

# **Victims of Road Traffic Accidents in Greater Dhaka: A Study on the Livelihood Patterns of the Survivors**

**Md. Ashraful Alam**

**A thesis submitted for the fulfillment of the requirements for the  
degree of Doctor of Philosophy in Social Welfare**



**Institute of Social Welfare and Research  
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## **Certificate from the Supervisor**

This is to certify that the thesis entitled **Victims of Road Traffic Accidents in Greater Dhaka: A Study on the Livelihood Patterns of the Survivors** done by Md. Ashraful Alam is an original research work. The views expressed in the thesis are originated from field-based data and is entirely his contribution. The thesis has not been submitted anywhere else for any purposes, e.g., degree or publications. This may be submitted to the examiners to evaluate for conferring the degree of Doctor of Philosophy in Social Welfare.

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## **Declaration**

I, Md. Ashraful Alam, author of this thesis do hereby declare that, this submission is my own work and no part of the work presented in this thesis has been submitted for another degree in this or any other university or educational institution.

All the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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## **Abstract**

Road accident is a catastrophic phenomenon nowadays with ever-rising trend across the world. It has become a daily happening in modern life as almost everyday we see through the news of such kind of accidents in newspapers. People irrespective of race, religion, caste, creed and age are susceptible to road accidents. Therefore, it is being addressed worldwide as a burning issue. Every year a huge number of people are dying and getting injured in road accidents. Hence, this occurrence has turned out to be a significant problem both in terms of loss of human life and economic misfortune. Road accidents have become a great concern for Bangladesh like many other countries across the globe and the road safety situation here is on a steep fall. Additionally, by international standard, the road safety issue is critical here. The number of road accidents, injuries and fatalities has increased rapidly especially in the recent years. It can be noted in this regard that Bangladesh presently has one of the highest rate of fatality due to road accidents. It is really heartbreaking that a road accident takes place usually involving just a single individual, but the entire family of the victims gets affected emotionally, socially, and economically. Besides, a good number of victims hold the chance of recovering from their injuries sustained during road accidents, but many of them who suffer serious injuries do never recover fully. A segment of them even suffer from a sort of permanent disability. On getting permanently disabled, they lose their earning capacity and this tragedy put a heavy burden on their families and societies.

The growing concern over road traffic injuries and road safety issues notwithstanding, it has been noticed that such accidents receive insufficient attention in Bangladesh. Even people in some cases seem to have accepted road accidents as a part of their life. Meanwhile, a very limited number of studies have been conducted on road accidents, especially on the survivors of road accidents. In view of such a reality, the present study has been carried out in order to know the livelihood patterns of the road accident survivors. The specific objectives of the study were (a) to know the demographic and socio-economic condition of the road traffic accident survivors; (b) to understand the causes, nature and consequences of road traffic accidents; (c) to know the nature of rescue and treatment situation of the survivors; (d) to explore their survival patterns in the family as well as in the society; and (e) to assess the vulnerabilities and the adaptation mechanism in line with the challenges of their lives.

A qualitative method is applied to conduct this study, which has been facilitated by case study approach because qualitative research method gives the researcher a deeper understanding of social phenomena. The area of study included six districts of Dhaka division that was once known as Greater Dhaka. The road accident survivors who eventually turned into persons with disabilities following the accidents were purposively selected as sample and the size of the sample was 19 (nineteen). Both male and female survivors, who were physically active and contributing to the household income before accident, were selected as subjects. To know the locations of this type of survivors help was taken from hospitals, trauma centers, upazila social service offices, police stations and different organisations working in the field. In obtaining desired outcomes, required data were gathered from both primary and secondary sources. The primary data were collected from selected samples and participants of Focus Group Discussions (FGDs) while the secondary data were gathered from published and unpublished research journals, reports, books as well as from documents and records of relevant agencies in this regard.

As it is a qualitative study in nature which is facilitated by case study approach, mainly face-to-face interview technique through using semi-structured interview schedule was applied to collect in-depth information. In addition, FGDs, and observation techniques were used to gather further details. This thesis paper presented various aspects of road traffic accidents in Greater Dhaka and the livelihood patterns of survivors of the accidents. The study applied “Sustainable Livelihood Framework” as the theoretical framework to analyse the findings because this framework was quite useful to assess the vulnerability context of the road accident survivors; to identify the assets and/or capitals they possessed for livelihood; to weigh up the prevailing social, institutional and organisational environment; to identify livelihood strategies they deployed; and to measure the outcomes they had.

However, the study findings showed that the rate of road traffic accidents in Greater Dhaka is comparatively higher than other parts of the country. The region is located at the centre of the country and the city of Dhaka is the capital of Bangladesh also a part of it. The capital city is connected with the whole country by roads and the ensuing pressure of different types of vehicles on the roads is naturally higher than anywhere else. So, the area remains the most vulnerable to both in terms of total number of accidents and the accident rates as well. This study examined the nature and risk factors associated with the cause of road accidents faced by the survivors.



The nature of road traffic accident was revealed through the analysis of road traffic accident data and it was found that accidents did take place at different times. But night and morning were the periods when accidents occurred in most of the cases. The majority of accidents took place on the highways. On the other hand, most of the accidents were head-on collision in type. Only one incident was identified when a single vehicle was found to have collided with a big roadside tree. Most of the accidents were serious in nature. There was also a higher rate of leg injuries found in the study. It was also revealed from the study that the reckless or careless driving and the defective vehicles were the important causes of road accidents in this area. The study also identified unskilled driving, night-time driving, foggy weather, using cellphone while crossing roads as the important risk factors associated to the cause of road accidents.

To be acquainted with their socio-economic conditions, the different livelihood assets and/or capitals e.g. natural capital, physical capital, financial capital etc. they possessed were explored. With regard to the livelihood patterns, the study found that almost half of the respondents are residing in urban areas and they do not have lands, ponds, trees or livestock. Even they do not have homestead of their own. As a result, they are to live in rented house or at shanties on the *khash* land of the government. On the other hand, the respondents living in rural areas have more or less natural capital or assets like homestead, farmland, ponds, trees etc. All of the rural respondents have at least homestead wherein there are various types of trees as well as vegetable gardens. A few of them have cultivable lands, ponds while the female family members rear domestic animals, poultry etc. at home.

In this study, housing conditions, toilet facilities, source of drinking/bathing water, electricity, household furniture, electronics and jewellery etc. were considered as significant components of physical capital. In respect of physical capital, it was revealed that the housing condition of the respondents is not good as a whole. Almost all the respondents of urban areas live in rented houses wherein they avail electricity, water, gas, sanitation facilities etc. However, in rural areas, some respondents are deprived of electricity, gas and pure drinking water-like facilities.

Besides, the findings pointed out that most of the respondents do not have enough financial return or income to maintain a standard living. In Bangladesh, the road accident survivors who become physically disabled are not often considered for financial inclusion.

In cases of prolonged treatment of the survivors, the family may end up selling most of their assets and even getting trapped into long term indebtedness.

To explore the survival patterns of the road traffic accident survivors was another objective of this research. It was manifested that the survival patterns of the accident survivors got changed after occurring accidents in their lives. Most of them depend, to some extent, on their family members for their survival. In some cases, they tried to become independent by doing even small types of activities for the sake of earning their livelihood. Nevertheless, those who depend on their family members often considered themselves as burden to families although all of their families do not treat with them as burden. Even in some families, they were treated and supported very well by the family members. Vulnerability was another analytical principle of the livelihood framework, which was relevant to this study. With regard to vulnerabilities of the respondents, the study revealed that all of them were physically disabled due to the road accidents and disability itself was the main factor of their vulnerability. As disability limits a survivor's capacity to earn as s/he cannot get involved in almost any type of income earning activities.

Furthermore, as they became disabled, it ultimately reduced their ability to perform almost all types of work, as a result some of the victims lose their previous jobs that reduced their income. Lack of access to employment was found to be the most common concern for the disabled road accident survivors and it was one of the most important reasons of their vulnerability. Besides, most of the respondents were found to be financially insolvent and did not have access to credit or other forms of finance. They had a very limited livelihood asset to maintain a standard living. Among them, some grew up in poverty and some became poor after occurrence of such tragic accidents. Hence, it is evident that road accident has exerted a tremendous economic impact on the victims. A few respondents were even suffering from health-related problems include diseases like diabetes, heart disease, back pain etc. coupled with their disabilities. Due to the river erosion, two respondents were found who lost their cultivable land and homestead, which was apparently responsible for their vulnerability and their miserable condition.

Even though different factors made the respondents vulnerable, they adopted various livelihood strategies for survivals. All of the respondents were physically active and involved in income generating activities before facing road accidents, but they had to change their livelihood strategies after accidents. Nobody could go back to their previous

jobs following their disabilities. The study found that most of them adapted their livelihood strategies like small businesses, poultry farming, running tea stall, household work, street vending, house renting, driving, small shop keeping, sewing, electronics repairing work, begging and the like. A few of them were fully dependent on their family members and out of nineteen only one respondent chose begging for livelihood.

The study findings revealed that the survivors of the road traffic accidents were suffering from various problems. The sufferings of them especially who became disabled due to road accidents knew no bounds. They were not economically well off and their condition worsened after getting disabled because of the road accidents. They did not have anything left to invest for generating income. Accordingly, most of them recommended taking initiatives for the rehabilitation of road accident victims like them by the way of providing financial assistance. The facilities of microcredit, disability allowance and so on can be vital options for financial assistance. Employment opportunities can also be a powerful indication of inclusion and mainstreaming them in the society. There are numerous road accident survivors who have the quality or capacity to get employed. Sadly, only because of disability they are kept out of employment opportunity. They can be self-employed through small business or by running small shops. Some of the respondents suggested allocating *khash* land by the government for them to reside as well as build market for some sort of business. One of the respondents recommended providing treatment at low cost or free of cost for the road accident survivors. In addition, the number of orthopaedic hospitals and trauma centres should be established so that the injured road accident victims can be shifted rapidly there for better treatment.

