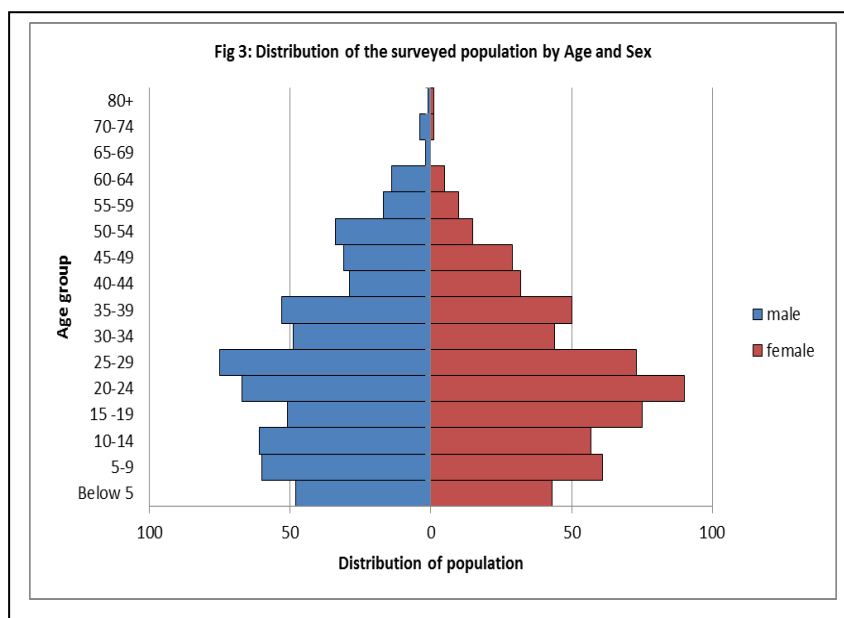
### 4.1. Household Population

Among the households surveyed for the current study, the total population was 1,182 with an average of 3.7 members per households which is lower than the national average (4.5). There are three persons with disability in Uttar and Dakhin Tetultola and Baimail Pukurpar communities with 1 HH member each. The ratio of male and female were almost even

Community name		No. of HH member (Average)	National average HH size*
<b>Tongi</b>	Medical Slum	3.6	4.5
	Uttar Tetultola	4.1	
	DakhinTetultola	3.6	
<b>Konabari</b>	Baimail Pukurpar	3.4	
	Baimail Hazir Colony	3	
	Baimail Nodirpar	4.4	
<b>Overall</b>		3.7	

*\*Source: BBS, HIES 2010, 2014*

throughout the population although the numbers of male are slightly higher in each of the communities with an exception in Baimail Pukurpar in Konabari. Age distribution of population in the respondent households suggests fewer children and old dependents and ample supply of young people to participate in economic activities. Majority of the people in the respondent households falls under age group between 15 to 29 years. They are distinctly in the labor force age group. Proportion of children below 19 is less compared to the national average.



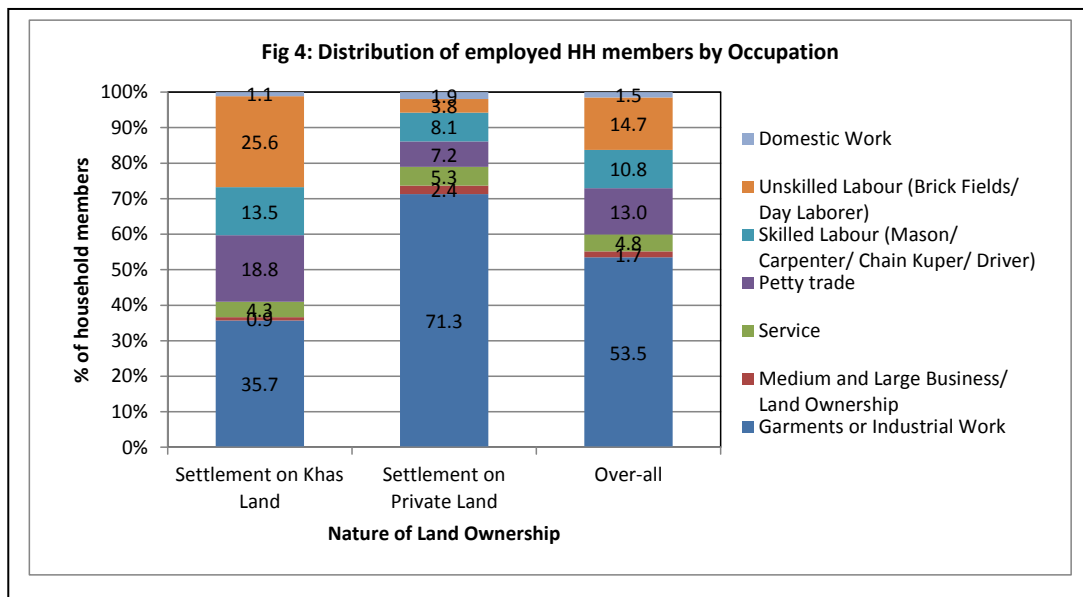
### 4.2. Livelihoods

#### 4.2.1. Occupation of the Households

Of the total 1,182 members of the households under the study, 684 are involved in income earning activities, among which around 54 percent work in garments industries. Among the income earning members of the households living in the settlement of private land, nearly 75 percent work in the formal sector (e.g. garments or other factories or local offices). Among the income earning members

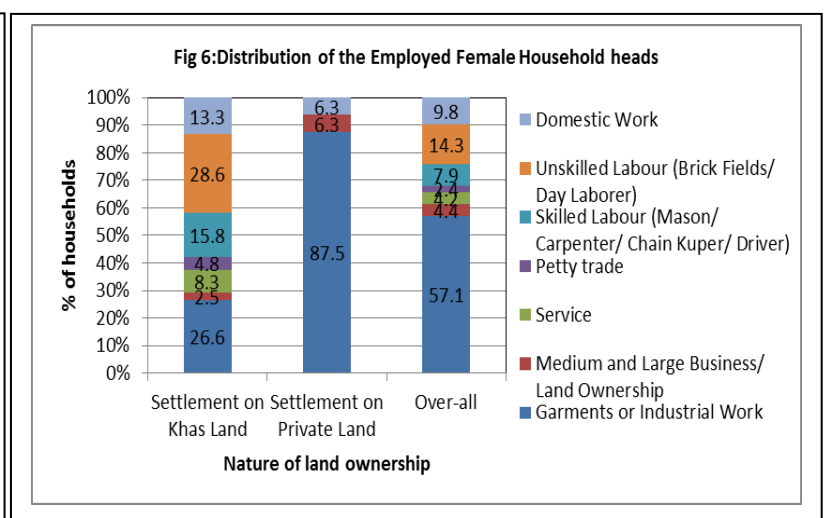
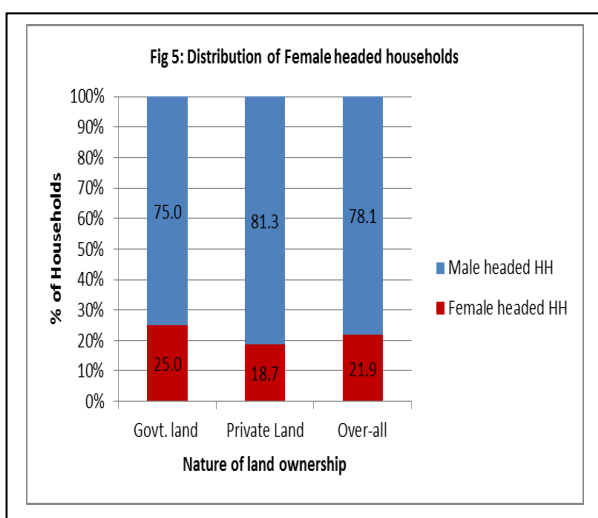


of the households living in the settlement on khas land, about 40 percent work in the formal sector (e.g. garments or other factories or local offices). The remaining 60 percent of household members are involved in the informal sector; and their occupations include paid domestic work, daily wage labour and petty trade (fig 4).



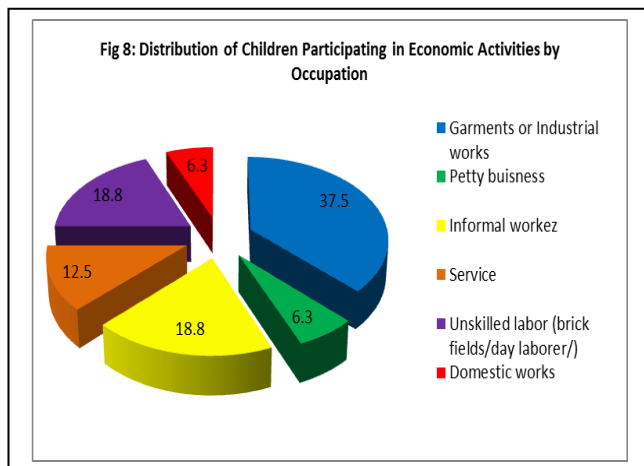
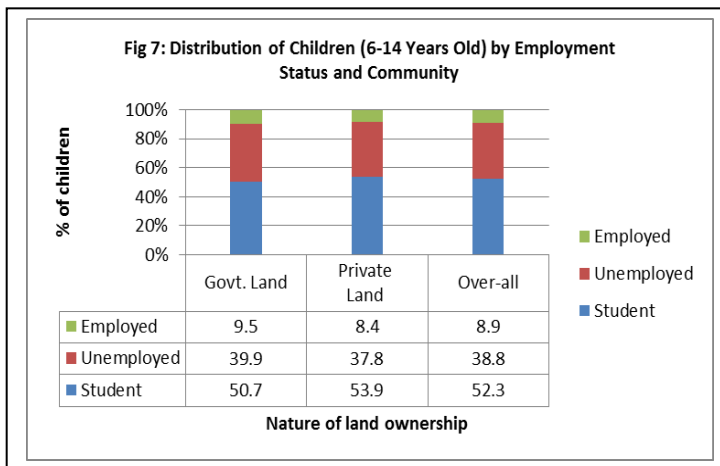
#### 4.2.2. Occupation of the Female Headed Households

Among the studied households, overall, around 22 percent were female headed. Specifically, about 25 percent and 19 percent of the households are female headed in the settlement on khas land and private land, respectively (fig 5). Nearly 50 percent of the female household heads participate in economic activities. Majority of the female household heads (57 percent) participating in economic activities work in garment factories. Among the female head of households living in the settlement on private land, nearly 90 percent work in garments or other factories. The remaining proportions of female head of households are involved in paid domestic work or business. Whereas, occupations of the female head of the households living in the settlement of khas land, are more varied. About 40 percent work in garments or other factories or local offices and business houses. The remaining 60 percent is involved in the informal sector; and their occupations include paid domestic work, daily wage labour and petty trade (fig 6).



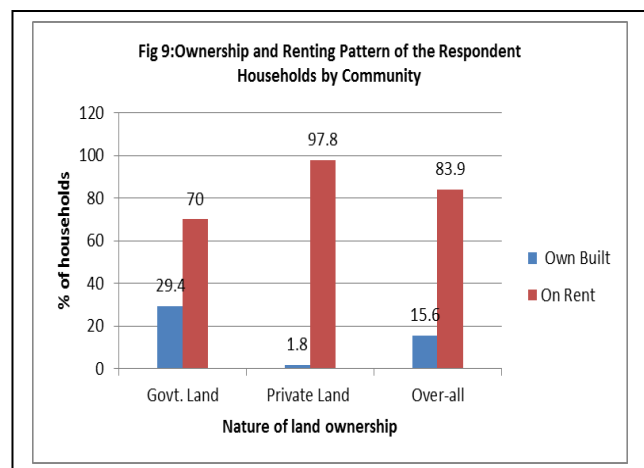
### 4.2.3. Occupation of Children (6-14 Years Old)

Only about half of the children aged 6-14 year go to school. Among the remaining children under the age group, about 9 percent is involved in economic activities. Occupations of the working children include garments and Industrial work, petty trade, informal work and unskilled labor (fig 7 and 8).

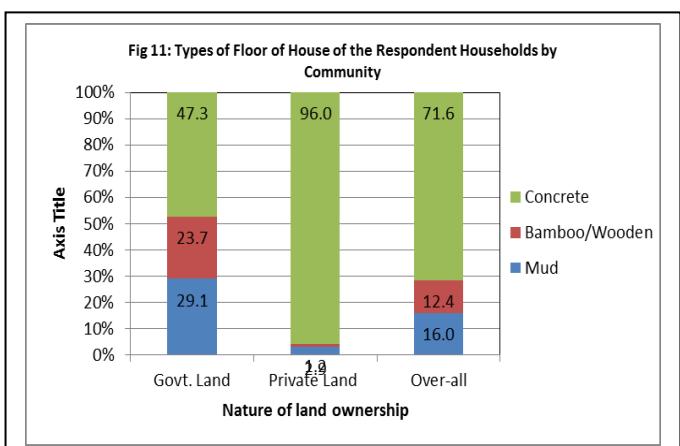
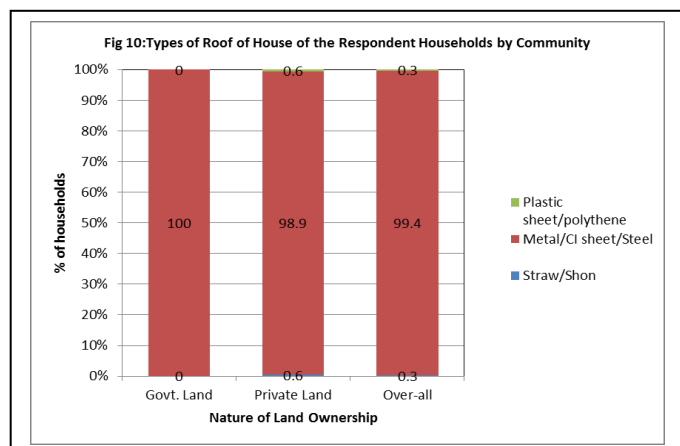


### 4.3. Housing

Among the studied households, around 84 percent pays rent for their accommodations. Only around 16 percent of the respondent households live in their own built houses. Around 70 percent and 98 percent of the studied HHs lives in rented houses in the settlement on khas land and private land, respectively (fig 9). Apparently, migrated to these localities in the early stage had encroached vacant khas land and constructed houses. Many of them rented houses to those who came later. Only a few households have built houses on the private land. They did it, mainly, in agreement with the owner of the land that the cost of construction would be adjusted through deduction from the rent payment.



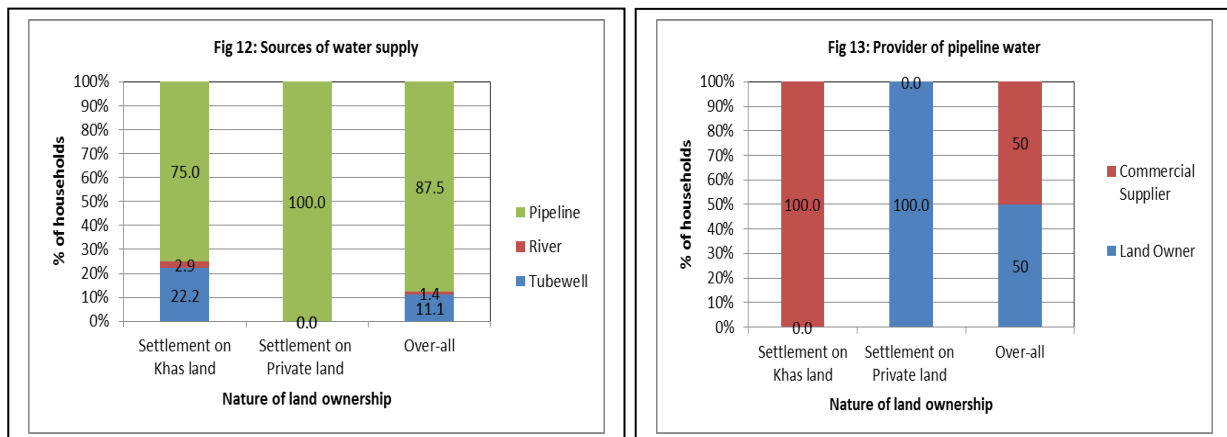
Nearly all houses, irrespective of the nature of land ownership of the settlements, have roofs made of CI sheets (fig 10). On the other hand, around 72 percent houses in overall have floors made of concrete. In the settlement on private land 96 percent houses have concrete floor. Whereas, in settlement on khas land, 47.3 percent of the houses has concrete floor, 23.7 percent has wooden floor and 29.1 percent has mud floor (fig 11).



## 4.4. Water and Sanitation

### 4.4.1. Water Sources

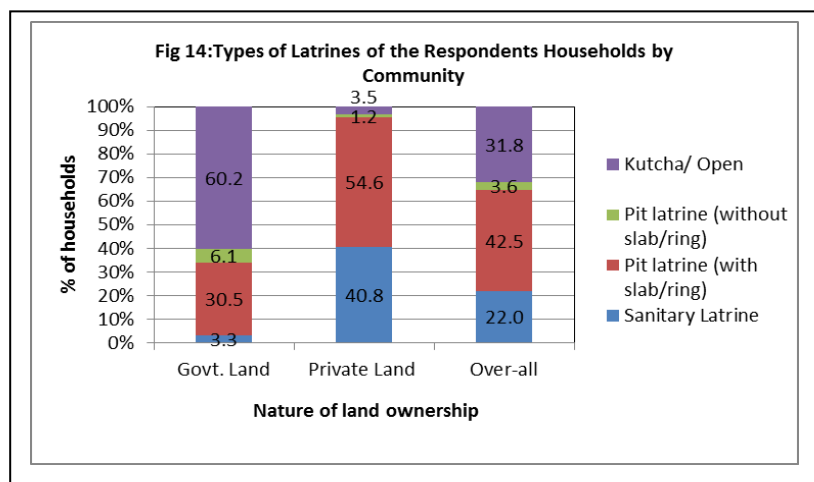
Around 88 percent of the respondent households depend on pipeline supply as the primary source of water. All of the households in the settlement on private land as well as three-fourth of the households in the settlement on khas land use pipe water (fig 12). In settlement on private land, land owner extract ground water and supply to their tenants through pipe line. They have set up taps in specific locations from where individual households collect water. Cost of the water supply is built in their house rent.



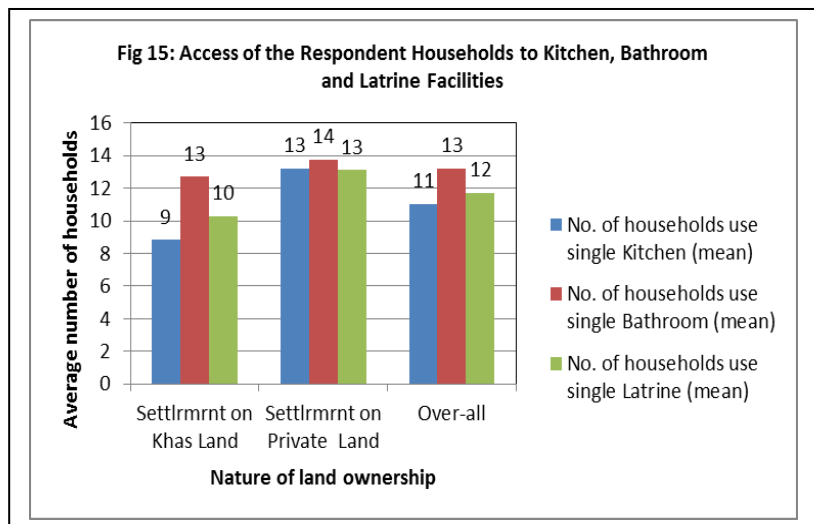
In the settlement on khas land, commercial supplier supplies pipe water (fig 13). Similar to the land owner, they have set up pumps, pipelines and taps to supply water. Individual households either pay monthly rent of taka 150 to 200 to collect water from taps which supply water for specific periods each day alternatively, they could get water at a set price of tk. 1 per pitcher of water. It is to be noted that both the flow of water from the taps and the duration of supply are mostly inadequate.

### 4.4.2. Sanitation

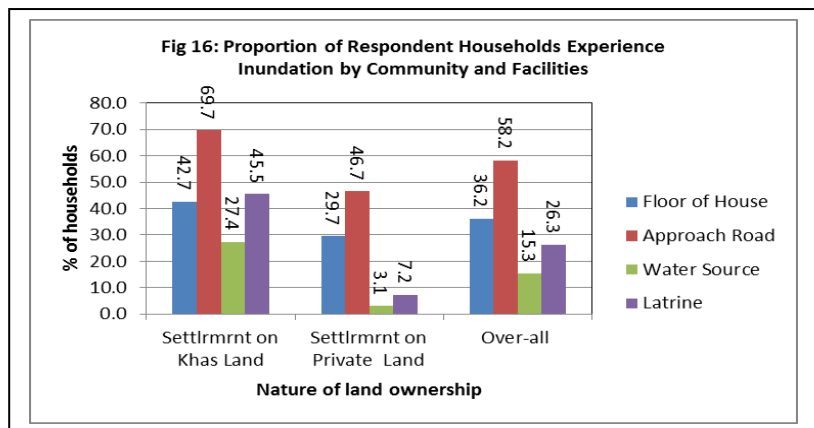
Overall only 22 percent have sanitary latrine facilities among the respondent households. In the settlement on khas land, only about 34 percent of the respondent households use hygienic latrine (sanitary latrine or pit latrine with ring slab); whereas, most of the households in the settlement on private land uses hygienic latrine. Apparently, the khas land on which the settlement has located is low lying. Therefore, it is difficult for the dwellers to established hygienic latrine there (fig 14).



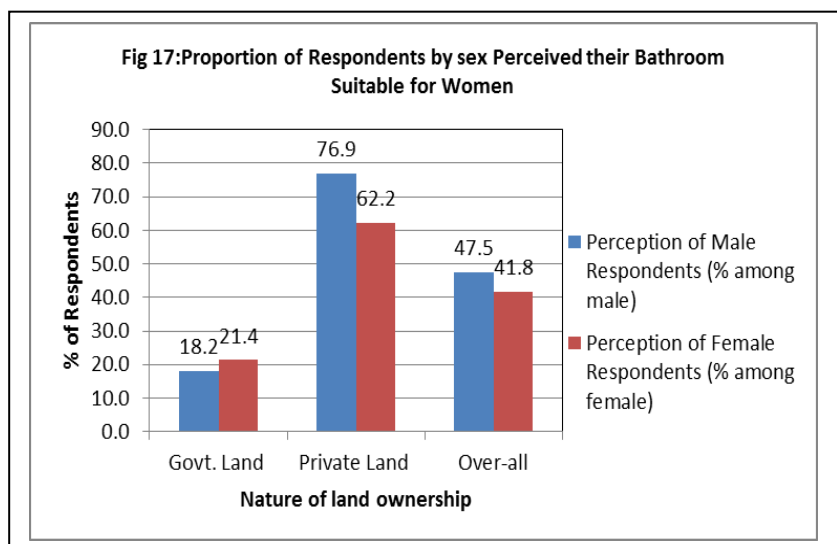
The respondent households have to share latrines, bathrooms and kitchen with a number of neighboring households (12 HHs, 13 HHs and 11 HHs, respectively in average). It causes difficulties in their daily life (fig 15). As the majority of the respondents go for work and their work hours are almost identical, many of them have to use these facilities simultaneously. Also, women have to collect water when the taps are running. It means often they get into long queues to get water.



Overall more than 58 percent respondent households experienced seasonal inundation over their approach roads. They also get their floors, water sources and latrines inundated seasonally (36.2 percent, 15.3 percent and 26.3 percent, respectively). About 45 percent of the households in the settlement in the khas land get their latrines inundated whenever it rains heavily. Rains also cause inundation of approach road (69.7 percent), houses (42.7 percent) and water sources (27.4 percent). Compared to settlement on khas land, fewer households of the settlement on private land experience inundation (fig 16).



Overall, 47.5 percent male respondents and 41.8 percent female respondents believe that, bathrooms are suitable for women (i.e. provides privacy and protection). Specifically, only few male respondent and female respondents from the settlement on khas land believe that, their bathrooms are suitable for women. In contrast, majority of the female respondents from the settlement on private land believes that the bathrooms are suitable. Interestingly, about similar proportion of male respondents from the respective settlement have same views as of the female respondents (fig 17).