The study concluded showing that the RTAs had adversely affected the livelihood patterns of the survivors. The researcher, therefore, thinks that the study will help understand the livelihood patterns of road accidents survivors. Furthermore, the findings of the study will be able to contribute to formulate appropriate policy in reducing the road traffic accidents and the sufferings of the accident survivors.

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## List of Abbreviations

ARC	Accident Research Center
ARF	Accident Report Form
ARI	Accident Research Institute
ADB	Asian Development Bank
BASt	Bundesanstalt für Straßenwesen (Federal Highway Research Institute)
BARD	Bangladesh Academy for Rural Development
BBS	Bangladesh Bureau of Statistics
BDT	Bangladesh Taka
BPWA	Bangladesh Passengers Welfare Association
BRTA	Bangladesh Road Transport Authority
BRAC	Bangladesh Rural Advancement Committee
BNCC	Bangladesh National Cadet Core
BNRTA	Bangladesh National Road Traffic Accident
BUET	Bangladesh University of Engineering and Technology
CARE	Cooperative for Assistance and Relief Everywhere
CNG	Compressed Natural Gas
CRP	Center for Rehabilitation of Paralyzed
DC	Deputy Commissioner
DFID	Department for International Development
DIGP	Deputy Inspector General of Police
DMA	Dhaka Metropolitan Area
DRSC	District Road Safety Committees
ESCAP	Economic and Social Commission for Asia and the Pacific
EU	European Union

FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
FIM	Functional Independence Measure
GDA	Greater Dhaka Area
GDP	Gross Domestic Product
GNP	Gross National Product
GRSP	Global Road Safety Partnership
HQ	Head Quarter
HSC	Higher Secondary Certificate
IRF	International Road Federation
Kph	kilometre per hour
KSI	killed or Seriously Injured
LGED	Local Government Engineering Department
LGI	Local Government Institutions
MoC	Ministry of Communication
MP	Member of Parliament
MOI	Muhimbili Orthopaedic Institute
NCPSRR	National Committee to Protect Shipping, Roads and Railways
NGO	Non-Governmental Organization
NIT	National Institute of Transport
NRSC	National Road Safety Council
NTTA	National Traffic Training Academy
PhD	Doctor of Philosophy
PIPs	Policies, Institutions and Processes
PPRC	Power and Participation Research Centre
PWDs	Persons With Disabilities

RAJUK	Rajdhani Unnayan Karttripakkha
REAAA	Road Engineering Association of Asia and Australasia
R&HD	Roads and Highway Department
RTIP	Rural Transport Improvement Project
RTAs	Road Traffic Accidents
RTS	Rural Transport Safety
SLF	Sustainable Livelihood Framework
SP	Superintendent of Police
SROTA	Safe Road and Transport Alliance
TRIPP	Transportation Research and Injury Prevention Programme
TRL	Transport Research Laboratory
TV	Television
UDSMR	Uniform Data System for Medical Rehabilitation
UGX	Uganda Shilling
UNDP	United Nations Development Programme
USA	United States of America
WB	World Bank
WBB	Work for Better Bangladesh
WHO	World Health Organization
ZAR	Zuid Afrikaanse Rand ( <i>South African Rand</i> )

## ***Glossary of Local Terms***

<i><b>Allah</b></i>	An Arabic word used as a term for God by Muslims.
<i><b>Bighas</b></i>	A traditional unit of measurement of area of a land used in Bangladesh. It is usually less than one standard acre (4,840 square yard or 4,047 square metre) but can extend up to 3 acres (1.2 hectare).
<i><b>Crutch</b></i>	Assistive device used by physically disabled to move
<i><b>Dalal</b></i>	Middleman, broker, tout
<i><b>Eid</b></i>	An important religious festival celebrated by Muslims worldwide
<i><b>Imam</b></i>	Imams are religious leaders of Muslim communities. They lead prayers, deliver sermons, and provide religious education and counseling.
<i><b>Insha'Allah</b></i>	God willing or if God wills
<i><b>Jatiya Sangsad</b></i>	Parliament
<i><b>Jhalmuri</b></i>	Spicy puffed rice
<i><b>Kabiraj</b></i>	Herbalist
<i><b>Kancha</b></i>	Non-concrete/ Muddy floor
<i><b>Katha</b></i>	A kattha (also spelled katha or cottah) is a unit of area mostly used for measuring land parts of in India, Nepal, and Bangladesh. A kattha is roughly one twentieth part of a bigha(wikipedia).
<i><b>Khash land</b></i>	khash land means government owned fallow land, where nobody has property rights. It is land which is deemed to be owned by government and available for allocation according to government priorities.
<i><b>Khora</b></i>	Crippled, physically disabled
<i><b>Madrassah</b></i>	An institution attached to a mosque for the study of Islamic theology and religious law.
<i><b>Mahkuma</b></i>	The administrative entities that are a level below of districts.
<i><b>Mastan</b></i>	Miscreant
<i><b>Mitsef</b></i>	Small type almira

<b><i>Nirapad Sarak Chai</i></b>	A non-profit, voluntary social organization working in Bangladesh for road safety.
<b><i>Ostad</i></b>	Real driver
<b><i>Pakka house</i></b>	Houses made with high quality materials throughout, including the floor, roof, and exterior walls. It is a house built with cement bricks and mortar.
<b><i>Pan supari</i></b>	Betel leaf and nut
<b><i>Plastic/Sharee</i></b>	Sarcastic name of private car
<b><i>Pongu</i></b>	Physically disabled
<b><i>Pongu Hospital</i></b>	National Institute of Traumatology & Orthopaedic Rehabilitation (NITOR)
<b><i>Poribesh Bachao Andolon</i></b>	A voluntary social organization promoting Bangladesh's environmental protection.
<b><i>Sadar</i></b>	Head Quarters
<b><i>Shawrapara</i></b>	A place of Dhaka City
<b><i>Tarkari</i></b>	Vegetables
<b><i>Tempu</i></b>	An auto rickshaw, most have three wheels. One of the modes of transport in Bangladesh.

# **CHAPTER ONE**

## **Introduction and Outline of the Study**

Road traffic accident is now a major growing problem worldwide. In particular, the developing countries including Bangladesh it has turned into an issue of concern. Every year a significant number of people in Bangladesh become the victims of road accidents and some of them survive with various types of disabilities. This study has been conducted to understand the livelihood patterns of this type of survivors. In this chapter road traffic accident is described as study problem. It explained the relevant concepts and terms used in the research with the rationale of selecting the topic of the study. It also includes significance and limitations of study. Besides, it provides a structure of this thesis paper in this chapter.

### **1.1 Statement of the Study Problem**

The problem of deaths and injury as a result of road traffic accidents is now acknowledged to be a global phenomenon virtually in all countries. Every year a big number of people are died and injured due to road traffic accidents. In a report WHO estimates, road traffic injuries are a leading cause of death, killing nearly 1.3 million people annually more than 3000 deaths each day. Globally, road traffic injuries are already today among the three major causes of death for the age group 5 to 44 years of age (Ahmed, 2012:4). The WHO anticipates, unless immediate action is taken, the number of people dying annually in road traffic accidents may rise to 2.4 million over the next 15 years. The increase will probably entirely occur in low and middle income countries of the world (WHO, 2009:2).

The number of road traffic injuries has continued to rise in the world as a whole, but road traffic fatalities and mortality rates show clear differences in the pattern of growth between high-income countries, on the one hand, and low-income and middle-income countries on the other. WHO states the overall global traffic injury mortality rate of 19.0 per 100,000 population. Low-income and middle-income countries have a rate slightly greater than the global average, while that for high-income countries are considerably lower. 90% of the world's fatalities on the roads occur in low and middle income countries, although these countries only have about 48% of the world's registered vehicles. Only 10% of road traffic deaths occur in high income countries (WHO, 2004: 33-34).



In another “Global Status Report on Road Safety-2013” reveals that the overall global road traffic fatality rate is 18.0 per 100,000 population. However, middle-income countries have the highest annual road traffic fatality rates, at 20.1 per 100,000, while the rate in low income countries is 18.3 per 100,000 and high-income countries is lowest, at 8.7 per 100,000.

Though road traffic accident is a global problem, there is considerable variation in road traffic death rates between regions. The rate of deaths as a result of road traffic accidents is highest in African Region (26.6 per 100,000 population), and lowest in the European Region (9.3 per 100,000) (WHO, 2015:6).

The number of people killed in road accidents in developing world continues to increase, whereas it has been a steady decrease over the last fifteen years or so in the West. For example, between 1987-1995 deaths in Asia-Pacific rose by 40%, in Africa by 26% (excluding South Africa where deaths increased very little) and the Middle East/ North Africa region by over 36%. Road deaths doubled in a few Latin American countries and rose by 16% in Brazil. Central and Eastern Europe showed wide variation with fatalities increasing in Poland by 31%, while decreasing in other countries by about 36%. Conversely road deaths in highly motorised countries fell by about 10% (Aeron-Thomas et al., 2000).

South-East Asia Region is also one of the road accident prone regions of the world. Road Traffic Accident (RTA) is one among the top five causes of morbidity and mortality in South-East Asian Countries including Bangladesh. There are approximately 316,000 road traffic deaths each year that occur in the South-East Asia Region, accounting for approximately 25% of the world’s road traffic deaths (WHO,2016).

At present, road traffic fatalities are the 9th leading cause of death and disability in the world. The World Health Organization (WHO) has described them as ‘hidden epidemics’ and has forecast that unless immediate action is taken, road traffic injuries will rise from the current position to become the fifth leading cause of death worldwide and the 2nd leading cause of disability-adjusted life year losses in many developing countries by 2030 (Murray and Lopez, 1996).