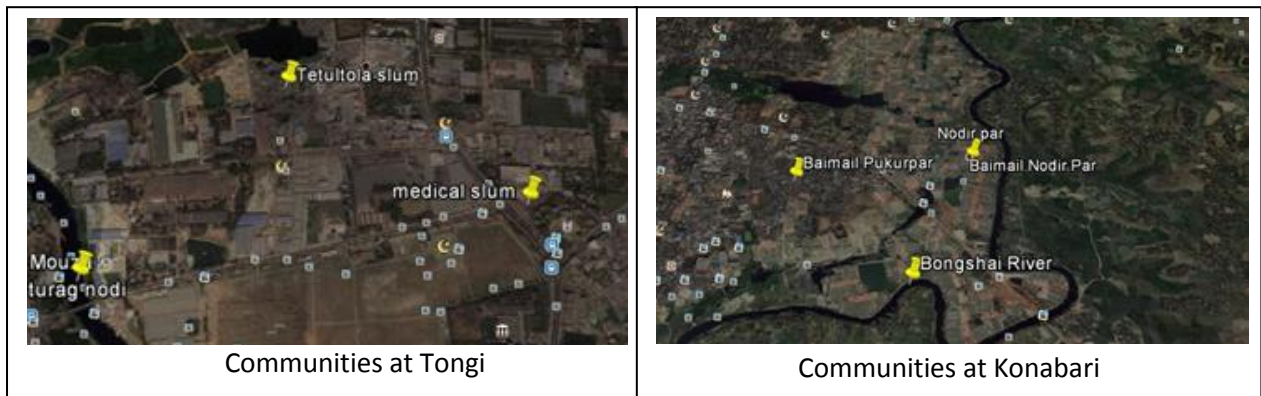
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# Chapter Five

## Household and Community Resilience

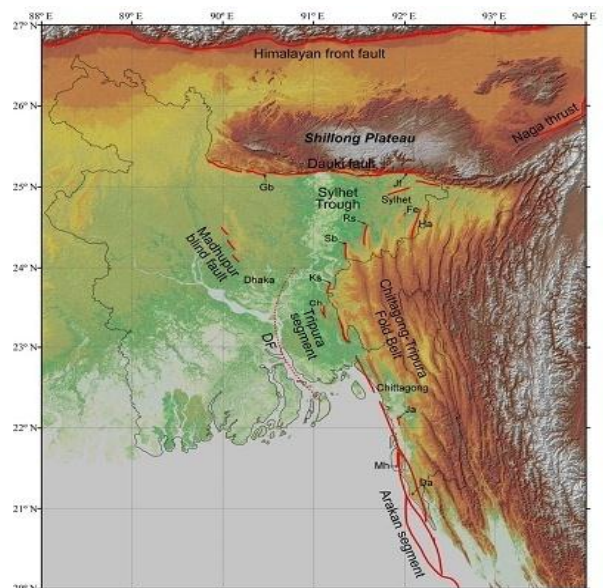
### 5.1. Hazards of the Communities

The six community of the study area is located in different parts of Gazipur City Corporation. However in regional context they are in the same region forming the northern fringe of Dhaka Metropolitan Development Area. So the vulnerability to hazard which have regional aspects (like flood, earthquake etc.) remain relatively the same for all the communities with little higher for some. All the communities are located within a kilometer of the two rivers (Bangshi at Konabari and Turag at Tongi); in fact Nadirpar community as the name suggest in Bangla situated on the bank of river Bangshi (Map 2). However, it should be noted that overall most of the settlements of Gazipur is located in highland compare to other regions of Bangladesh.



Map 2: Location of the study area (Google Earth view)

On the other hand Dhaka is considered as one of the twenty cities of the world most vulnerable to earthquake. The Gazipur City Corporation is considered as part of Greater Dhaka region. So, all the settlements are vulnerable to earthquake and between 1971 and 2006 at least 465 earthquakes of minor-to-moderate magnitudes occurred in Bangladesh (Saha, 2013). The seismically highly active Dauki fault is located around 200 km north of Dhaka City (Akhter, 2010) while Madhupur Blind fault is nearby to the sites (Map 3). Considering all the communities are located at least 20 km north of Dhaka City, the areas are more susceptible to Earthquake than Dhaka City.

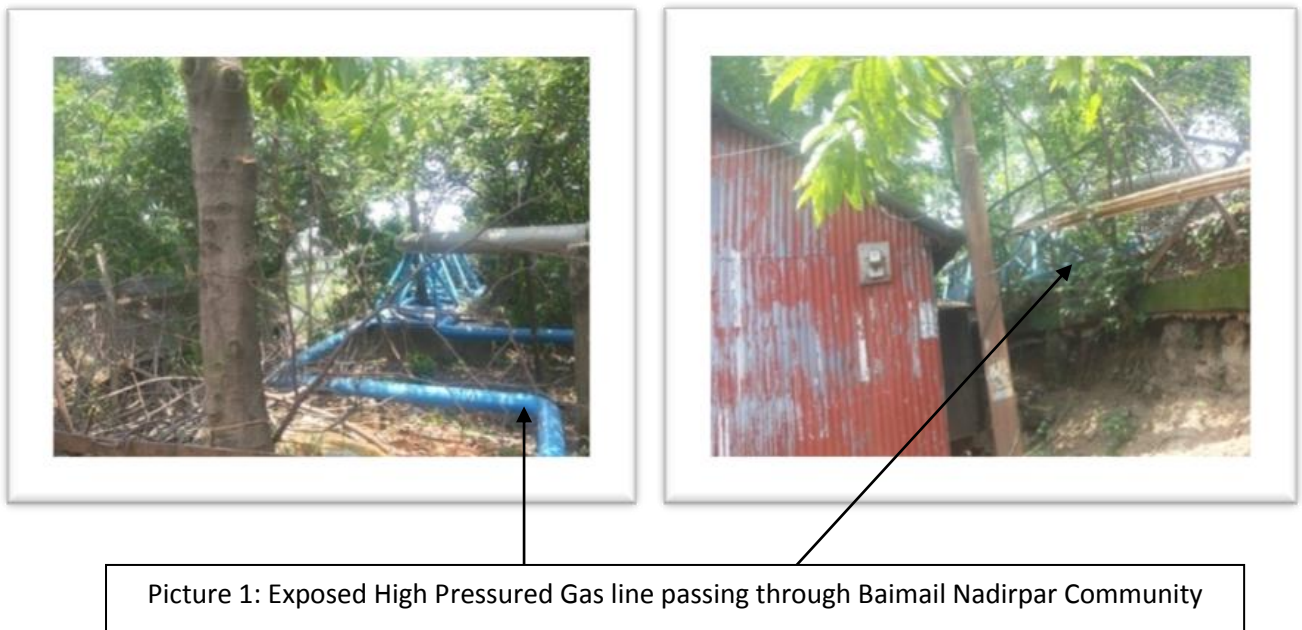


Map 3: Active Faults around Bangladesh

Source: Morino, Kamal et al, 2013



Beside the two above mentioned regional scale hazards, the communities have their local hazards. The major local hazards which are common for all the communities are water logging, fire and environmental pollution. Though it is mentioned earlier that the settlements are located in higher ground at regional level, at local level the settlements are in lower level compare to the surrounding settlements. In addition, due to poor drainage management within the community water could not drained out fast enough causing water logging in the communities even after light rain. There is also mismanagement of garbage. Fire is one of the common hazards in all the communities. As the houses are very closely located once fire starts, the probability of spreading fast is very high. In the study locations in Gazipur City Corporation, the main cause of fire incidents is industrial accidents. Another major cause of previous fire incidents is short circuit in electricity supply line. In Baimail Nadirpar community, this is compounded as high pressured gas line which is exposed in part (Picture1) is passed though the community. As there are no designated spaces for garbage disposal people littered all over the community space. However in Baimail Hazir Colony and in Baimail Pukurpar Community vulnerability to environmental pollution due to mismanagement of garbage is less severe than the others as there are options for the community to leave the waste to waste pickers by paying some money. On the other hand the environmental pollution is more severe in Baimail Nadirpar and Medical Slum. There are dying factories and power plant on the bank of the river Bangshai and dispose their waste in the river making the water polluted. This has affected on the inhabitant of Baimail Nadirpar community. It should be also noted that Gazipur City Corporation is dumping the waste of the city in the north vicinity of Baimail Nadirpar community which is even far away from the other two communities of Konabari. A cursory glance of dumping site reveals that this is not a sanitary land filling. On the other hand there is a pharmaceutical factory (Asiatic Laboratories Limited) in the north-east boundary of Medical Slum which may dispose their waste in the community (according to the community members). There is also malodor in the air, when the factory is in production.



## 5.2. Hazards Perceived by the Communities

Considering local and regional context we identified five (Flood, earthquake, water logging, fire and environmental pollution) hazards present in different magnitude within the community. However during IGDs we found that the dwellers do not perceive flood and earthquake as hazard. Though the communities are located within one and half kilometer from the river they do not consider flood as a hazard though communities (Uttar and Dakhin Tetultola) faced flood of Turag in the last few years. Similarly when they were asked about vulnerability of their house and workplace to earthquake a little over one third (36.2%) considered their house is vulnerable and half (50.9%) thought their workplace is vulnerable to earthquake. Though a high pressured gas line passing through their community, it seems that the people at Baimail Nadirpar are not even aware of their high vulnerability. The only hazard they are (except Baimail Nadirpar) really concerned is fire. All the communities except Baimail Nadirpar faced more than one incidences of fire in last few years. As mentioned earlier they face environmental pollution and water logging. The communities do recognize these as they faces the problems of environmental pollution and water logging regularly and more frequently in the form of diseases.

## 5.3. Capitals of the Communities

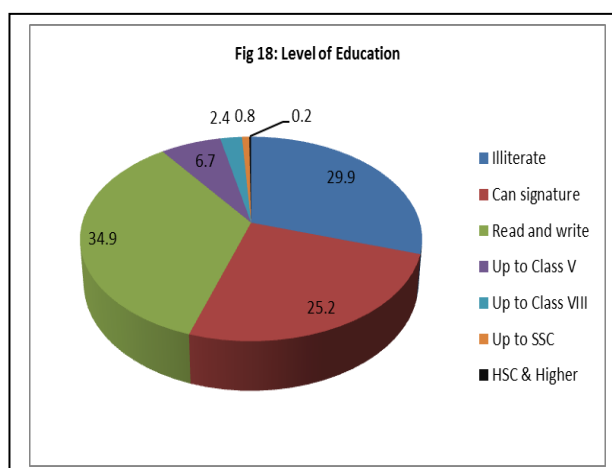
To absorb the shock of disaster every community has to rely on Natural, Physical, Social, Human and Financial capitals (DFID, 1999). In the previous chapter we have discussed about the natural and physical capitals of the communities. In this section the three other capitals are discussed. We tried to focus on communities as a whole however issues of communities independently also highlighted where ever it was possible.

### 5.3.1 Social Capital

In his landmark article “The Rural School Community Center” L Hanifan in 1916 referred to social capital as “those tangible assets [that] count for most in the daily lives of people: namely goodwill, fellowship, sympathy, and social intercourse” (Hanifan, 1916). It is obvious from the definition these tangible assets grow over time. Two of the communities (Medical Slum and Baimail Nadirpar) have chequered history (Baimail Nadirpar was established in 1950s during construction of Dhaka – Tangail Road). In these communities there are people who are born and brought up in the community. It is obvious from the IGDs though there are social tension within the community there is strong social bonds, bridges and linkages. It should be mentioned here that these two communities are located in public land (freehold and leasehold). So the residences feel the sense of belongings and sense of ownership in the community. On the other hand, the other communities are comparatively new and built on private land. Though there are social bonds, bridges and linkages, from the IGDs one could feel that these are not as strong as Medical Slum or Baimail Nadirpar.

### 5.3.2 Human Capital

Human capital can be defined as the knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being (Keeley, 2007). However it is difficult to measure the qualities (i.e. Knowledge, skills, competencies and attributes embodied in individuals). Often level of education is considered as proxy variable for human capital and this report is not different. The total population of the surveyed household is 1182. It is regrettable that most of them (77.8 percent) lack any formal education. There is not a single community in which the people with formal education outnumbered the people without formal education (fig 18).



It should be regrettable that very few have disaster management training, training on use of first aid kit though some of them participated in mock drill on fire management (table 4).

Training on Disaster Management		Training on First Aid Kit		Participated in Mock Drill	
Frequency	%	Frequency	%	Frequency	%
25	7.86	27	8.49	45	14.15

There is no encouraging sign in any community; however the condition is worst in Medical Slum and Baimail Nadirpar as there are no households which have any skills on disaster management (for details see table 2 in Annex 5).

### 5.3.3. Financial Capital

Regular remittances (income) or pensions, savings, supplies of credit constitute as financial capital (McLoid, 2001). Table 5 provides the distribution of income of the study area. The monthly income of the household varies from monthly 3,000 Taka to 200,000 tk. The median income of the communities is 12000 tk. with the mean income close to 14,000 tk. (13,859.18 Tk.) and income of 75th percentile is 15,000 tk. Though the median income is same both for Konabari and Tongi the mean income and income of 75<sup>th</sup> percentile is much higher in Konabari than Tongi (for details see table 3 in Annex 5).

Income Group	Frequency	Percent
Not More than 10000 tk. /Month	132	41.5
10001 - 15000 tk. /Month	116	36.5
15001 - 20000 tk. /Month	48	15.1
20001 - 25000 tk. / Month	11	3.5
More than 25000 tk./ Month	9	2.8
Over all	318	100.0



It is encouraging to learn that only 8.81 percent (28 out of 318) households have involved children in income generating activity though 64.5 percent of the household female members work for income (table 6). But one of the issues for which the households are vulnerable is the stability of income. Most families (55.7 percent) do not have stable source of income which greatly reduces their resilience.

	Frequency	Percent
None	113	35.5
One Member	168	52.8
Two Members	32	10.1
Three Members	5	1.6
Over all	318	100.0

Of the 318 households surveyed 232 (73 percent) household have no outstanding debt but only 80 (25 percent) households have some savings (Tables 8). The average savings and loan per household is 7,590.91 tk. and 12,467.53 tk. respectively. The value of 75<sup>th</sup> percentile shows that extreme values clearly affected the average value of both savings and debt. Both in Tongi and Konabari savings and debts of 75<sup>th</sup> percentile is well below the average (for details see table 4 and 5 in Annex 5).