**Table-1.1: Leading Causes of Death, 2004 and 2030 Compared**

2004			2030		
RANK	LEADING CAUSES	%	RANK	LEADING CAUSES	%
1.	Ischaemic heart disease	12.2	1	Ischaemic heart disease	14.2
2.	Cerebrovascular disease	9.7	2	Cerebrovascular disease	12.1
3.	Lower Respiratory infections	7.0	3	Chronic obstructive pulmonary disease	8.6
4.	Chronic obstructive pulmonary disease	5.1	4	Lower Respiratory infections	3.8
5.	Diarrhoeal disease	3.6	5	Road traffic injuries	3.6
6.	HIV/AIDS	3.5	6	Trachea, bronchus, lung cancers	3.4
7.	Tuberculosis	2.5	7	Diabetes mellitus	3.3
8.	Trachea,bronchus,lung cancers	2.3	8	Hypertensive heart disease	2.1
9.	Road traffic injuries	2.2	9	Stomach cancer	1.9
10.	Prematurity and low birth weight	2.0	10	HIV/AIDS	1.8

Source; WHO, *Global Status Report on Road Safety-2009*,WHO,P-ix

Bangladesh is one of the most densely populated countries in the world. The total population of the country is 14,97,72,364 in an area of 147,570 square kilometers (BBS,2012). Though more than 310 rivers and tributaries have made this country a land of rivers, road transport plays an important role here. But it is a matter of grief that our roads have turned into traps for death. Bangladesh is not much developed with modern roads and transportation infrastructure and traffic system. Roads are not sufficient to meet the high demand of vehicles and human passengers. There is extreme lack of existence and implementation of traffic laws, and the law enforcement authority is not equipped enough to monitor the traffic system. Most of the vehicles are not properly tested by the government authority before obtaining fitness certificate. Furthermore, people are in general very much unaware about traffic rules. As a result, road accidents are becoming regular news in the country. Without any injuries and casualties due to road accident, there is usually not a single day.

It can be said that Bangladesh has one of the highest fatality rate in road traffic accidents. The statistics reveal that the fatality rate of road accidents in Bangladesh is very high with about 160 deaths per 10,000 motor vehicles as compared with the rates of 2 in the USA and 1.4 in the UK. (Hoque et al., 2003). According to the police statistics, road accident in

Bangladesh claims on an averages 4,000 lives and injure another 5,000 in a year. However, World Health Organization estimates that the actual fatalities could well be 20,038 each year in Bangladesh (WHO, 2009). The 9<sup>th</sup> International Conference on Safe Community reveals that in Bangladesh, more than 2,000 people are killed in road accidents every year, which are about 6 persons every day. According to “*Global Status Report on Road Safety-2015*” around 21,316 people were killed in road accidents across the country in 2012 alone. The report said that Bangladesh was among the 68 countries where road crashes had a rising trend. Transport Research Laboratory (U.K) showed that Bangladesh’s death rate for traffic accidents is twice of the rate that of India and 30 times that of developed countries like Japan (Bagchi,2007).

**Table-1.2: Reported Road Accident Trends in Bangladesh (2008-2015)**

<b>Year</b>	<b>No. of accidents</b>	<b>No. of fatalities</b>	<b>No. of injuries</b>	<b>Total no. of casualties</b>
2008	4427	3765	3284	7049
2009	3381	2958	2686	5644
2010	2827	2646	1803	4449
2011	2667	2546	1641	4187
2012	2636	2538	2134	4672
2013	2029	1957	1396	3353
2014	2027	2067	1535	3602
<b>2015</b>	2394	2376	1958	4334

Source: Police Headquarters (FIR) Report, 2016

Recently a report released by the Bangladesh Passengers Welfare Association (BPWA), and it was revealed that a total of 6,055 people were killed and 15,914 injured in 4,312 road traffic accidents in 2016. These figures are all improvements on the 8,642 people killed and 21,855 injured in the 6,581 road accidents recorded in 2015 (Dhaka Tribune, January 04, 2017).

The road safety situation in Bangladesh has been deteriorating day by day and it is found as incident of everyday. The contributory factors of road accident in Bangladesh are manifold which include reckless driving, over speeding, competition for over loading, lack of knowledge and consciousness of road users, vehicular defects, hazardous roads, road environments, inadequate training, poor implementation of traffic rules and regulations, etc.

Road accident brings tear, sorrow and sufferings to the victims and the survivors. Globally, millions of people are coping with the death or disability of family members from road traffic accidents. It would be impossible to attach a value to each case of human sacrifice and suffering, add up the values and produce a figure that captures the global social cost of road crashes and injuries. The economic cost of road crashes and injuries is estimated to be 1% of gross national product (GNP) in low-income countries, 1.5% in middle-income countries and 2% in high-income countries. The global cost is estimated to be US\$ 518 billion per year. Low-income and middle-income countries account for US\$ 65 billion, more than they receive in development assistance (Jacobs, 2000).

**Table-1.3: Traffic Injuries' Costs in Bangladesh and Some Other African, European Countries and the USA**

Country	Currency		Comment
	Local	US/ British	
Bangladesh	BDT 38,994.48m	\$745m, £492.35m	1.6% of GNP
South Africa	ZAR 13.89b	\$2b, £1.32b	Nil
Uganda	UGX 167,165.7m	\$101m, £66.75m	2.3% of GNP
European Union	€ 180b	\$165.9b, £109.64b	Twice the annual budget for all activities in these countries. Various studies done in the 1990s produced estimates of 0.5% GDP in UK, 0.9% in Sweden, 2.8% in Italy and an average of 1.4% of GDP in 11 high-income countries.
USA	\$ 230.6b	£152.4b	2.3% of GNP
*Currency Rate is as US \$ 1.00 GB £ 0.66087 BDT 52.34158 EU € 1.08500 ZAR 6.94303 UGX 1655.1057 (Average of 366 Days of 2000)			

Source: WHO, 2004

Road traffic injuries place a heavy burden, not only on global and national economies but also household finances. It is unfortunate, despite the fact that only one person may be involved in a road accident, the entire household be affected financially, socially and emotionally. The loss of income earners and the costs of funerals and prolonged care for disabled people can push families into poverty.

A large number of road users involved in traffic accidents get back from their injuries, but some of them who are seriously injured never recover fully and suffer from some kind of

permanent disability. Such types of disability bring many problems in their lives. In the EU alone, 150,000 people are left permanently disabled by road accident each year (Lauren et al., 2004). Road Accidents bring about drastic changes in the lives of this type of disabled survivors. Sometimes the disabled persons become burden to their families partially as well as permanently. In a word, there is no positive impact of road accident, it badly affects on the individual, society, country as well as the world. But it is true that long term impacts of road traffic injury are poorly documented and little known as well.

## **1.2 Rationale of the Study**

Bangladesh is one of the developing countries in the world and road accidents have now turned into a growing problem in the country. Reckless driving, over speeding, over loading, lack of knowledge and consciousness of road users, vehicular defects, hazardous roads environments, inadequate training, poor implementation of traffic rules and regulations are the causes of frequent road accidents in Bangladesh. It cannot be imagined even a single day without hearing any news on road accidents. It is supposed that the people of this country are being habituated with such type of news and not astonished to road accidents at all. But it is a stern reality that behind every accident there are huge sufferings, tears to the survivors as well as the victims.

Road safety situation has been deteriorating day by day and everyday road accident brings death and injury of many people in Bangladesh. WHO estimates that the actual fatalities could well be 20,038 each year in Bangladesh (WHO, 2009). We usually come to know through different print or electronic media about the accident victims who are killed. But, we are not concerned about other victims who are survived with injury. It remains unknown about their condition or the situation evolved aftermath. A large number of road users involved in simple traffic crashes recover from their injuries, but those who become injured severely, of them some never recover fully and suffer from some kind of permanent disability. When an accident occurs it is needed to rescue the victims instantly and send them to nearest hospital or trauma centre for treatment. But in Bangladesh many road accident victims are not rescued and admitted at hospitals rapidly due to various causes. Treatment facilities are also not so modern and available for all class of people still now. Besides, a large number of people of the country live below the poverty line and the road accidents have devastating impacts on the livelihood of poor households. In most cases they are to be economically active and contribute to the household income. But after

accidents they cannot bear the expenses of prolonged treatment. As a result, lack of proper and due time treatment a large section of injured person lost their ability and turn into persons with disabilities. On the other hand, being disabled they lost the earning capacity and become burden to their family. In this way poverty and disability make their life very complex and miserable. The families which lose the earning capacity of members disabled by road traffic injuries and who are burdened with the added cost of caring for these members may end up selling most of their assets and getting trapped in long-term indebtedness.

In addition to loss of life or reduced quality of life, road accidents carry many other consequences to the survivors such as legal implications, economic burden as well as psychological consequences. They have less health care and medical services, emotional support and basic necessities that is required for their survival and well-being. They are very much depressed and neglected in their family and social life with manifold problems. There are some initiatives taken by the government of Bangladesh and non government organizations in order to promote road safety and to reduce the rate of road traffic accidents. But it is a matter of sorrow that no significant efforts for providing care and support and rehabilitation to the victims of road accidents have been taken at government and private level. Usually the victims of road accidents need long term medical help (physiotherapy) which is time consuming and costly. Center for Rehabilitation of Paralyzed (CRP) located at Savar (30 km north of Dhaka) is a pioneering organization catering to the needs of accident victims in Bangladesh. CRP's program includes physical rehabilitation as well as some socio-economic rehabilitation through training in skill development for the victims. But due to huge demand, CRP is not in a position to cater for large number of accident victims in Bangladesh. There is an urgent need for other NGOs to provide assistance to the road accident victims. The government level there is no specific allocation for them. In most cases the accident victims usually are deprived from compensation. The poor section of the accident victims are seldom aware of their rights of compensation due to lack of knowledge. Although, under the third party insurance rules the victim or their relatives can get compensation but due to lengthy document processing time the victims usually lose interest. The inspector of the insurance company determines the amount of compensation based on the economic profile and age of the victim. Average compensation for death in Bangladesh is BDT 25,000 which is less than average annual income (BDT 30,000) of poor people. Bangladesh Road Transport Authority (BRTA) can

pay (through an Executive Order) compensation to the victims (BDT 20,000 for death, BDT 10,000 for major injury, and BDT 5000 for minor injury) but most of the accident victims are unaware of it (Quazi,2007). Besides, the amount for the compensation is not sufficient at all. Furthermore, due to lack of adequate information, most of the people do not know about effect on livelihood of road accident victims. With a view to dealing with their problems, extensive information are necessary and that can be done by undertaking research studies on different issues related to road safety. However, in the past, a number of studies relevant to road traffic accident were conducted both in and abroad. The researcher has had a little scope to review all these research works. The researcher had access to review a few relevant research works on this issue but so far the knowledge goes, no significant and extensive research studies have been conducted on the victims of road accidents especially on their livelihood pattern in Bangladesh perspective. In view of this fact, the researcher intended to undertake the present study in order to know the livelihood patterns of the victims of road accidents. Therefore, it is expected that the study may be able to find out the gap between the previous research and the present research. Consequently, the study may contribute to understand the socio-economic consequences of road accidents on livelihoods of the victims. It also may help understand the vulnerabilities and adaptation mechanism in line with the challenges of leading their lives. In addition, the findings of the study may contribute to the knowledge of planners, policy makers and practitioners to reduce road traffic accidents and the sufferings of the RTA survivors.

### **1.3 Objectives of the Study**

The general objective of the study is to understand the livelihood patterns of the survivors of road traffic accidents. To attain the general objective, the study has been guided by the following specific objectives:

- i. To know the demographic and socio-economic condition of the road traffic accident survivors;
- ii. To understand the causes, nature and consequences of road traffic accidents;
- iii. To know the nature of rescue and treatment situation of the survivors;
- iv. To explore their survival patterns in the family as well as in the society; and
- v. To assess the vulnerabilities and the adaptation mechanism in line with the challenges of their lives.

## **1.4 Operational Explanations of the Relevant Concepts**

### **1.4.1 Road Traffic Accidents (RTAs)**

A road accident refers to any accident occurring on a road, involving at least one vehicle, and in which at least one person is killed or injured. Road traffic accident is an event that occurs on a way or street open to public traffic; resulting in one or more persons being injured or killed, where at least one moving vehicle is involved (Government of India, 2012).

Road accident is such type of a collision which can occur between vehicles; between vehicles and pedestrians; between vehicles and animals; or between vehicles and any obstacles such as a tree or electricity pole. The result of traffic accidents may be injury, death, vehicle damage, and property damage.

Road Traffic Accident is also known as traffic accident, motor vehicle collision, road traffic injuries, motor vehicle accident, automobile accident, car accident, road traffic collision, car crash, or car smash in some countries.

Road traffic accident is a rare, random, multifactor event that is always preceded by a situation in which one or more road users have failed to cope with their environment, resulting in a vehicle collision (Asian Development Bank, 2003). According to the Vienna Convention, the standard international definition of an injury road crash involves a collision of a moving vehicle on a public road in which a road user (human or animal), is injured (IRTAD, 1992).

The interaction of human, vehicle and the road environment-the three elements produce the road traffic system. Road traffic accidents actually result from failures in this system. Road traffic accidents are those accidents with following qualities: occurred or originated on a way or street open to public traffic; resulted in one or more persons being killed or injured; and at least one moving vehicle was involved. Accidents involve collisions between vehicles, vehicle and pedestrians and between vehicles and animals or fixed obstacles (like buildings or trees) (United Nations Economic Commission for Europe, 2005: 9).

In this study road traffic accident refers to an accident which takes place on the road as a result of collision between two or more objects, one of which is any kind of a moving vehicle and resulting in one or more persons being injured or killed.



### **1.4.2 Victims of Road Traffic Accidents**

Generally victim means a person who has been suffered, harmed, injured or killed as a result of a crime, accident, or any other event or action. Victim of road accidents means a person who has been injured or killed as a result of an accident, arising out of the use of a motor vehicle or motor vehicles or as a result of any traffic related offence, committed by another person. In this study victims of road traffic accidents refer to the persons who are anyway affected by road traffic accidents.

### **1.4.3 Livelihood Patterns**

Bangladesh is considered to be one of the least developed countries in the world as measured in terms of average per-capita income, high infant mortality rate, low literacy rate, etc. In present time road traffic accident added a new problem. Every year a big number of people are being the victim of this road accident and they are facing various problems here. The livelihood patterns of them are more miserable and precarious.

Generally, livelihood is the means of one's living or it is the activities that support to maintain a person and his/her family. A livelihood comprises people, their capabilities and activities for means of living, including assets (tangible and intangible). UNDP(2005) described that livelihoods, are the means, activities and entitlements by which people make a living. A livelihood is sustainable if it can cope with, recover from and adapt to stresses and shocks, maintain and enhance its capabilities and assets, and enhance opportunities for the next generation.

On the other hand Chambers & Conway said that a livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stress and shocks and maintain or enhance its capabilities and assets both now and in the future while not undermining the natural resource base (Chambers & Conway, 1992).

On the basis of following definition it can be said that livelihood pattern means an aggregate measure of how people make their living within the limit imposed by the environmental, social, economic and political conditions of the society within which they live. Therefore, in the present study livelihood pattern indicates the capabilities and means of living of the road accident survivors.

#### 1.4.4 Survivor of Road Accidents

Generally Survivor is a person who survives in a situation or a person who continues to function or remain alive after an event in which others have died. In this sense, survivor of road accidents means a person who continues to live in spite of coming near to death by road traffic accidents or who has had a very unpleasant experience and still affected by road accident. In this study road accident survivors are both male and female who were economically active and contributing to the household income before being the victims of accident and now survive as persons with physical disabilities due to road accidents.

#### 1.4.4 Greater Dhaka

Greater Dhaka is the conurbation surrounding the capital city of Dhaka. Before 1984 it was an administrative district consisting Dhaka, Narayanganj, Gazipur, Narsingdi, Manikganj and Munshiganj *Mahkumas*. After 1980 through administrative reform the government abolishes *Mahkuma* system and turns these *Mahkumas* into districts. But still now the area is known as Greater Dhaka (Wikipedia, Retrieved from [https://bn.wikipedia.org/wiki/%E0%A6%A2%E0%A6BE%E0%A6%95%E0%A6BE\\_%E0%A6%9C%E0%A7%87%E0%A6%B2%E0%A6BE](https://bn.wikipedia.org/wiki/%E0%A6%A2%E0%A6BE%E0%A6%95%E0%A6BE_%E0%A6%9C%E0%A7%87%E0%A6%B2%E0%A6BE)).

In this research work, Greater Dhaka has been selected as the study location. The study location consists of present six administrative districts including Dhaka of Bangladesh. The districts are contiguous with one another. The names of the districts are Dhaka, Narayanganj, Gazipur, Narsingdi, Manikganj and Munshiganj. The Study area is located at the geographical center of Bangladesh.

### 1.5 Significance of the Study

Road traffic accident is a common incident in Bangladesh. It is not possible to imagine even a single day without road accidents. But it is true that very small number of studies have been conducted on this issue. In this respect the present study may help to add knowledge to understand various issues on road accidents like risk factors contribute to the occurrence of road traffic accidents, its consequences and the livelihood of accident survivors in Bangladesh. The data obtained in this study, can be used by the road safety authorities for planning and evaluating road safety initiatives. The data can also be utilized by the organizations working for the welfare of the victims of road traffic accidents in Bangladesh.

Bangladesh is one of a developing countries in the world. Every year a large number of people are died and injured due to road traffic accidents. But those who are the victims of road accidents, most of them are poor. Therefore, it is important to know the livelihood pattern of victims or the survivors of road accidents. The thesis may hopefully enable to understand the range of livelihood patters that the RTA survivors draw upon and of the strategies employed in their attempts to survive. The revealed data of this study may help to know the real problems they face and their livelihood patterns of the survivors after accidents. If the given recommendations are considered at large it may be helpful to prevent road accidents as well as to uphold the socio-economic conditions of the survivors. The data can also be utilized as baseline data in future for any related research on this field. It also attempts to identify a knowledge gap for future research. It is sincere hope of the researcher that findings of this study will add new knowledge and help to fill the knowledge gap on this subject in Bangladesh perspective.

### **1.6 Limitations of the Study**

Like all other social research this one is not free from limitations. In order to conduct and complete this study in a meaningful way the researcher had to face some problems and limitations. However, the identified limitations of the current study are briefly summarized below.

1. The study has been conducted on a particular area i.e. Greater Dhaka of Bangladesh using purposive sampling technique and the sample size was small. For this reason, the result brought out by the study may not sufficiently represent the real picture of the livelihood patterns of the road accidents survivors and it might not be adequate to make generalization for all survivors.
2. Reliable and systematic data on road traffic injuries and fatalities is scarce in lower and middle income countries (Grimm and Treibich, 2010: 11). It is very much true for Bangladesh. Road traffic accidents are occurring everyday in different places of the country. But it was a reality, accurate and comprehensive data were not available on this issue. Very limited organizations were working for collecting and reserving data on road accidents in sporadic form. On the other hand, incomplete data on RTAs collected from police and hospital as there was no clear link between police and hospital records. Much data were kept manually

and only data for few years were computerized that make validity and accuracy issues questionable.

3. It was not possible to organize any FGD with the road accidents survivors as the geographical area of the study was big and the participants live in different locations. It was not possible to bring them in a place for FGD.
4. Finding out the road accident survivors was a crucial problem in this study. All types of survivors as respondents were not selected in this study. Only the persons who were economically active before accident and now suffering from physical disabilities in any form were selected. But there were no records or data available regarding their location, socio-economic condition, livelihood pattern and so on.
5. Methodological weaknesses to some extent and the matters relating to the nature of the study can also be considered a bound though not so much. For instance, it is argued that case studies provide a little basis for scientific generalization (Yin, 1989).
6. It was not possible to extend the study area because of limitation of fund as well as time shortage.