Loan amount	Frequency	Percent
None	232	73.0
Not More than 10,000 tk.	11	3.5
10,001 – 25,000 tk.	32	10.1
25,001 – 50,000 tk.	32	10.1
More than 50,000 tk.	11	3.5
Over all	318	100.0

Table 8 provides the distribution of savings amount of the study area. Tables 10 provide the basic information on savings and loans of the communities. Overall only 44 (14 percent) households have savings in real terms (i.e. outstanding debt is less than the savings). On average they saved over 23,500 tk. However it should be noted that 194 households (61 percent of total) have balanced their savings with their loan (i.e. outstanding debt is equal to the savings) (table 10 for detail). The average income of these households is little below (12, 726 tk/month) the overall average income.

Savings amount	Frequency	Percent
None	238	74.8
Not More than 10,000 tk.	47	14.8
10,001 – 25,000 tk.	18	5.7
25,001 – 50,000 tk.	9	2.8
More than 50,000 tk.	6	1.9
Over all	318	100.0

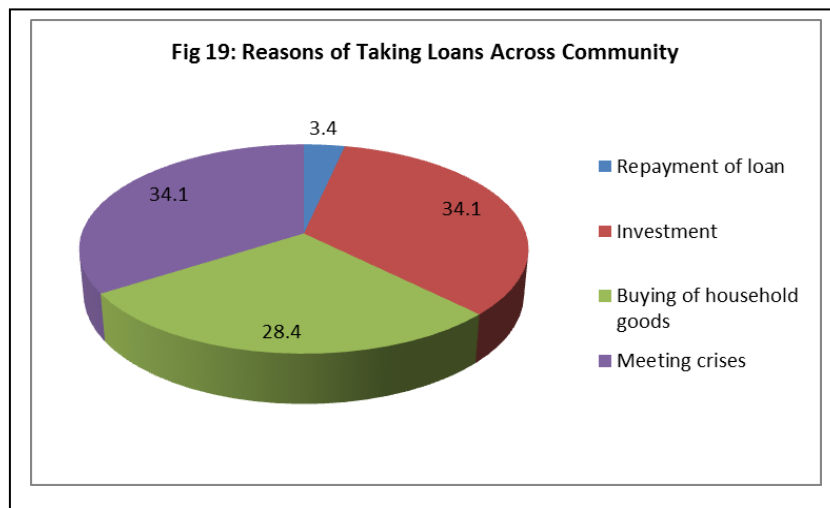
Out of 318 families only 75 (23.6 percent) families have saved money in last year, though overall 80 families have some savings. Most of the savings is done by the woman (table 9) and most of the savings are kept in formal sector (i.e. bank, NGO or insurance company) (table 11).

	Frequency	Percent
No Savings	243	76.4
Female	59	18.6
Male	16	5.0
Over all	318	100.0

	Frequency	Percent
More than 100,000 tk. in Debt	4	1.3
50,000 - 100,000 tk. in Debt	13	4.1
25,000 - 49,999 tk. in Debt	17	5.3
Less than 25,000 tk. in Debt	46	14.5
No Debt No Savings	194	61.0
Less than 5,000 tk. in Savings	6	1.9
5,000 - 9,999 tk. in Savings	10	3.1
10,000 - 25,000 tk. in Savings	17	5.3
Total	307	96.5
Missing System	11	3.5
Over all	318	100.0

In most cases, families took loan either to meet crises or invest in income generating activity (fig 19). This gave impression of two opposite views on their coping on disaster. In Medical Slum, Baimail Pukurpar and Uttar Tetultola most families took loan for meeting crises while in both Baimail Hazir Colony and Baimail Nadirpar they took loan for investing. In fact in Baimail Hazir Colony all the households took loan for investing. The most surprising result came in Dakhin Tetultola while the major reason for taking loan is buying household items (for details see table 6 in Annex 5).

Location of Savings	Frequency	Percent
No Savings	243	76.4
Bank	35	11.0
Home	3	.9
NGO	33	10.4
Insurance	1	.3
Saving Scheme	1	.3
Other	2	.6
Over all	318	100.0



## 5.4. Preparedness Measure

Disaster preparedness refers to the planning based on the perceived risk of hazards, needs of household during and immediate aftermath of disaster (NCDP, 2015). Preparedness includes awareness of disaster, information about emergency services, practices on emergency management and skill development to cope with disaster during and aftermath of disaster

### 5.4.1. Awareness of Disaster

As mentioned earlier, the communities are more concern and aware about local level hazards (like water logging, fire) than national level hazards. However, though they are aware of the hazards, they are not taking any precautionary measures against the hazards. For example, in IGD at Medical Slum, participant agreed that dumping of garbage blocks the drain running by the side of the community which in turn causes water logging. But they agree that due to lack of place for garbage dumping they throw their garbage by the side of drain. Similarly, due to existence of many cottage industries (mainly plastic recycling and cotton work), there is increasing risk of fire. However, they are unwilling/ unable to provide ample space so that fire truck can move.

Women in the community describe about knowledge and understanding fluidly and inconsistently. However, they are concerned mainly about water logging and, to some extent, about environment pollution. They claim that they keep portable stove and some dry food. Also, they are aware that stopping children’s education and sending them work to cope with the disaster losses is counterproductive in the long run.

Children’s main concern is water logging. They experience it several times in a year. Sometimes it prevents them to go to their schools or to workplace. They are aware that stagnant water is harmful and it causes skin diseases and other waterborne diseases. They are also aware that, throwing household wastes in the drains congests the drainage system and it causes water logging. Furthermore, they understand that their communities are at risk fire hazard. It occurs in the nearby factories but it could easily spread into their communities. If houses in the communities catch on fire, it would very difficult to put it off because the fire engines may not be able to negotiate through the density of the houses and the narrow roads. Children also mentioned that they could take part in risk awareness activities.



Picture2: Dumping Garbage by the side of drain and entry of a community

### 5.4.2. Knowledge about Emergency Services

This refers to whether they know what the emergency services (Fire Brigade, Police etc) do and whether they have the contact number of the services. Data reveals that they have some ideas how the emergency services work and they have broader understanding of the major responsibility (i.e. firefighting) of fire service (more than 90 percent of the respondent know about them) but they know very little about other services provided by fire service and civil defense authority. Very few of them are member of any committee related to disaster risk management (0.6 percent). However, very few people know about the responsibilities of City Corporation Disaster Management Committee (CCDMC) (table 12).

Have Knowledge about following responsibility of	Responsibilities	Frequency	Percent
Fire Service and Civil Defense	Fire Fighting	267	84.0
	Consultation service on Fire Fighting	29	9.1
	Training on Fire Fighting	20	6.3
	Conduct Fire Drill	13	4.1
	Provide ambulance service	4	1.3
	Issuing on Fire Proofing Certificate	1	.3
CCDMC	Issue warning notice about impending disaster	5	1.6
	Rescue Operation	4	1.3
	Relief Operation	0	.0
	Awareness Building on Risk Reduction	0	.0
	Conduct Training and Workshop on Disaster Risk Reduction	0	.0
	Prepare Work plan for Risk Reduction on disaster	0	.0

Similarly, in case of knowing contact numbers of emergency service, it is very poor (table 13). Though all the communities faced fire only around a fourth of the households have the

Have the Phone Number of	Frequency	Percent
Fire Service	71	22.3
Hospital	7	2.2
Ambulance Service	7	2.2
Police Station	9	2.8
Trained Emergency Management Volunteer	2	0.6
Member of Disaster Management Committee	0	0

phone number of nearest fire station. Less than 10% of the households have the number of other emergency services including that of member of disaster management committee and emergency management volunteers. It should be mentioned here that while Uttar Tetultola experience more than one fire in last one year, nine of the surveyed households have phone number of fire service while 75 percent of the households at Baimail Hazir Colony have phone number of fire station. Similarly though conveniently located by the side of police station, only 9 percent of the households of medical Slum have the phone number of police station (though it is highest for all the communities) (for detail see table 7 in annex 5).

### 5.4.3. Practices

Historically in Bangladesh, households save dry food, built portable cooker to use during flood (Oxfam, 2011). Recently as awareness building for earthquake and fire hazard mock drill is practiced and household were asked to keep

Tools	Frequency	Percent
Savings for Emergency	116	36.5
Have Sandbags and water safely placed at home	16	5.0
Have Portable Cooker	33	10.4
Keep Dry Foods in safe place	72	22.6
Took Part in Mock Drill	45	14.15

water and sand at house. To absorb, the shock of disaster, saving is the best tool. However it was found that only around 22 percent save dry food in safe place and less than 10 percent households have portable cooker or have sandbags and water in the house (table 14). However, it is encouraging to learn that more than 36 percent of the households have savings for disaster.

But if we dig deep into the data we would find that there is wide varieties within the communities. While 60 percent of household of Baimail Hazir Colony have savings only 23.1 percent have the same in Baimail Pukurpar. Similarly more than 25 percent of households who kept sandbags and water in house live in Baimail Nadir par for detail (for details see table 8 in Annex 5).

### 5.4.4. Skill development

As mentioned earlier (Section 5.3.2) very few households have training on disaster management or first aid. Though both the site is located in industrial area it is surprising to learn that only little over 14% of the population participated in mock drill.

### 5.4.5. Experience of Disaster and its effect on the Households

The studied communities have not faced any major disaster in the last year. Only around one third (38.1 percent) of the household experienced any disaster, e.g. water logging, fire incident etc. in the last one year. The distribution of households across community who have faced disaster in the last one year is shown in the table 15.

Name of Community	Frequency	Percent
Medical Slum	19	15.7
Uttar Tetultola	32	26.4
Dakhin Tetultola	23	19.0
Baimail Pukurpar	13	10.7
Baimail Hazir Colony	6	5.0
Baimail Nadirpar	28	23.1
Over all	121	100.0

The respondents listed damage to house, water supply system and sanitary system have borne the effect of the disaster (table 16). It should be mention here that it encouraging to know that there was no death of the family members due to disaster.

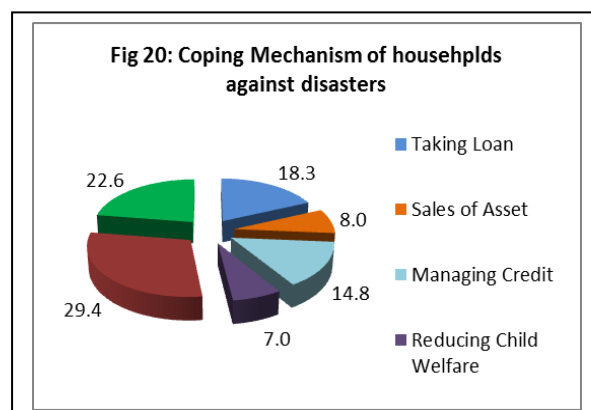
	Frequency	Percent
Injury to Family Member	3	1.16
Damage to Housing	65	25.10
Damage to Water Supply System	85	32.82
Damage to Sanitation Facility	95	36.68
Damage to Production Equipment	11	4.25
Over all	259	100.0

### 5.4.6. Coping Mechanism of the Household against Disaster

As mentioned in the previous section only around one third of the households have experienced disaster in the last year. This is reflected on the response when they were asked about the coping mechanism of the household against onslaught of disaster. Very few of the respondents who have not faced disaster in last one year have answered the question regarding their coping mechanism. In number of ways the households tried to cope with disaster. This includes sales of asset (land, production equipment) to migration. The coping mechanism of the households that have taken is listed in the table 17. It is regrettable that the most common mechanism for coping disaster has effect on health. People reduce their number of meal as well as quantity of food intake to cope losses due to disaster.

Taking Loan	<ul style="list-style-type: none"> <li>• From Relative</li> <li>• From NGOs</li> <li>• From Professional Lender</li> </ul>
Sales of Asset	<ul style="list-style-type: none"> <li>• Sales of Land</li> <li>• Household Goods</li> <li>• Production Equipment</li> </ul>
Managing Credit	<ul style="list-style-type: none"> <li>• Sales of labor in advance</li> <li>• Buy Goods</li> </ul>
Reducing Child Welfare	<ul style="list-style-type: none"> <li>• Stop Child's education</li> <li>• Engaging Child in income generating activity</li> </ul>
Health and Living	<ul style="list-style-type: none"> <li>• Reducing quantity of Food</li> <li>• Reducing number of Meal</li> <li>• Stop Treatment of Disease</li> </ul>
Others	<ul style="list-style-type: none"> <li>• Using Savings</li> <li>• Changing Occupation</li> <li>• Looking for Relief</li> <li>• Migration</li> </ul>

Figure 20 provide the use of different mechanism use by the households across the community. Though overall reduction of food intake is the most prominent tool for coping disaster, there is considerable variation within the communities on the use of mechanism to cope disaster. Though reduction of meal (both in number and quantity)



is the most common mechanism in four communities (Medical Slum, Uttar Tetultola, Baimail Nadirpar and Baimail Hazir Colony), loans from relative and utilizing the savings came top in Pukurpar and Dakhin Tetultola (for details see table 9 and 10 in Annex 5). On the other hand it is good to learn that the one of the most common

	Frequency	Percent
Medical Slum	12	20.7
Uttar Tetultola	15	25.9
Dakhin Tetultola	17	29.3
Baimail Pukurpar	9	15.5
Baimail Nadirpar	5	8.6
Over all	58	100.0

mechanism against disaster is utilizing savings and with exception of respondents of Baimail Hazir Colony, all communities use this as an effective tool for coping disaster (Table 18).

# Chapter Six

## Women Empowerment

### 6.1. Women's Access to Services

Access to services is critical to realize one's full potentials and thus empowerment. **BRUP** baseline survey focuses on women's access to some particular services (e.g. water, sanitation, personal hygiene, health care, life skill development, information, micro-credit and safety net). It is evident that women have limited access to these services which placed women in a disadvantaged position relative to men.

#### 6.1.1. Water Supply

In general women are responsible for finding and collecting water. Inadequate access to safe water is posing a grave concern for the women of targeted communities. In most cases at Tongi, if not all, they have to buy water (per pitcher 1 taka) from the commercial water supplier for drinking, household work, cooking and bathing. Other women have to go to the supply point and spend considerable period of time to get water. In other communities, house owners supply water to their tenants but only during some specific times of the day. As a result, women and girl have to wait in a queue to collect a pitcher of water compromising other responsibility of their house. On top of everything, as water supply is limited in these densely populated communities, the collectors have to fight each other to collect water before finish water from supply line. Women and girls are performing this back-breaking work to provide this basic life necessity.

Regarding accessing pure drinking water, women are again in dilemma. The water supplied by commercial supplier does not ensure that water is safe to drink. To the dwellers, safe and pure water means crystal clear water. Either they have to drink those contaminated water or accept death without water. During the discussion with women groups they reported about disease like jaundice, diarrhea etc. which are water born disease.

Although, in many cases, the households get water from pipeline, the supply runs for specific duration of the day and both the flow of water and the duration of supply remain inadequate. This inadequacy of water supply is a big hurdle for women empowerment. Women and girls have to spent huge amount of time for water collection which impedes their schooling, cannot earn money, even if involve in economic activities, they always compromise their personal and leisure time.

#### 6.1.2. Sanitation

Sanitation for women can be summed up as upholding dignity for women. Women and girls are facing acute sanitation crisis in the areas. Toilets are provided by house owner with rented house; 10 to 13 families share 1 latrine which is mostly without proper lock and lighting. There is hardly any space to reserve water. Users have to carry water from their home. Most importantly, these latrines are not accessible for people with disabilities, pregnant women and old people.

In terms of latrine using time, some respondents mentioned that they relieve themselves usually in the dark, early in the morning or when men are not around. They do this practice to maintain their dignity and security as those latrines are not well protected. Some respondents utterly mentioned



that due to these time gap, they are facing some pain and pressure on kidney and suffering from urine infection.

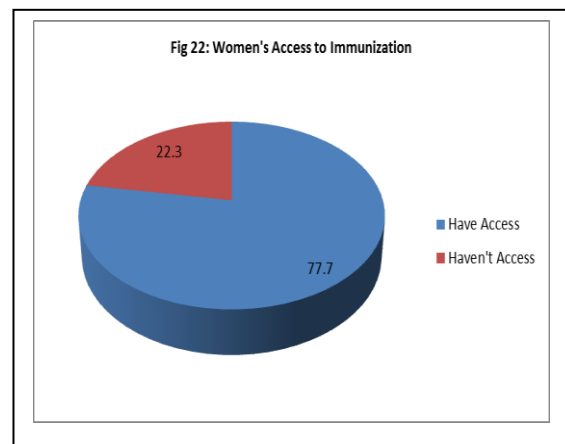
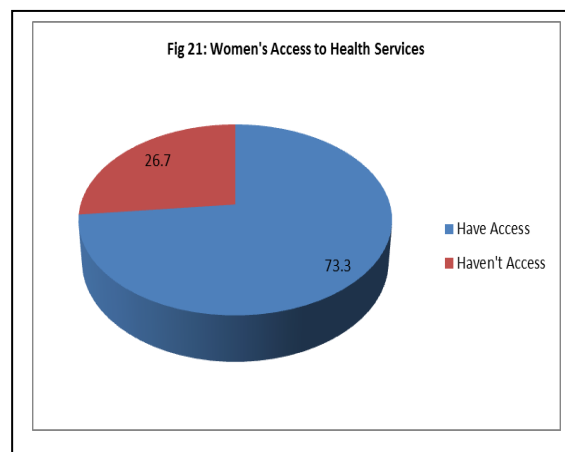
In most targeted areas of **BRUP** project, there is open or no bath place. In some areas there are shared bath place for women. Where there is no bath place, women usually carry water from the sources and take bath in front of their house. But those who are old enough, disable or pregnant cannot carry water and stay without shower even within this scorching heat.

### 6.1.3. Personal Hygiene

As water supply is inadequate, personal hygiene of women is compromised to a great extent. Here baseline survey focuses on personal hygiene related with waste management. This issue remains unspoken and hard to get actual problem as they do not want to talk about it as they think it is “shame” and “taboo” to discuss this issue. During discussion, it was revealed that women and girls remain under psychological stress during their menstruation as there is not sufficient water and proper toilets for their personal cleaning and disposal. Their menstruation practice is un-hygienic (use waste cotton and rags from the factories which often contain harmful chemical and dyes). Using unclean cotton and rags is potential for infection in women’s body which they reported as common issue. Due to infection, very often they remain absent from their work and loose salary. This is not only having negative impact on women’s income but employer also. The menstrual waste disposing is major concern to women in the communities. Women and girls are usually throw menstrual garbage in the open drain, latrine or in the kitchen garbage.

### 6.1.4. Health Care

Though women, in general, face several problems in accessing health care facilities and face some gendered barrier, interestingly the survey data reveal that accessing primary health care services in the targeted communities are higher compared to many areas in Bangladesh which is 73.3 percent (fig 21) in 6 communities (for details see fig 1 in Annex 5). This percentage includes government medical hospital and some private clinics at the survey areas. Numbers of health service providers, in particular, commercial service providers are more. It increases access of the communities to this service. But this higher rate refers only to physical access to health service providers, majority of who are private practitioners, including personnel from public health care service doing private practice. Also, as the regulatory mechanism or quality control measures are missing, the quality of service is poor. Respondents mentioned that doctors in the government hospital or clinics are not caring and serious enough to diagnose the problems; there are no laboratory facilities, they only provide low cost medicine at free of cost and most cases referred to private treatment which is costly. In terms

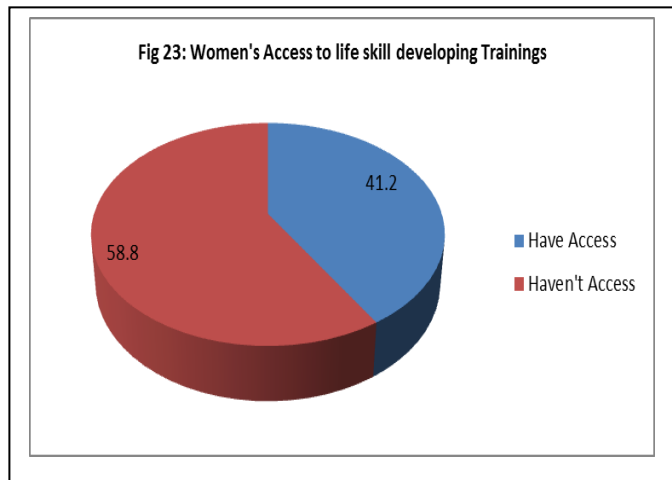




of vaccination for children which is 77.7 percent, respondents are satisfied with the services of vaccination camp and health workers who usually visit their home and remind them about schedule of vaccination (fig 22) (for details see fig 2 in Annex 5).

### 6.1.5. Life Skills Development

Substantial numbers of respondents reported that have accessed trainings (41.20 percent; see fig. 23), although proportions of respondent received training vary from community to community (for details see fig 3 in Annex 5). Generally, these trainings were arranged by microfinance organizations. This training is solely focused on managing saving deposits and loan repayment (it is about how to keep account of their credit installment and savings account). Respondents informed that they did not receive any formal training on disaster management (e.g. disaster risk reduction, disaster preparedness, and firefighting).



They also mentioned that they did not get any training on entrepreneurship or enhancing their business capacity or to get better access to labor market or other life skills.

Discussion with women’s group reveals that getting permission from family to attend training is not a big issue nowadays. However, as women in the targeted community are responsible solely to perform their household and reproductive responsibility along with earning livelihoods, they become time poor and are less able to participate and benefit from trainings even if the opportunity exists in the community.

### 6.1.6. Information

Though women are in need of this powerful vehicle to empower themselves, yet they have very few access to information related to their life and well-being. Women’s access to information is very low that is only 26.1 percent (Fig 24). Most of the respondents mentioned that they are getting information about health, violence against women, government rate of utilities (water bill, electricity unit cost) and market price of consumable goods from TV which is very helpful in their daily life (for details see

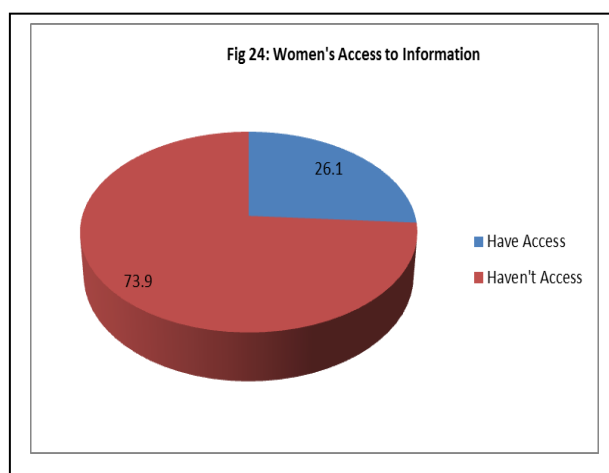


fig 4 in Annex 5). But they do not get any information related to disaster or income generation options of their community. Their discussion reinforces that access to information is empowering tools for them, yet it is not easy for them to exercise this rights as they are time poor.

### 6.1.7. Micro-credit

In general women disproportionately face barrier to access financial institutes and services. But baseline survey reveals that most women have access to credit services in the community which is provided by NGOs (e.g. BRAC, PROSHIKA, Sajeda Foundation, ASHA, BURO Bangladesh) under their credit program.

Discussion revealed that to some extent loan helps women to meet their daily needs, build shelter, meet medical expenses, also, to large extent, women use their credit to get luxury items (e.g. LED TV, smart phone etc.) for their families. It means access to credit allows women greater flexibility in terms of household expenses. It helps women to perform their reproductive role in the family. Access to credit may not increase their control over resources, neither, it necessarily facilitates women empowerment. However, it presents an entry point to promote women’s empowerment.

Also, it is noted that women are less likely to have bank account and feel discouraged to have own account for transaction. Some women, though, mentioned about Bkash but they do it through their relatives account.

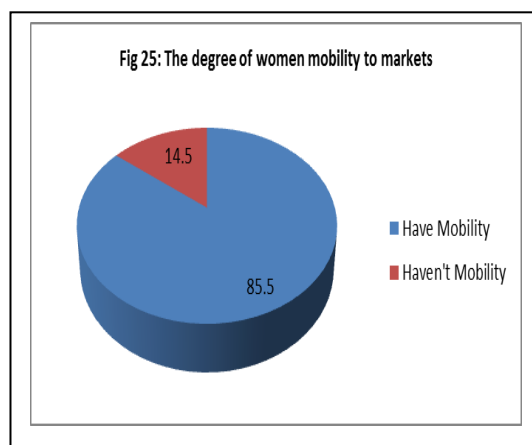
### 6.1.8. Safety Nets

Although substantial numbers of urban people are poor, our safety net program does not address urban poverty. During discussion, the survey respondents mentioned that the safety net supports in their communities include Old Age Allowances and Freedom Fighters Allowance only. They did not have any information whether the other types of safety net supports such as VGD, VGF or Cash for Work available or not. Interviews with the CEO and the Ward Commissioner informed that the poverty focused common safety net support such as VGD or Cash for Work are not available for the urban poor.

## 6.2. Women’s Mobility and Participation

### 6.2.1. Mobility

Women’s mobility is associated with their poverty to a great extent. Because of restricted mobility, women cannot access their rights and opportunity. Restriction on women’s mobility is not due to religion and threat of violence; it is one of the vehicles for patriarchal ideology to control them. Nowadays women’s mobility is visible to some extent but it is conditional. Respondents informed that in the targeted communities, women can go to market, hospital, school, or other public places easily to support their family or to earn money, but they still cannot make decision on their own to go out for their entertainment, networking or any personal work (for details see fig 5 in Annex 5).