## 1.7 Organization of the Thesis

The thesis consists of nine chapters followed by a reference section. At the end, appendices have been incorporated. A brief outline of the chapter has been presented below:

**Chapter One** is the introduction to the whole of the thesis. It gives an overview of the statement of the research problem, the rationale of the study, objectives, and explanations of relevant terms and concepts used in research topic, significance and limitations of the study.

**Chapters Two** focuses on review of the relevant literature related to road traffic accidents and the livelihood patterns of survivors. Research findings, articles, books, journals relevant to this study are reviewed in this section along with identified research gap.

- Chapter Three** presents the theoretical framework of the study. The chapter deals with livelihood framework and its relevance to know the livelihood patterns of road traffic accidents survivors.
- Chapter Four** contains the research methodology. It discusses the methods used in the collection and analysis of the data and the reasons for their choices. It also describes the rationale upon which the study is based and explained the means adopted to answer particular research questions. The chapter also sheds light on validity and reliability, ethical issues of this study. In addition, field experiences and challenges of the study have been presented here.
- Chapter Five** focuses on the profile of study location. As greater Dhaka is the study location, the chapter presents geographic, demographic and economic characteristics of this study location. It also provides information regarding to the road network and road transportation system along with road traffic accidents in greater Dhaka area.
- Chapter Six** provides general information about the road traffic accidents in global and Bangladesh perspectives. It highlights the causes and impacts of road accidents. This chapter also presents the major road safety initiatives taken by the government and non government organizations in Bangladesh to reduce road accidents.
- Chapter Seven** presents the findings of the study. The main focus of the study is to explore the livelihood patterns of road accident survivors. This chapter is developed with qualitative analysis formats and thematically presented all of major findings of the study. It also includes profiles of the case respondents in 19 boxes.
- Chapter Eight** presents the summary of the findings of the study which was derived from case studies and FGDs. It also draws theoretical implication, and recommendations to improve the livelihood patterns of road accident survivors. Finally, it points out a few areas for further research.

## **CHAPTER TWO**

### **Review of Literature**

Review of relevant literature is an integral part of any study. It enables the researcher to formulate the study problem in terms of the specific aspects of the general area of interest that have not been so far researched by any researcher. It also helps to identify the knowledge gap of the research study. Keeping this aspect in consideration, a thorough review of relevant literature has been done and presented in this chapter. The main focus of reviewing is to identify the knowledge in the field of livelihood patterns of road traffic accident survivors and the related issues. Unfortunately very few studies have been conducted in this field especially in Bangladesh context.

#### **2.1 Review of Relevant Literature**

Literature review means reviewing relevant studies and research works which have been already conducted. Literature review contributes to increase the knowledge of the researcher about the topic he/she intended to do research, stimulates the researcher own creative thinking and also to show the credibility. It helps to find out the gap of knowledge between the previous researchers and the present researcher (Sarker,2014:158). Through literature review a researcher can make preliminary choices to research topics before launching into a research proposal. It also helps him/her to assess whether the topic can and should be researched on (Aminuzzaman, 2011).

For the study purpose a good number of literatures have been reviewed in relation to road traffic accidents and the livelihood patterns of road accident survivors. But in this chapter the researcher presented only those that are more relevant to the present study-

A research paper prepared by Mariana J. Makuu (2010) on *Causes of Road Traffic Accidents induced Physical Disabilities and its Socio-economic Consequences to Victims and their families in Dar es Salaam Region of Tanzania*. The paper was submitted for obtaining the degree of Masters of Arts in Development Studies by the researcher. The main objective of this study was to find out the causes and socio-economic consequences of road traffic accidents induced physical disabilities on livelihoods and well-being of victims and their households in Dar es Salaam of Tanzania. This study gave more

emphasis on how victims and their families develop coping mechanisms and new capabilities after being the victim of road accident for livelihoods.

The researcher choose to undertake a qualitative research which was facilitated by ethnographic case study as the study was interested in victims and their families' experiences and perceptions in relation to the changes in livelihoods patterns as reflective subject. For the study data were collected from 12July, 2010 to 30 August, 2010. Fourteen case respondents were selected from whom data were collected through semi-structured interviews technique. Out of fourteen, twelve interviews with the victims and their families and one interview with the Assistant Traffic Police Commander Officer and the last one with Social welfare officer at Muhimbili Orthopaedic Institute. Six FGDs were conducted of which two with victims, three with University students and one with doctors at MOI. Respondents for FGDs and semi-structured interview were selected purposively.

The major findings of the study revealed that the mostly affected group of people by road traffic accidents inducing physical disabilities was the pedestrians, passengers and motor cyclists especially young males because of the nature of their daily activities that expose them to more risks than others. It was also revealed from the findings of the study that the persons who became physically disabled by road accident are burden to their families as well as the public health and the government. Even the victims and their family members suffer from psychological, social and economic problems as a result of disability. Lack of a special rescue team and inadequate health services are among vital factors that have been claimed as contributing to physical disabilities induced by road traffic accidents in study area. But it was found that there is no special institution in Tanzania dealing with disabled people in terms of enhancing their livelihoods and wellbeing. The study concluded that RTAs induced physical disabilities have adversely affected the lives of many people and it is needed to conduct more research to better understand the causes and socio-economic consequences of road accidents.

Though the study was conducted outside Bangladesh, it was closely relevant to the present study. In study the researcher has chosen to undertake qualitative method which was facilitated by ethnographic case study. The objectives of this study in some cases were all but similar to the study. The main objective of this study was to find out the causes and socio-economic consequences of Road Traffic Accidents on livelihoods and well-being of victims and their households. In the present study it aims to know the livelihood patterns

of the survivors of road traffic accidents. So the review of this literature was helpful for the researcher to conduct the study.

Deus Damian Komba (2006) conducted a study on *Risk factors and road traffic accidents in Tanzania: A Case study of Kibaha District*. It was mainly a Master Thesis in Development Studies. In this thesis the researcher tried to discuss the risk factors associated to the cause of road traffic accidents in Kibaha district of Tanzania. The methodology and procedure for data collection the researcher employed both qualitative and quantitative methods within a framework of a case study approach. For collecting data interview technique with accident victims, government officials, traffic police, focus group discussions with local government authority have been used. Furthermore, for identifying risk factor the researcher used four theoretical frameworks: System theory, risk theory, political ecology and geographical approach as the base of knowledge in this study.

In this thesis the researcher identified some common risk factors like inappropriate driver's behavior, lack of law enforcement, poor traffic management, inconsistent road designs, deteriorating road conditions and inappropriate information system which accelerate the occurrence of road traffic accidents in Kibaha District. The researcher also showed the trend of motor traffic accidents from 2001 to 2004 besides identification of risk factors of road accidents in Kibaha District.

From the findings of the study it was revealed that the trend of accident occurrence was increasing every year. It was also found that there was a total of 276 accidents with an average of 69 accidents per year occurred there. The percentage of reported road traffic accidents in Kibaha district was increasing with an average of 9.4 accidents annually. In general there were about 855 casualties and 276 accidents in Kibaha district from 2001 to 2004. An average number of casualties per accident were calculated to be 3.1. Passengers and pedestrians are always at high risk of being the victim of road accident. On the other hand young males are highly risk to motor traffic accidents.

The distribution number of killed and injured casualties by place of residence and age group from 2001 to 2004 in Kibaha district, it was found the accident victims aged between 18 to 24 are more compared to other age groups, 46% of this age group are injured and 64.1 % are killed, while accident victims who are not residence in Kibaha District aged between 25 to 34 and 35 to 44 are the most injured victims compared to other age groups respectively, at the same time accident victims aged above 45 years are more at



risk of being killed at accident compared to other age groups, it was almost 73.5% died when involved into accidents between the year 2001 to 2004.

The study also revealed that, buses followed by daladala (minibuses) which are operated by private companies contribute the highest percentages of casualties in Kibaha district. 51% of motorized and non motorized related casualties are caused by buses while daladala (minibuses) occupy 28% of the casualties. The buses have a large share of the transport of the passengers from one region to another. The trucks and saloon cars proportion are around 7.3% and 7.8% respectively. Non-motorized vehicles such as bicycles in Kibaha constitute a lower percentage even though their role in increasing the risk of accidents occurrence and severity.

The researcher not only identified the risk factors associated with road accidents but also gave some recommendation in order to reduce traffic accidents in Kibaha district. The recommendations are the government should review drivers appointment legislation, NIT should be given a statutory mandate to train the drivers, working conditions of police force should be improved, road safety campaigns should be conducted, and new driving license system should be introduced. Talking over cell phones while driving should be strictly restricted, records of accident keeping system should be strengthened, the doctors, hospital staff, traffic police and ambulance personnel should be given training on rescue and emergency treatment, and regular basis vehicle inspection should be introduced in the country.

Promotes Saha (2007) conducted a thesis paper entitled *Trends Evaluation of Road Safety in Bangladesh: The Situation of Rural Accidents*. This paper presented an evaluation of rural road traffic accidents statistics especially accidents on National Highways during the last eight years from 1998 to 2005 and found out its trends in rural area of Bangladesh.

For the study the researcher collected data from secondary sources like ARC (Accident Research Center), BRTA (Bangladesh Road Transport Authority) and R&HD (Roads and Highway Department).

From the data it was found, there were at least 3187 fatalities and 3440 injuries in 3248 reported accidents in 2005 and 3314 fatalities, 3466 injuries in 3938 reported accidents in 1999. Significant fluctuations in the number of fatalities and injuries as reported by police clearly reflect the problems of reporting and recording inconsistencies. The number of

fatalities from 3314 in 1999 to 3187 in 2005 indicates 0.96 times in 7 years period. About 65 percent of road accidents and about 80 percent of casualty accidents occurred in rural areas including rural sections of national highways.