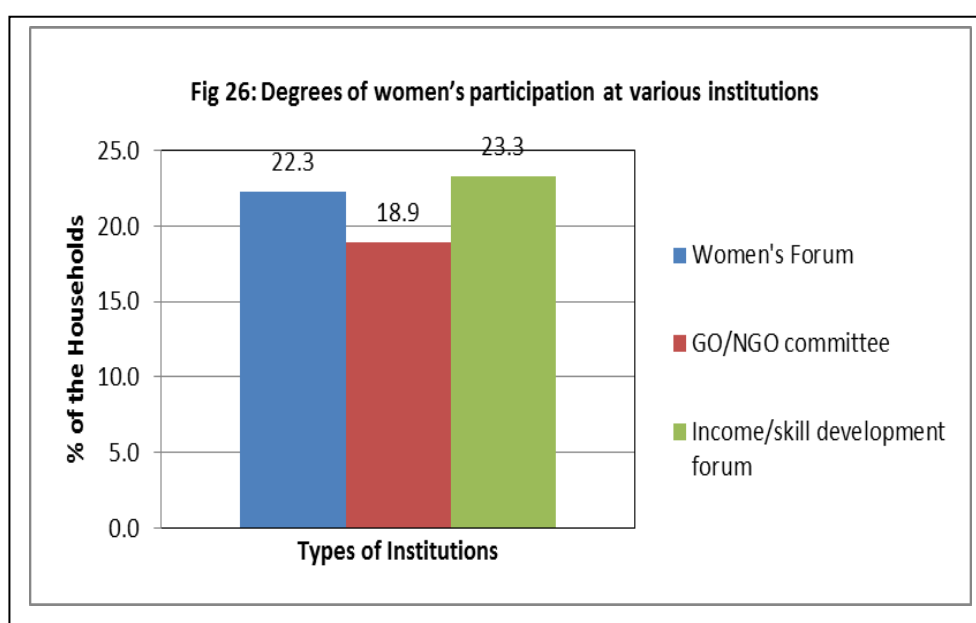
## 6.2.2. Participation

Participation refers to one's active engagement with the decision involved with their lives. Where women are historically excluded from decision making process, ensuring women's meaningful participation is really hard to achieve. But it is imperative for women empowerment. The study has examined the level of participation of women in the following areas.

**Women's Organization** - Women's participation at women's organizations or networks is very important factor to build confidence and support among women. It is important to promote women's political participation as well. These organizations and networks work as informal channel to influence policy making process, to make significant contribution in development process, negotiation of rights as well as engaging in public life. Participation of women in these organizations is very limited in the targeted areas which are only 22.3 percent (fig 26). During the survey, the definition of women organization was women rights related NGOs, NGO networks to stop violence against women or legal aid related organizations. In the survey area BRAC, PROSHIKA, Sajeda Foundation working but mostly focusing on micro credit, not the social issues related with women.

**GO-NGO Committees** - The study reveals that 18.9 percent of the respondents participate in GO-NGO committees (fig 26). IGDs with women explain in more details and show that these committees are NGO committees formed to facilitate credit and savings. There is no DRR platforms exist in these communities. During the survey, no respondent mentioned about their participation in DRR platforms.

**Income and Skill Development Forum** - Women's participation in income and skill development forum is 23.3 percent in the targeted communities (fig 26). Income and skill development interventions are believed to have conceptual link to women empowerment, though it is controversial. In the discussion respondents mentioned that their participation in income and skill development forum is more helpful to support their aspirations. In this study Income and skill development forum meant those organization or plat for who are providing life skill and other expertise, for example, business development skills.

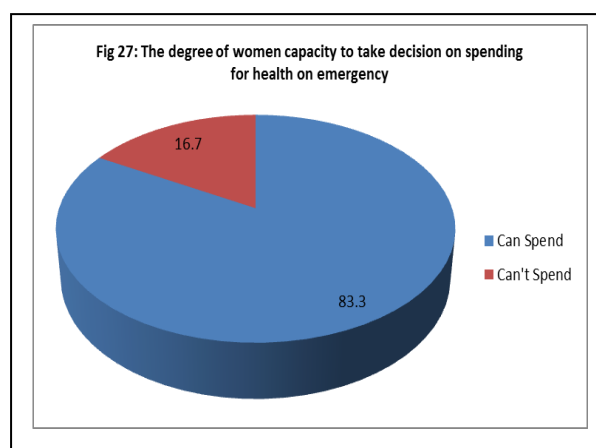


## 6.3. Women’s Decision Making in Emergency

Women’s authority in decision making is one of the critical aspects in women empowerment. It is generally associated with their education, employment, access to information and other socio-cultural factors. Their positive authority in decision making is imperative for ensuring equality. In **BRUP** baseline survey, focus given on to know about the extent of women’s decision making capacity in the following aspects during any emergency situation.

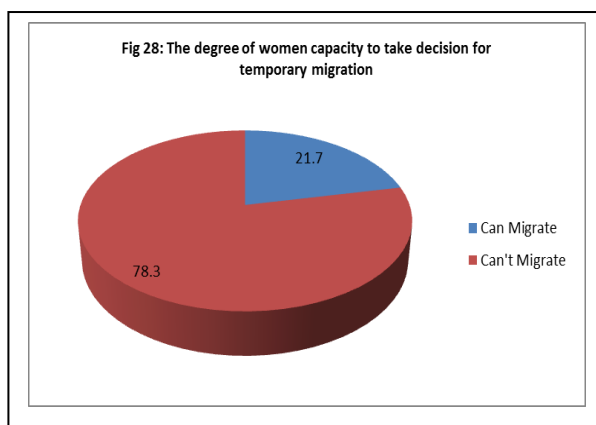
### 6.3.1. Health

Survey reveals that women can take decision (83.3 percent) to spend money for treatment during disaster or beyond it (fig 27). They mostly do it for their children. Working women can take more decision about health care of family members than those who are not earning. However, respondent informed that if they need to go for operation, specialized check-up which involves huge amount of money, at that point they need to take permission from men, or mother-in laws if they are not female-headed households (for details see fig 6 in Annex 5).



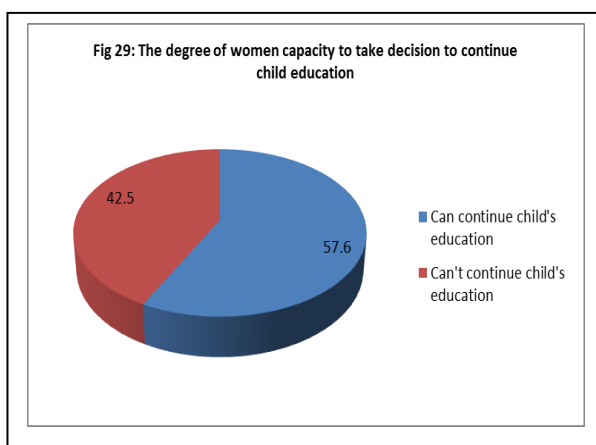
### 6.3.2. Temporary Migration

Survey data reveals that few women can make decision to migrate temporarily if they wish that during any disaster or emergency. The percentage is only 21.7. Temporary migration sometime required as survival strategy or to find employment opportunities. Female respondent has limited decision making authority over temporary migration as it is associated with “family dignity” (for details see fig 7 in Annex 5).



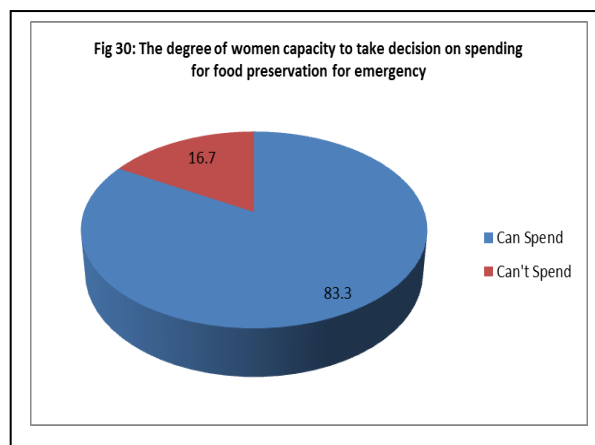
### 6.3.3. Children’s Education

To cope with the losses of disaster, poor people adopt several harmful coping mechanisms. Affected families sometimes take their children out of school and send them to work. Survey shows that almost 57 percent women can take decision not to stop schooling of children despite having loses caused by a disaster. It varies community to community (for details see fig 8 in Annex 5).



### 6.3.4. Food Security

Women usually play key role in preparing, preserving food for family. They pay extra attention to mitigate shock during and after disaster by securing food throughout the year. They keep stock some food items for using in emergencies, make portable stove to cook, and do some savings to ensure food security of their family. However, the discussions reveal that their concerns are mainly on quantity and availability of food, not so much as on the nutrition. Also, during the discussion, it was found that despite many constraints, women make extra efforts to maintain livelihood during disaster. Some of them engage in extra-hour work (discussion in Uttar Tetultola) to earn more money, take loan from money lenders or start small work (tailoring, making chanachur) to cushion against shock (for details see fig 9 in Annex 5).



## 6.4. Violence against Women

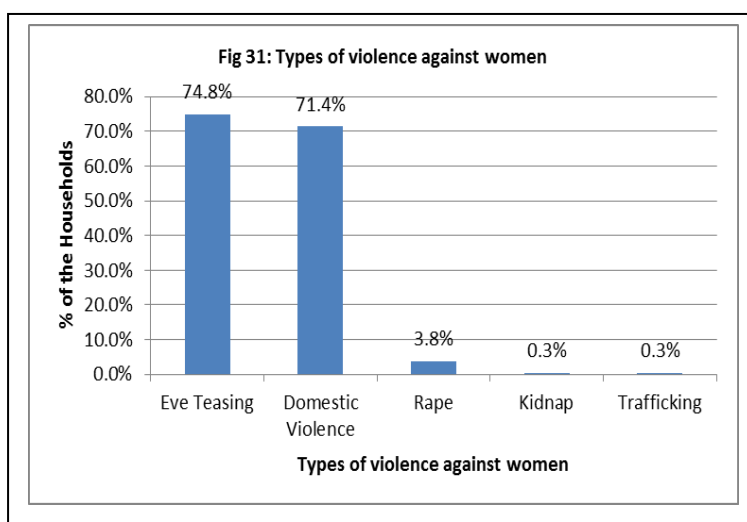
Violence against women is the manifestation of unequal power relation between men and women. Patriarchy use this unequal power relation through various institutions (family, state, religion etc.) where usually men are dominant and women are playing subordinate role and socialise to learn 'passivity and dependency'. If any woman does not conform with this stereotype, then violence occur in any form. Poverty, drug, emergency all these are aggravating factors for violence against women under patriarchy.

Violence against women treated as normal issue in most society. It is also same in the survey area. Interestingly, men in the survey area are not inclined to report or discuss about violence as it is now recognised as crime by state. However, almost all female respondents mentioned about different kind of violence against them.

### 6.4.1. Nature and Types of Violence

Respondents reported different kind of violence against women in the survey areas where eve teasing is high (74.8 percent), next to that is domestic violence (71.4 percent). Domestic violence strikes women of all strata and age. Respondents mentioned about more mental torture as their partners are involve in extra marital affairs which is common in that area.

Violence against women has multifaced consequences on women, family, society, economy and as well as state. It destroys women's self-esteem; hamper her physical and mental health. They live with ill health, lost appetite, withdrawal, sleeping disorder, tension, and



so on. All these consequences dismissed women as incapable to work outside or generate income or burden to some extent. Violence not only harms women, it also harms other member of family, especially children. In the survey area, women are not open enough to discuss the consequences though, many respondent mentioned about trauma and withdrawal as consequence of domestic violence.

### **6.4.2. Causes of Violence**

Violence against women is the most significant mechanism of patriarchy by which the state and society exercise control over women's' life and their choice. The degree may vary but theme remains the same. In **BRUP** survey area, respondents mentioned that poverty, drug, work pressure of men in their work place and job insecurity, politics and finally lack of education is the cause of violence.

Actually main cause is men are in threat of losing their identity as prime bread winner at that area. The targeted area is the industrial zone and people are living there for a long time despite of many constraints as jobs are available at that area. In that context, women are mostly hired, not because of the good for women, rather they are cheap labor. This practice is a great threat for men to negotiate their wages as well as getting job. These kinds of threat are the cause of violence against women in general.

### **6.4.3. Protection for Violence Against Women**

Discussion with respondents shows that there is hardly any protection mechanism to stop violence against women in the community. Women accepted it as "normal". If the violence, especially domestic violence go to extreme level, sometime survivor go to house owner to mediate the dispute. Some respondent mentioned that some survivors go to Ward Counselor if they have connection with him. Discussion with female group revealed that there are some cases of child marriages. They know about the consequences of child marriage but some of them indulge in it. No such resistance visible to stop early marriage. Respondent mentioned very strongly that there is no practice about dowry in the survey community.

Discussion showed that drug is available in that community, but it is a silent issue in that community, nobody wants to discuss it as it is related with men in power in that community. But some elder women tried to mention that it is a big concern for them as it hampers their security, especially it restricts mobility for young women.