Pedestrians accounted for 52 percent of all reported fatalities in the accident database and nearly 48 percent of all reported fatalities occurred in rural areas. Pedestrians accounted for nearly 29 percent of all reported pedestrian injury occurred in rural areas in the accident database. The involvement of pedestrian in between 20 to 49 years of age in road accidents was much higher, which was nearly 40 percent in rural area of Bangladesh.

Studies of rural road casualty accidents revealed that of the total reported rural casualty accidents nearly 52 percent occurred on national highway, then regional highway (17%), feeder road (20%), rural road (9%), city road (1%). Percentage of rural casualty accidents in straight road was the highest (87%), then curve road (9%). It was also found that heavy vehicles such as trucks and buses including minibuses were major contributors to road casualty accidents in rural areas where minibus 8.22 %, bus 21.04%, and Heavy truck 9.26%.

Safety situation of road traffic accidents in Bangladesh is deteriorating day by day. The data revealed that rural accidents in Bangladesh are increasing. In 2005, the accident rate was 73.71% for rural and 26.29% for urban area. The number of accidents in rural area has been increasing from 1743 in 1998 to 2394 in 2005, nearly 1.37 times in 8 years. Changes in percentage of casualty accidents by daily variation it was found that in previous years the percentage of casualty accidents was highest on Thursday upto 2003, in 2004 it became highest on Friday. On the other hand yearly changes in percentage of casualty accidents for different types of junction indicates that percentage of casualty accidents not in junction in rural area was the highest value in recent years which was about 85 percent and in a particular junction there was no significant change of accidents.

In Bangladesh, development of accident database has been based on police reported accident form. However, due to under reporting and under recording accident database could not get comprehensive and accurate level up to expectation. This problem could be addressed by combined effort of all relevant sectors. Training and awareness is also urgent need to improve the present situation.

Richard Mutea (2008) conducted a Study entitled *An Investigation Into Coping Strategies of Adult Survivors of Road Traffic Accidents* and it was presented at 9th Counseling Conference on 2nd – 4th September 2008 held at Safari Park Hotel, Nairobi.

This study investigated the experiences of road traffic accident survivors and how they cope with the psychological challenges of their lives. The study was conducted at Mararui Health Centre in Kasarani Division in Nairobi, Kenya. This health center usually offers medical services including physiotherapy for those who are recovering from accidents.

In the study the researcher used qualitative approach where semi-structured interview guide was used. Six (6) road traffic accident survivors (three male and three female) participated who were selected purposively in the study.

The participants were those who had been involved in road traffic accident and hospitalized for at least a week. They had recovered physically to be able to resuming their day-to-day activities and had been discharged from the hospital within the last one and half years or were still pursuing physiotherapy or other medical follow up from the health center. Such participants were selected because they had gone through the three stages, which most RTA survivors go through i.e. at the accident scene, in the hospital and out of the hospital.

From the study findings it was revealed that adult RTA survivors have negative and traumatic experiences. The experiences of adult survivors of road traffic accidents include- Physical pain, injuries and disability, loss and grief, vulnerability, lack of support from some people, anger, embarrassment, bitterness, fear, regret, phobia etc. This negative experiences lead them to psychological challenges such as a sense of anxiety and depression, detachment and estrangement, fear of certain situations, death wish etc. that ultimately influence their coping strategies. The suddenness of road traffic accident and the many changes that occur simultaneously during and after the accident, leave the survivors uncertainty. As a result they cope in ways that address their needs include problem solving, self-soothing, seeking meaning of what has happened and seeking support.

This study was much related to the present research. Especially the objectives and methodology parts are all but same to present one. The study investigated the experiences and coping strategy of road traffic accident survivors that also one of the present study objectives. Here the researcher used qualitative approach wherein semi structured

interview guide was used. In the present study qualitative method has been used which is facilitated by case studies.

In this study data were collected from those road traffic accident victims who were hospitalized for at least a week. In the present study data have been collected from the survivors but now physically disabled due to road traffic accidents. To know the livelihood pattern it was important to know the coping strategy of survivors. As this study intended to investigate the coping strategy of adult survivors of RTA it was very helpful for the present study.

A Project Report entitled *The involvement and impact of road crashes on the poor: Bangladesh and India case studies* prepared by Ms A Aeron-Thomas et.al (2004) to estimate the actual incidence as well as the economic and social impacts of road traffic accidents on poor in Bangladesh and India.

It was a descriptive cross sectional study conducted in 12 districts and two metropolitan cities of Bangladesh during 2001. A multi-stage, stratified, cluster sampling method was used to choose the sample. The sample size of the study was 83, 199 households of which 59,008 rural and 24,191 urban. The urban sample included two metropolitan cities, Dhaka and Rajshahi, and two upazilas while the rural sample included 20 upazilas from 12 districts. Through a survey basic socio-economic information was collected from all households. Victim questionnaires were undertaken with those households where a road death had occurred in the past five years or a road injury in the past year. This provided data on 203 road deaths and 536 seriously injured (i.e. broken bones or overnight hospitalization). Another 1189 casualties (who required medical treatment but not hospitalization for minor traffic injuries) were surveyed but the findings were not discussed in this report.

In India (Bangalore) a survey was conducted on 96,414 people in 19,797 households stratified into approximate equal shares of rural, urban and slum areas. While a randomized survey was conducted in a Bangalore rural district, the urban surveys focused on a slum and an upper-middle class area. The survey identified 83 deaths and 156 serious injuries, which were then supplemented by 156 road deaths identified by police records and 367 seriously injured found through hospital records.

The report examined the impact of road crashes on the victims' households and covered direct and indirect costs as well as the coping strategy adopted by victims and the

consequences. In most cases the poor were found to spend a much greater proportion of their income on funeral or medical costs than the non-poor. Most poor households trapped into debt by borrowing money to cope with the additional costs and lack of income following the road accidents. Some were also found to reduce their financial security by selling their assets while few chose to take on extra work. Indirect costs included not only recovery days but also time spent looking for new work as the poor had less job security than the non-poor and fewer poor were able to return to their previous jobs.

With regard to impacts of road accidents it was found a variation between urban and rural areas of Bangladesh. Income decreased among 75% poor and 59% non-poor in urban areas after road deaths while 72% poor and 55% non-poor in rural areas. Living standard also decreased among 71% poor and 50% non-poor in urban areas while 75% poor and 63% non-poor in rural areas. As coping strategy, the majority of poor households with a serious injury relied on borrowing money (63%), while selling an asset was the second most common response (29%) urban poor, 37% rural poor.

On the other hand in Bangalore the death rate for the rural poor is particularly high. When the urban and rural samples were combined, the poor were found to be statistically more likely to be killed in a road crash (95% significance) while the non-poor were more likely to be seriously injured (90% significance). The majority of households suffering a road death reported their household income had declined after the crash. It was reported income decreased among 88% poor and 79% non-poor in urban areas after road deaths while 73% poor and 82% non-poor in rural areas. Food production also decreased among 73% poor and 82% non-poor in rural areas. As coping strategy, the majority of poor households with a serious injury relied on borrowing money (66%), while selling an asset was 21% among urban poor and 21% rural poor.

This study also provided evidence that many of the households identified were not poor before the road death and serious injury. In Bangladesh among bereaved households 33% of urban poor and 49% of rural poor were not believed to be poor before the crash. Among seriously injured households, 21% urban poor and 37% rural poor were estimated to be not poor before the serious injury occurred. In Bangalore 71% of urban poor and 53% of rural poor bereaved households estimated to be not poor before the crash. Among the seriously injured poor households, 17% of urban and 25% of rural households were not poor before the serious injury.

The above research work was quite vast. It was conducted in Bangladesh and India (Bangalore) under a project to know the involvement and socio-economic impacts of road accidents on poor. In present study I was seeking to know the consequences of road traffic accidents as well as the livelihood patterns of accident survivors. It also indicates the impacts of road accidents. So in this connection the above study related to the present study. But in this study researchers used quantitative approach and sample size was very big. On the other hand, the present study has been conducted following qualitative approach. They tried to show the impact of RTA especially on poor by comparing with non-poor. They also showed the coping strategy of the respondents to overcome the situation. For this they incorporated all types of road deaths households and injured households.

An M.Phil study conducted by Mohammad Mizanur Rahman Sheikh (2009), entitled *A Statistical Analysis of Road Traffic Accident Casualties in Bangladesh*. The study was conducted to identify the magnitude of road traffic accidents and casualties in Bangladesh. It was also undertaken in order to assist the policy-makers to take appropriate measures to reduce the road traffic accidents and its casualties. For the study was conducted based on secondary data which were collected from Bangladesh National Road Traffic Accident (BNRTA) annual reports: 2002-2007, Bangladesh Road Transport Authority (BRTA), Ministry of Communications; DIGP (Crime) of Bangladesh Police Head Quarter, Ministry of Home; and Bangladesh Bureau of Statistics (BBS), Ministry of Planning; Government of the People's Republic of Bangladesh according to design under consultation with TRL, UK. After collection, the raw data were explored, analysed and modelled by travel mode, of KSI (killed or seriously injured)/ fatal accident rates, of fatal accidents by time mode and of involved motorised or non-motorised vehicles at fatal accidents by type. An investigation was undertaken using the averages rates of KSI/ fatal casualty, accident and involved vehicles applying Bar-charts. In addition, data were investigated using trend lines annual time series. A detailed analysis of variances was conducted using the rates (per 10,000 populations) of BRTA traffic accident and casualty data applying mainly non-parametric tests. Applying linear regression model time series; one-way and two /three-way classified data were analyzed; Mann-Whitney or Kruskal-Wallis tests and Univariate regression model respectively. Finally, modeling of two/ three-way data was conducted using the frequencies of fatal casualty, fatal accident and involved vehicles applying Poisson regression.

The findings of this study revealed that more than half of fatal victims of road accidents were pedestrians. Though junction is always important place for road accident, maximum fatal accidents occurred at out of junction here. Casualty rate fluctuated during the year 2000 to 2006. KSI casualty rate peaked in 2000; declined slightly in 2001; re-peaked in 2003 and re-declined slightly in 2006. Rates (per 10,000 people) of road traffic accidents with casualties are significantly higher in the cities of Dhaka and Rajshahi. Pressure of vehicles in Dhaka is more than any other cities of Bangladesh. Except these two cities, Narayanganj, Feni, Madaripur, Munshiganj, Faridpur, Sylhet, Gopalganj, Narsingdi, Gazipur, Manikganj and Rajbari were highly affected by rates of KSI accidents with casualties. In particular, rate of accidents and casualties on national highways were higher than other roads. More than one-third (about 37%) of fatal accidents occurred on national highways.

Fatal accidents by mode of time, it was explored that accidents were highly occurred in day time comparing with night during the year 2004-2007. Again accidents by day it was found that accidents were high at national highways on Friday, Thursday, Monday and Sunday; at city roads on Tuesday, Sunday, Friday and Monday; at feeder roads on Friday, Sunday, Saturday and Thursday; at regional highways on Sunday, Friday and Saturday; at rural roads on Tuesday and Wednesday. Accidents by month it was revealed that fatal accidents were high at rural on January, March and May; at urban on January, April, May and March. Again, fatal accidents are high at national highways on May, June, January, August and December; at city roads on January, April, March, February and May.

The study also showed that non motorized vehicles like rickshaws and bicycles were highly involved for multiple vehicles per accident. For one vehicle per accident, buses, heavy trucks and minibuses were highly involved. For more than one vehicle per accident, heavy trucks, buses and rickshaws were highly involved.

The above M. Phil study was little bit similar to the present work. One of the objectives of the study was identifying the magnitude of traffic accidents. In the present it was an attempt to depict a picture of road accidents and to assess the impact or consequences of road traffic accident. The study was conducted based on secondary data only but here it was used both primary and secondary data.

B.K.Banik et.al (2011) written an article based on a study entitled *Road accident and safety study in Sylhet region of Bangladesh*. This study presented an overview of the road traffic accident and road safety situation in Sylhet zone of Bangladesh. The researcher discussed road accident as a problem identifying various features like the hazardous roads and spots, most responsible vehicles and related components, behaviour of drivers and pedestrians, most victims of accident, impact of accident on society, safety priorities and options available in Sylhet.

For the study, the researchers collected data from two sources. Firstly, they conducted a survey using comprehensive questionnaire on the concerned groups of transportation as primary sources. Secondly, they collected secondary data from local newspapers. For questionnaire survey 100 drivers, 100 pedestrians with different age groups and 20 traffic police were interviewed. For this study different types of accident cases such as fatality, severity, simple and collision and the corresponding number of accidents were investigated.

Finding of the study it was shown that simple accident was the prime cases of total accident. Fatality contribute 15.5% in 2005, 16.9% in 2006 and 14.49% in 2007. The study identified some major causes of accidents like head on of vehicle, competitions, press the pedestrian during cross the road or from behind, losses of the control of the vehicle due to break down of accelerator and tire strongly hit down by the first moving vehicle, suddenly stopped the vehicle, to overtake the another vehicle, to give ide the vehicle of opposite direction, to save the stray animal on the road, overloading, the vehicle of high speed press the low speed vehicle from behind, collision with passenger of standing vehicle during gets on or out by moving vehicle, during riding on the roof of vehicle face accident by hit by branch of tree or decorative gate, during turning of vehicle, problem of mental or physical disable man when move along or across the road, backward movement of standing vehicle; rail line crossing etc.

People of any age and sex may be the victim of road accident at any time. In this study it was found that 37% female were fallen in accident in the age range of 35-45, 31% were fallen in accident in the age range of above 55 and about 62.50% children were below 10 year, 37.50% were 10-15 year whose were involved in accident they were primary level school student and did not know the traffic rules and regulation and became victim most of the time.



Usually road accidents in Bangladesh occur all the year round. But in the rainy season, majority of the roads become slippery and tending to muddy for non-paved roads; drivers lose the control of the traffic when the weather is stormy and the sky is overcast with clouds. For this reason in rainy season the rate of road accidents is more than other seasons. It was reflected by this study. In this study it was observed that most of accidents occurred during rainy season followed by the winter season. In rainy season about 25% accident occurred in 2005, 28% in 2006 and 40% in 2007.

In this study the researchers tried to show the nature and safety situation of road traffic accidents. It was a quantitative study in nature. This study was conducted in Sylhet region of Bangladesh.

An article entitled *Behavioral habits and attitudes of heavy vehicle drivers towards road safety* was written by Md. Shamsul Hoque et.al (2007) on the basis of a study conducted on the drivers of heavy vehicles to understand the behavioral habits, attitudes and other physio-psychological and personal characteristics of them in order to evaluate their driving habits, their role in traffic accidents as well as to assess drivers understanding of traffic control devices and their level of driving skill in various driving situations that are usually considered to causes of road accidents.

It was a comprehensive questionnaire survey conducted at different bus and truck terminals located throughout the country and these terminals were selected randomly. Ninety nine questions were included in the interview schedule form giving emphasize on drivers' understanding about road safety, their habits and opinions for this survey. The survey questions also focused on the current level of education, training, experience and limitations of drivers. In this study the researchers used random sampling technique for selecting drivers and the sample size was five hundred including 279 bus and 221 truck drivers. The sample group was distributed proportionally at different bus/truck terminals and also tried to cover all important national corridor distributed throughout the country for the period from July 2003 to March 2004.

The findings of the study it was revealed that nearly 19% of drivers do not have any formal education and the level of illiteracy was found to be more in case of truck drivers than bus drivers. It was noticed that 96% bus and 90% truck drivers have no formal written contract for their jobs, their appointment was made orally. About 44% of the drivers were found to be paid irregularly and 25% of drivers get monthly payment while

66% drivers are paid trip or daily basis. It was found that about 54% of the drivers drive more than 8/10 hours in a day and mentioned they often suffer from fatigue related problems and those who drive more than 8/10 hours in a day are more likely to be involved (33.3%) in accidents than the rest who drive less than this stipulated time period. Over speeding is also important cause of road accidents. In case of speeding in free road approximately 70% drivers responded that they do it sometimes. While asking about their attitude towards other road users, it was found that a large number of drivers (42%) have little respect to light vehicles, particularly to private cars and sarcastically named these vehicles as '*plastic*' and '*sharee*'.

This study also revealed that only 31% of the drivers have the basic idea about road signs, road markings, although 97% of the drivers responded that they always maintain a careful look at road signs at the time of driving. It was also explicitly evident that almost all drivers (92%) acquired their skill and driving experience from their so-called '*ostaad*' (real drivers) rather than being trained formally from a registered training institution for driving. Among them 70% were acted as helper under supervision of several '*ostaads*' before becoming drivers. 79% of the drivers responded that they are willing to get some training and the remaining 21% opined that what they know is enough for safe driving and they do not need any further training to improve their driving skill. Majority (55.6%) of the drivers feel that they should have more formal education and training about road signs, markings and signals, 42% of the drivers feel they need more training to acquire more skill in safe driving. The others need practical training in vehicle maintenance (31%) and formal education and training about traffic laws and regulations (4%). The majority of the drivers stated that they try to drive fast in order to reach their destination as quickly as possible. In order to reach their destinations in time often they are compelled by passengers to drive fast. The next highest opinion was that due to the psychological pressure from agonizing passengers which is often caused by immense delay due to poor roadway and traffic jams, drivers particularly those of buses are compelled under duress to drive speedily and often in excess of desired operational speed. Besides, drivers expressed that they sometimes suffer from harassment by traffic police and to avoid them they had to speed up their vehicles. Drivers themselves also feel that aggressive driving behavior is one of the important causes for the occurrence of road traffic accidents which often resulting from over speeding. Most of drivers, particularly bus drivers opined that competition attitude among vehicles of same destination induces both aggressive over speeding and over taking

behavior. Besides, according to the drivers' opinion defective vehicles, faulty design of roads, lack of experience and training of drivers also contribute immensely to road traffic accidents in Bangladesh. This article highlighted the driving habits of heavy vehicle drivers including buses and trucks towards road safety to assess it as causes of road traffic accidents in Bangladesh.

Safia, M. Jabali et.al (2013) conducted a study entitled *The Social, Psychological and Economic Impact of Car Accidents on the Victims' Families*. The study was conducted in Jordan to assess the impact of car accidents on the victim families. The study focused on the social, economic and particularly on the psychological effect as it is the most influential on the families who get depression and anxiety after car accidents. Population of the study was the Jordanian community and the sample was selected from the population. The total sample size was 250 of which 135 males and rest 115 females whose families were affected by car accidents in the year 2012. The researchers used the descriptive analytic method in conducting this study. For this a questionnaire consisted of 17 items delivered into the areas of the study was used.

The findings of the study showed that the mean scores were high for the items according to the answers of the participants related to psychological effects. The total mean score was 4.31 while the standard deviation was 63. It was also clear that "feeling shy after having an accident in the family" came in the first rank with a mean score of 4.48; whereas "feeling guilty after having an accident in the family", came in the second rank having a mean score of 4.47. "Family suffering of psychological effect because of the accident" and its mean score was 4.10; whereas "having depression after having an accident in the family" which mean score was 4.06.

The means and standard deviations for the answers of the participants related to the social effects. It was found that the total mean score was 3.96 whereas the standard deviation was 56. It also showed that the item which implies "caring about the family by different areas" came in the first rank of a mean score of 4.12; where "having problems in the family because of car accidents" came in the second rank having a mean score of 4.05.