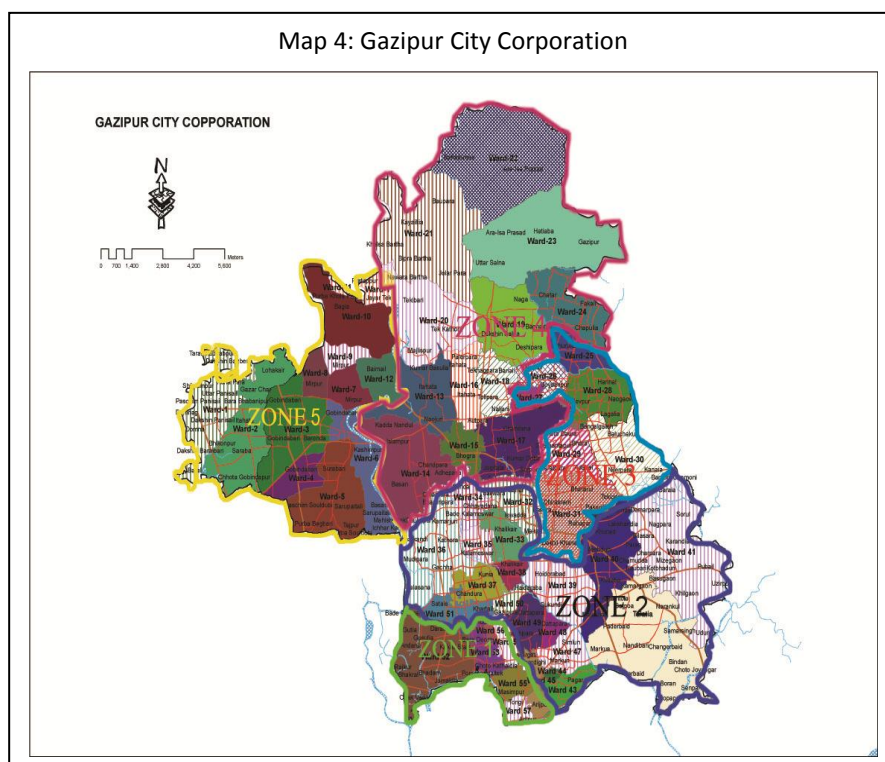
# Chapter Seven

## Institutional Capacity

### 7.1. Gazipur City Corporation Disaster Management Committee

#### 7.1.1. Institutional Set Up

The Disaster Management Act 2012 has included City Corporation Disaster Management Committee in the structure and the institutional arrangement for disaster system of the country. Standing Orders on Disaster (SOD) provides details about the composition and the roles and responsibilities of the committee. Composition of City Corporation Disaster Management Committee, as defined by the SOD, include the Mayor and the Chief Executive Officer as the Chairperson and the Member Secretary, respectively and one representative from each of statutory agencies present in the areas. It also includes 5 members designated as *Socially Reputed Persons or Civil Society Representatives* and 3 representatives of the NGOs working in City Corporation nominated by the Chairperson.



the NGOs working in City Corporation nominated by the Chairperson.

Gazipur City Corporation was established in 2013, prior to that it was a municipal corporation. According to the Disaster Management Act 2012 and the SOD it mandatory to set up City Corporation Disaster Management Committee is yet to be formed. However, it is not yet done. Apparently, the designated personnel who would be the members of the committee are not informed about the formation or purpose of the committee. For example, Commissioner, Ward 55 is totally unaware whether or when this committee will be formed or what would be it roles.

Gazipur City Corporation is one of the largest city corporations of Bangladesh. It is spread over 329.53 sq. km area, and covers about 2500000 million people. It is difficult for a single disaster management committee to operationalize and coordinate community based risk reduction program in such a large area. It would be more practicable to have *ward* level disaster management committee, although it is not explicitly recommended in SOD.



### **7.1.2. Human Resource**

As noted above, the City Corporation Disaster Management Committee is yet to be formed therefore it could not mobilize necessary human resources or develop skills and expertise in disaster management and climate change adaptation. The CEO of the City Corporation however suggested that they were willing to have their own volunteers for fire-fighting.

CEO and the members of the City Corporation are well aware of the fire hazard risks. They understand that, it is the most common disaster risk of their localities. Similarly, they are aware that being urban Gazipur is vulnerable to earthquake; nevertheless, they do not have the understanding or skills to take measure to minimize this risk. Also, they understand that, because of the poor drainage system, the city corporation area is vulnerable to heavy rains and the resulting water logging. Moreover, River Bangshai and River Turag flow through Gazipur. As a result, some parts of the city corporation areas are vulnerable to monsoon flood.

### **7.1.3. Preparedness Plan**

According to SOD, roles and responsibilities of CCDMC among other include disaster risk assessment plans, preparing comprehensive disaster management action plan. City Corporation does not have any plan for disaster preparedness planning (e.g., contingency plan or risk assessment). Once the Disaster Management Committee is formed, the City Corporation will initiate developing disaster preparedness plan through this committees. The Chief Executive Officer informed that they were aware of CARE's intervention in the area, and it will seek assistance from CARE in this regard. The CEO explained that, there are garment factories are located in Gazipur; fire can start any time from these factories. To reduce fire risk, the City Corporation, with support from the Fire Service and Civil Defence has conducted fire safety drills and awareness raising activities the communities.

### **7.1.4. Financial Arrangement**

According to the Member-Secretary of the City Corporation Disaster Management Committee, that all activities relating disaster risk reduction and preparedness conducted or planned so far have been funded through the routine budget allocations of the City Corporation.

## **7.2. Fire Service and Civil Defence Station**

### **7.2.1. Institutional Set Up**

The department of Fire Service and Civil Defence emerged in 1982, through amalgamation of the Fire Service and the Civil Defence (the unarmed warning and rescue force and the general rescue force). The Primary role of this department is firefighting, nevertheless, it works for all types of rescue operation within the country, including fire safety and safety during air raids and disasters. There are 273 stations in the country. 54 of them are under category A, having a Senior Station officer, more manpower and vehicles; the rest are category B or C, having less manpower and equipment.

There are four fire stations in Gazipur district – a) Tongi Fire Station, located Tongi on Dhaka-Mymensingh, near the southern end of the district, b) Gazipur Fire Station located on Uttar Chhayabithy Rd road at the center of the City Corporation, c) Kaliakair Fire Station, located on Dhaka-Tangail highway in western part of the district and d) Sreepur Fire Station, located on the Dhaka-Mymensingh highway at the northern part of the district. Of these fire stations Tongi and



Gazipur Fire Stations are located under the **BRUP** project area. Tongi fire station is a grade A fire station; Gazipur Fire Station and Kaliakair Fire Station are grade B fire station and Sripur Fire Station is grade C fire station. Also, Tongi Fire Station and Gazipur Fire Station are located within the City Corporation.

Tongi Fire serves a large catchment area that includes whole of the Tongi Thana, Borobari on the north, Ashulia in the west and large parts of Uttara (Uttarkhan and Dakkhinkhan) in the south. Three communities (Medical Slum and Uttar Tetultola and Dakhin Tetultola) of the **BRUP** project are very close to Tongi Fire Station. The other three communities of the project (Baimail Nadirpar, Baimail Pukurpar and Baimail Hazir Colony) get firefighting support from Gazipur Fire Station, but this fire station is located at some distance from the project area.

### 7.2.2. Human Resource

Tongi Fire Station has 35 operational and civil personnel. They include 1 Senior Station Officer and 1 Station Officer, 3 Leaders, 5 Drivers, 22 Fire Fighters and 2 kitchen staff and 1 cleaner. Operational staffs are veteran fire fighters; they are well trained and highly skilled. All these staff is station based; they have 150 volunteers established in the different communities through support from CDMP. Also, this Fire Station is linked to the fire-fighting systems of the individual manufacturing industries located in Tongi upazila.

<b>Grade A Fire Station</b>	<b>Grade B Fire Station</b>	<b>Grade C Fire Station</b>
<ul style="list-style-type: none"> <li>▪ 1 senior station officer</li> <li>▪ 1 station officer</li> <li>▪ 3 leaders</li> <li>▪ 22 Firemen</li> <li>▪ 5 drivers</li> <li>▪ 2 chef</li> <li>▪ 1 sweeper</li> </ul>	<ul style="list-style-type: none"> <li>▪ 1 station officer</li> <li>▪ 1 Sub officer</li> <li>▪ 2 leaders</li> <li>▪ 16 Firemen</li> <li>▪ 4 drivers</li> <li>▪ 2 chef</li> <li>▪ 1 sweeper</li> </ul>	<ul style="list-style-type: none"> <li>▪ 1 station officer</li> <li>▪ 1 leaders</li> <li>▪ 10 Firemen</li> <li>▪ 2 drivers</li> <li>▪ 1 chef</li> <li>▪ 1 sweeper</li> </ul>
<b>Source: <a href="http://www.fireservice.gov.bd">http://www.fireservice.gov.bd</a></b>		

Gazipur Fire Station has 35 operational and civil personnel. They include 1 Senior Station Officer and 1 Station Officer, 2 Leaders, 4 Drivers, 16 Fire Fighters and 2 kitchen staff and 1 cleaner. Operational staffs are veteran fire fighters; they are well trained and highly skilled. Also, this Fire Station is linked to the fire-fighting systems of the individual manufacturing industries located in Tongi upazila.

### 7.2.3. Equipment and tools

Tongi Fire Station has three fire truck (one 1<sup>st</sup> call vehicle – carries 6,000 liter of water, one 2<sup>nd</sup> call vehicle fitted with heavy firefighting equipment and one 3<sup>rd</sup> call vehicle with reserve tanker), one ET2 (heavily equipped for rescue operation), one Light Unit (carries 6,000 watt light) and one ambulance. In addition, it has large number of tools and accessories needed for firefighting.

Gazipur Fire Station, being grade B fire station, has fewer number of fire truck. It has one 1<sup>st</sup> call vehicle, one 2<sup>nd</sup> call vehicle and two portable pumps. Also, it has necessary of tools and accessories needed for firefighting.

Table 20: Equipment and tools for Fire Stations		
Firefighting Equipment	Rescue Equipment	First Aid Items
Vehicle Portable water pump Hose pipe Generator	Reciprocating saw Rotary hammer drill Rotary rescue drill reciprocating saw Chain Saw Wood circular saw Chipping hammer Pry Bars	Stretchers First aid kit box Oxygen Cylinder

Generally, these fire stations do not have any major problem in accessing or utilizing firefighting equipment. Their main challenge in providing prompt and efficient service is negotiating through the traffic jam and accessing some densely populated areas where the thoroughfares are too narrow for the fire engines.

#### 7.2.4. Preparedness Plan

FSCD Tongi and Gazipur have conducted risk assessment in their program coverage area, and it periodically updates this assessment. The risk assessment focuses mainly on the fire risk, taking the density of population and the concentration of the manufacturing industries. In particular, it takes note of the housing patterns and communication network and accessibility condition of the high risk locations.

To enhance skills of the fire fighters, FSCD Tongi and Gazipur have plans for refresher training; and it sends the firefighters to refresher training on routine basis. It also has plans for providing training to the factory based firefighters or community based volunteers and conducting firefighting drills for raising communities' awareness on safety and prevention. Tongi and Gazipur Fire Stations conduct these events on routine basis.

#### 7.2.5. Financial Arrangement

Both of Tongi and Gazipur Fire Stations get annual budget allocation through the FSDC department to cover all costs of the fire station. Also, the department has centrally arranged for repairs and maintenance. Repair and replacement of equipment and tools are done through the main warehouse which does the procurement applying appropriate tendering process. The local stations cannot take any financial assistance unless it is through MoU with the FSCD department or the Ministry. However, they are allowed to take material assistance informally.

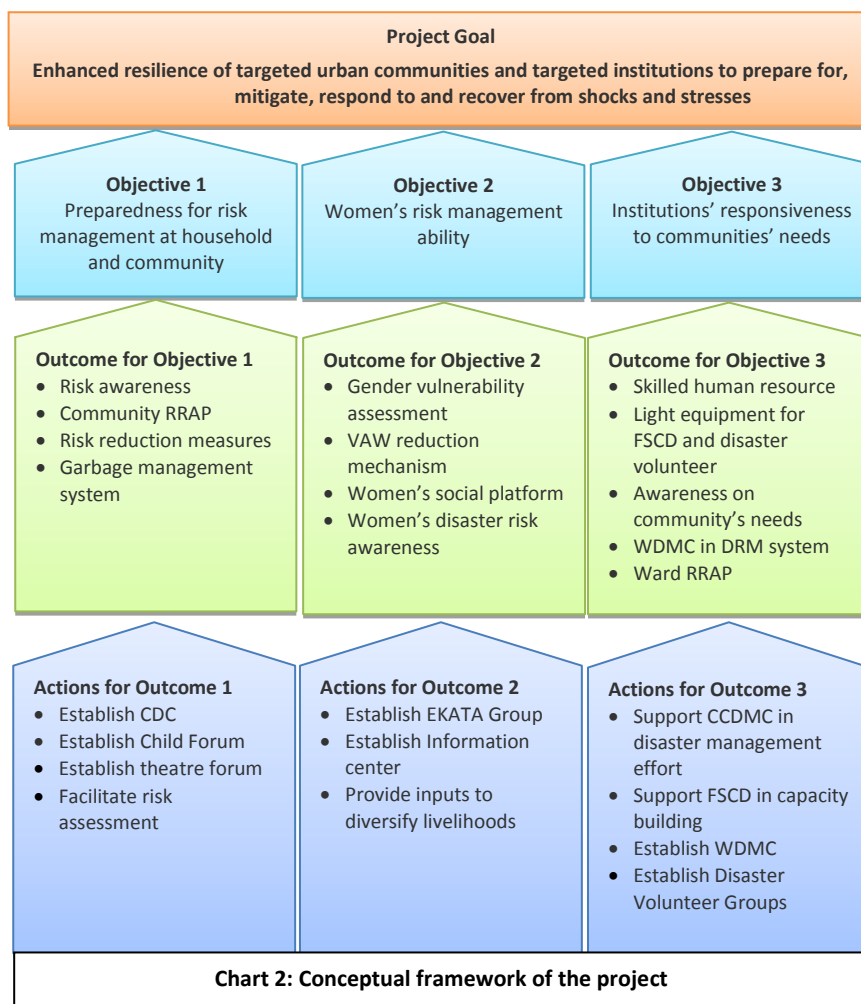
# Chapter Eight

## Concluding Remarks

### 8.1. Conceptualizing the Project

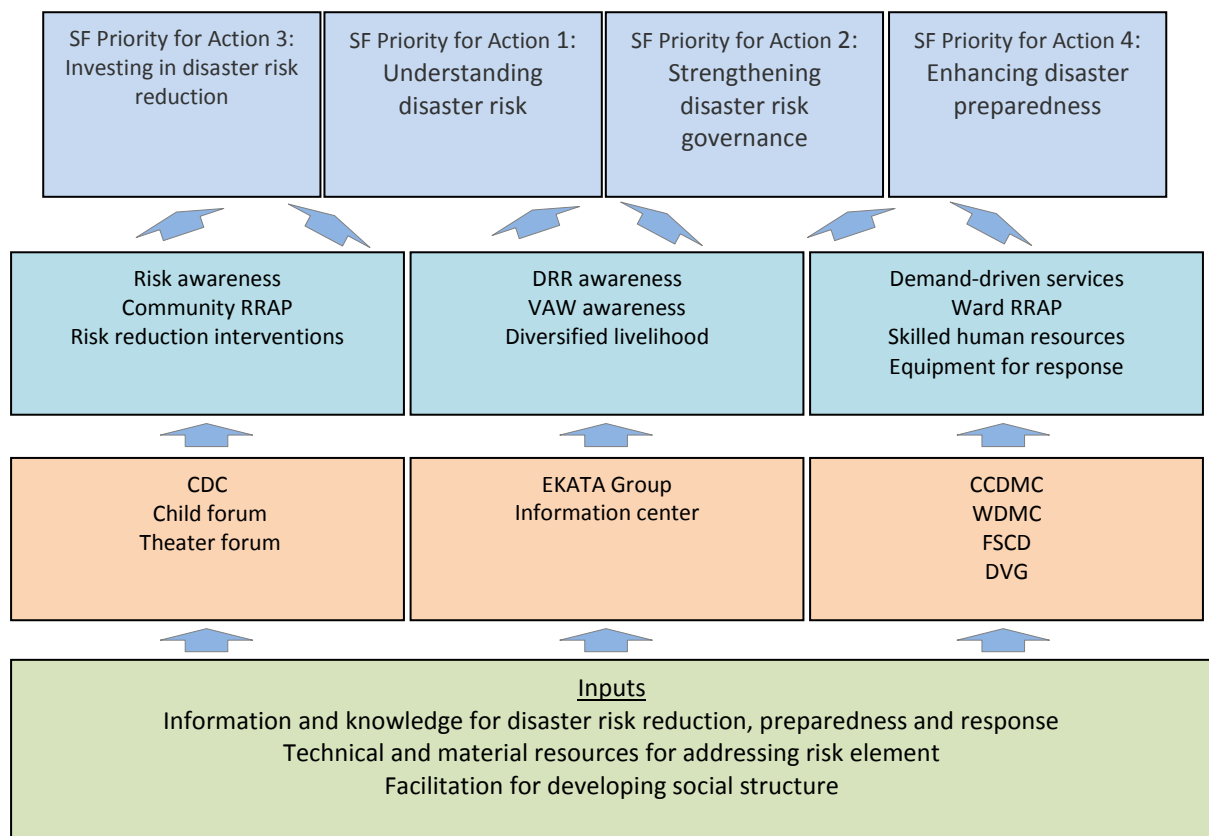
The six settlements where CARE initiated its **BRUP** project emerged several decades ago to accommodate migrant people coming from rural areas for employment. Four of them are located on government land and other two are on the freeholds. Although they are within the City Corporation they have very poor arrangements for water supply or sanitation facilities. Also, the available medical care lacks quality assurance and education facilities for children are nearly nonexistent. Generally, both men and women living in these settlements work for income. In majority cases, they are involved in low income jobs and the nature of their employment keeps both men and women out of their homes for long hours. Because of their participation in labor force, women have greater mobility, more access to information and opportunities to make decision in financial matters. Nevertheless, domestic violence is very common, as well; women’s exposure to abuse and sexual harassment in the community is significant. The **BRUP** project targeted some 8,000 people living in these communities and seeks to enhance their resilience in a way that they are prepare for, mitigate, respond to and recover from shocks and stresses.

Analysis of the project’s logical framework suggest that to achieve its goal, the project has planned to pursue three objectives – i) preparedness for risk management at household and community, ii) women’s risk management ability and iii) institutions’ responsiveness to communities’ needs. There are three sets of outcomes, each for one of the three objectives. The project identified a range of activities arranged in three separate clusters – each cluster of activities contributes to one objective through the respective set of outcomes. However, the definitions of whether or to what extent individual activities are interrelated or how they contribute to the project’s objectives and the goal.



Objective of the project refers to enhancing resilience; therefore, it should contribute to the priority actions of the Sendai Framework for Disaster Risk Reduction 2015-2030. The desired outputs under the three specific objectives of the project should somehow link to the four priority actions of the Sendai Framework. A differently presented framework of the project may demonstrate this links.

It shows that there are three sets of results – firstly, risk awareness, risk reduction action plan and risk reduction intervention in the communities contributing to SF priority for action 1 (Understanding disaster risk) and 3 (Investing in disaster risk reduction) which to be achieved through working with the community development committees, child forums and theater forums. Secondly, to promote women empowerment the project seeks DRR awareness, VAW awareness and diversified livelihood that contribute to SF Priority for Action 1 (Understanding disaster risk) and 2 (Strengthening disaster risk governance). It is pursued through EKATA group and information center in the communities. Thirdly, the project will work to have demand-driven service available to the communities, risk reduction action plan for the Ward, and skilled human resources and equipment for the fire stations. It will be achieved through CCDMC, WDMC, FSCD and DVGs and will contribute to SF Priority for Action 2 (Strengthening disaster risk governance) and 4 (Enhancing disaster preparedness). Inputs from the project to achieve these are, broadly, i) information and knowledge for disaster risk reduction, preparedness and response, ii) technical and material resources for addressing risk element and iii) facilitation for developing social structure.



**Chart 3: Framework for conceptualizing the project contributing to Sendai Framework**

## 8.2. Key Feature of Urban Context

The targeted communities are located in urban areas. A key feature of the localities is high density of human-created structure and population. Also, there are heavy concentration of mills and factories and huge opportunities for trade, commerce and employment. Contextually, it is different from rural areas – particularly, in the social, economic, governance and environmental context.

A key asset for the poor is social capital that refers to features of social organization, such as trust, norms, and networks. It contributes to the well-being, especially during times of crisis and socio-economic change. Compared to their rural counterpart, communities in the project areas are culturally more diverse and socially more fragmented and the general characteristics of their social capitals are weak and ambiguous.

Wide range of economic opportunities and produces pull factor effects that brought men and women into these communities. However, the economy of this urban area is characterized by high degree of commercialization. People living here have to buy nearly all goods and services, including the basic goods such as food, water, sanitation, shelter and medical care through the market. Also, these items are expensive. As a result, men and women in these communities need substantial cash incomes to survive. Many among them find it burdensome and to cope with it, they undertake a variety of activities, which mainly take place in the informal sector.

The targeted people in the communities are linked into structures of governance through their dependence on the delivery of services by city institutions. There are numerous authorities as well as private sector agencies to deliver goods and services. It made the local government weak and less able to address the needs of the poor. High cost of shelter forced many households to illegally occupy marginal land. They lack tenure rights and their legal status remains ambiguous. It restricts their access to public goods such as potable water, sewerage and power supply as well denies them their voting rights.

In majority cases, shelters of the poor households in the targeted communities are on polluted land close to industrial facilities, waste dumps or contaminated watercourses; also, they are in low-lying locations susceptible to water-logging and flooding. People living there are exposed to a range of environmental and health hazards. They suffer from diseases and injuries resulting from proximity to toxic and hazardous wastes, lack of clean water and sanitation as well as water, air and noise pollution.

## 8.3. Disaster Risks and Communities' Resilience

Resilience refers to communities' ability to recover from disaster without compromising their well-being. It reflects their risk awareness, coping strategies, service availability and diversity in income earning opportunity. Disasters in the targeted communities are numerous. Most common hazard is water logging. It occurs due to ineffective drainage system resulting from poor garbage disposal practices. Incidence of fire is also very common. It occurs at household level due to faulty power line and in the nearby factories due to accidents. In addition, there are potential risks of flood from river Turag and Bangshi as well as explosion of high pressure gas line in Baimail Nadirpar community.

Generally, people have understanding of their risks. Despite that their risk tolerance threshold appears to be high. For example, they use the drains for solid waste disposal and defecation. It is largely, because, they have very little resources to do otherwise, as well, they never had

opportunities for shared analysis to find better alternative. Also, they are overwhelmed with their daily needs; and their social network is grossly inadequate. Therefore, more often their responses to disaster become counterproductive in long run – e.g. reducing food intake, withdrawing children from school or migrating to other areas.

Access of the poor and extreme poor households in the targeted communities to water, sanitation, medical care, shelter and power supply is distinctly limited. It is largely, because, costs of goods and services are high (e.g. one pitcher of water for one taka); and qualities of goods and services available to them are poor (e.g. latrines are not appropriate for women; health care service does not meet people's needs). More importantly, ambiguity of their legal status denies many poor households access to public goods. For example, households living in the informal settlements in khash land do not get water supply or power supply directly from the service providing agencies – they have to buy it from intermediaries at much inflated price. Such restricted access to goods and services seriously impede their ability to respond disaster. More often, during a crisis they are forced to compromise with their well-being and welfare.

Also, the skills that the poor and extreme poor people have, allow them only low income jobs. Women and men working in the factories have to work excessively long hours, therefore, they cannot pursue multiple jobs. Then, their weak network hardly support them find alternative employment or to recover losses caused by disaster.

## 8.4. Potential Interventions for Enhancing Resilience

As explained above, the targeted communities are located in the urban areas and they have specific social, economic, governance and environmental settings. Also, they have distinctive risk perception, and there are gaps in their risk reduction capacities. Considering these factors, the following interventions may be implemented to improve disaster resilience of these communities.

***Raising communities' risk awareness*** – It may be persuaded through engaging community in risk assessment and public education activities. Participatory risk assessment is crucial to help communities conduct risk analysis collectively and identify various alternatives to deal with the problems. This could be facilitated through formal and informal structure. This process should be supported through public education efforts to help wider groups in the communities better understand their risk and adopt risk aversion practices. Public education activities can be conducted in the form of cultural events, day observance and community meeting.

***Improving service availability*** – It requires strengthening service providers to increase availability of goods and services for the poor; as well, promoting consumer rights for quality assurance. Agencies providing the basic services face constraint to deliver goods and service during disaster. Also, they are unable to extend their services- water, sewerage and power, in particular, to the settlements on khas land. Material and technical support including advocacy may help the service providers to overcome these constraints. Furthermore, it is essential that the community has knowledge and information on consumer rights and entitlement. More importantly, there should be institutional arrangement that helps community people to assert their consumer rights and entitlement.

***Establishing garbage management system*** – There is a need to set up garbage disposal system supported by proper disposal practice in the communities. Establishing garbage disposal system is primarily a responsibility of City Corporation. To extend this system in the targeted community, the City Corporation may need material and technical support. However, garbage disposal system in the

community cannot function without proper disposal practice by the community people. Public education activities may help community better understand the concerns regarding garbage and adopt proper disposal practice.

***Promoting protection against gender based violence*** – It requires a community based mechanism and awareness of the community. Community based system can be developed through community mobilization to set up informal structure within the community and linking it to formal or statutory agencies such as city corporation, department of social service. To make it functional, communities need to be aware on gender based violence, its consequences and social and legal procedures for preventing violence against women. Awareness on gender based violence can be raised through public education activities such as cultural events, day observance and community meeting.

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# **Annex 1: Scope of Work**

## **Annex 2: M&E Framework**

# **Annex 3: Questionnaire for Household Survey**

## **Annex 4: IGD & KII Checklists**

## **Annex-4.1: Checklist for IGD with Female Group**

## **Annex-4.2: Checklist for IGD with Male Group**

## **Annex-4.3: Checklist for IGD with Children Group**

**Annex-4.4: Checklist for KII with City Corporation CEO**



## **Annex-4.5: Checklist for KII with FSCD Personnel**

# **Annex 5: Detailed Tables and Figures by Communities**