Means and standard deviations for the participants' answers on economic effects of accident showed that "insufficient income of the family after losing or jailing one of its members" came in the first rank having a mean score of 4.04. "Arise in the economic expenses because of car accident" came in the second rank of a mean score 3.85. "Being

exposed to economic crisis as a result of car accident" having a mean score of 3.70, whereas "Losing family income because of the injuries of the father" came in the final rank having a mean score of 3.55. This study was conducted in Jordan. In this study the researchers wanted to assess the various impact of car accident on victim's families.

Jolly Jose et.al (2006) conducted a study on *Monetary Impact of Road Traffic Accidents (RTA) on Hospitals and Rehabilitative Needs of RTA Victims* and it was published as an article. This was a descriptive study in design and it was conducted in Medical College Hospital, Thiruvananthapuram, India. In this study an attempt was made to assess the money spent for the RTA victims while admitted in the hospital and to evaluate their rehabilitative needs. All road traffic accident cases which required in patient care in the month of December 2002 were taken for the study and followed up till discharge. The techniques for data collection were semi-structured interview schedule, observation and functional independence measure (FIM) which were part of the Uniform Data System for Medical Rehabilitation (UDSMR).

It was a quantitative study and sample size was 226. The findings of the study showed that out of the 226 cases studied 59.8% were between the age of 16-40 years. Out of which 13.3% belonged to 26-30 age group. In respect of sex 83% of the cases were males and rest of them were female. 50.89% met with accident while driving a vehicle. 26.99% of the RTA victims were pedestrians. 57.52% of the RTA victims were riding two wheelers. The expenditure for physical resources (special equipments used for treatment, surgical interventions, investigations and diet) per RTA victim was Rs.960.95 for the total hospital stay. Total amount spent for caring RTA victim including physical resources, manpower like doctors, nurses, nursing assistants and attenders, treatment and diet, surgical interventions, investigations, consultations and for various articles used was estimated. Total amount spent to treat a RTA victim for the total duration of hospital stay was Rs.6124.45. The findings also indicated that there is considerable economic burden on hospitals due to RTA. The study mentioned the role of nurses who should take initiative in educating public about prevention of RTA. They can plan the advice on discharge and health education based on the rehabilitation needs. Community health nurses can anticipate the care needed by a road traffic accident victim coming back from the hospital in his/ her area. Furthermore, families of RTA victims should be taught on available resources for rehabilitation.

The above study was conducted in a hospital of India where victims of RTA were admitted for treatment. In this study an attempt was made to assess the money spent while admitted in the hospital and to evaluate their rehabilitative needs.

MA Jabbar et.al (2009) written an article based on a study entitled *Risk Factors of Road Traffic Accidents (RTA) In context of Bangladesh.*

It was a cross sectional type of descriptive study conducted with a view to explore the risk factors related to road traffic accidents in context of Bangladesh. The study was conducted at emergency and casualty department of Dhaka Medical College Hospital (DMCH) and Sir Salimullah Medical College (SSMC) and Mitford Hospital from July 2007 to June 2008. These hospitals were selected purposively for data collection.

A total of 400 road traffic accident patients were selected and data collected from them by face to face interview by using a semi-structured questionnaire. After collecting data it was coded and edited properly. And last of all data were analyzed in relation to the objectives of the study and presented as tables and graphs.

In Bangladesh trucks are seen as mostly responsible vehicles for road accidents. The findings of the study showed that trucks were mainly responsible for most (23.8%) of the accidents followed by bus (20.3%) and CNG Taxi (11.3%). Frequency of accidents caused by new vehicle and old vehicle were about of equal (36.5%) and 13.5% vehicle were overloaded when accidents happened. Over speeding is important factor of road accident. The study found that about 62% causes of accident was fast speed where 31.3 % accident happened with usual speed. About 44.8% accidents were caused due to collision with other vehicle. In respect of accident time it was found that most (76.75%) of the accidents occurred in daytime.

The study also revealed that about 55% respondents stated that vehicles were driven in a wrong way and 78% stated there were no traffic signals in the road. Among those who stated that there was traffic signal, about 70% of them said the drivers did not follow the traffic rules. The study showed that significant part of RTA occurred due to defective road conditions (24.75%) followed by narrow road (20.25%), faulty road breaker (12.25%) respectively. A remarkable part of RTA took place in foggy (16%), rainy (11.8%) and cloudy (9.0%) weather and in poor light (32%). In respect of use protective measures the study showed that most of respondents (93.25%) did not use any protective measure.

In this study the researchers were mainly interested to find out the risk factors responsible for road accidents. For this they conducted a study at two hospitals in Dhaka city of Bangladesh.

A research based book named *Road Safety in Bangladesh: Realities and Challenges* edited by Hossain Zillur Rahman and published by PPRC (Power and Participation Research Centre) in 2014. In preface of this book it was said, Road accidents are the new “epidemic” sweeping across much of the developing world. With its rapid growth of urbanization and transport networks, road safety issue has emerged as an unavoidable priority for Bangladesh. There are ten chapters in this book which comprised with numerous tables, charts and graphs, and relevant themes like road safety, magnitude and trends of road accidents in Bangladesh, victims and perpetrators of accidents, post-accident investigation and medical facilities, survey of drivers, causes of road accidents, relevant laws and institutions and recommendations for improving the road safety situation.

In the first chapter using various data it showed that road traffic accidents are a matter of serious concern. World Health Organization has identified road traffic injuries as the eighth leading cause of death globally. The calamity of road accident is not only humanitarian but also economic. In this regard it was estimated that the cost of road traffic injuries is 1-2% of the GDP at about 100 billion U.S.dollar annually in low and middle-income countries. Road deaths can be addressed and minimized through judicious and timely action.

Study design was presented in the second chapter. The study was conducted following a mixed-method approach with primary emphasis on qualitative approaches and the general objectives were to provide a researched understanding of the state of road safety in Bangladesh and causal factors behind the accidents.

Magnitude and trends of road accidents in Bangladesh was discussed and presented in chapter three. Other chapters included various issues like accident victims and perpetrators, post accident realities and facilities, survey on drivers, laws and institutions and so on.

The most important part of this research report was its tenth chapter, where key findings of the study were summarized along with recommendations covering diverse areas like vehicle management, governance in road safety, road users, engineering safety, post-

accident issues, and advocacy challenges. A key finding of the study revealed that, the total length of accident-prone highways was found to be around 57 kilometres. Road accidents are occurring not across all the highways and streets, but in a finite number of 'black spots'. According to the road safety division of Roads and Highways department the number of such 'black spots' is 209. Another key finding of the study was that, accidents occur frequently not on isolated road stretches of highways, but in crowded intersections and bus stands, which are poorly planned or poorly regulated. It also claimed curves with poor visibility for high risk of accident. Road users were the most road traffic accident victims and it was justified by this study. Seventy-six per-cent accident victims came from the vulnerable road users. Among them the groups at maximum risk are pedestrians (41%); passengers of light vehicles (19%); and motor-cyclists/three-wheelers that is 16%. On the other hand, in respect of accident types, it was found 'Hit and run' account for 42% of the accidents, 19% are head-on collisions, and 13% occur due to overturned vehicles.

The study also revealed that a holistic safety agenda is needed as there are multiple causative factors of road accidents. These include reckless driving, untrained drivers, unfit vehicles, simultaneous movement of motorised and non-motorised vehicles without separation or adequate rules, risky roadside activities, faulty road-designs, poor traffic enforcement, lack of road safety awareness, and a culture of impunity with poor legal redress. It was also revealed that there are significant gaps and loopholes in existing laws and policies relating to road safety. The laws and policies have not been updated on a regular basis. Political factors have also been found to be major impediments to the road safety agenda. Sometimes nexus with political power prevent actions against unfit vehicles, facilitate issuance of irrational route permits, encourage encroachments or occupations of roadside public lands, and lead to inappropriate penalties for the perpetrators of road accidents. Ownership of many transport companies as well as control of transport sector worker unions is dominated by influential political leaders and the problems are further compounded by complicity or inaction by concerned quarters.

The study in its last chapter included ten priority recommendations to ensure road safety in Bangladesh. The given recommendations are as follows: holding a national dialogue for an appropriately updated road traffic law; regular updating of the list of 'black-spots', priority engineering action plan on 'black-spots' improvement; improved road engineering solutions with priority to geometric standard, intersection design, grade separation, access control on highways, pedestrian facilities, defined parking spots, regular maintenance and

adoption of road safety audit approach; undertaking a comprehensive study on optimal resolution of road-building and roadside economic activities; introduction of independent economic code for road safety projects in the budgetary process; promotion of quality driving training schools; scaling up a national road safety awareness programme in partnership with NGOs and civic platforms targeting the drivers and vulnerable road users; establishment of a National Traffic Training Academy (NTTA) along with a comprehensive review of current approaches to traffic planning and management by the police; promotion of effective community traffic-policing solutions to prevent irrational traffic congestions and ensure road safety; improving accident-related trauma facilities with focus on emergency critical care alongside introduction of an emergency access number and availability of affordable assistive devices.

## **2.2 Research Gaps**

The objective of this chapter is to summarize and review the existing literature on road traffic accidents, and livelihood patterns of accident survivors to identify relevant research gaps and to suggest ways to collect data and to run experiments that help to close these gaps.

After reviewing the above mentioned literatures it is found that most of them primarily focused on the causes and nature of road traffic accidents. Some were on deaths and hospitalizations of accident victims. But very limited number of studies has been conducted on the livelihood patterns of road accident survivors. So it can be said a gap for inquiry exists at the end of the victims or survivors. The design of effective interventions in this area needs knowledge about the profile of survivors, the problems they face and how they try to cope with the situation.

The present study is an attempt to focus on the livelihood patterns of the road accident survivors. In addition to this, it tries to reveal the socio-economic condition of the road accidents survivors, nature of accident and its consequences, their survival pattern and coping strategies they adopted to face the challenges of present situation. But the previous studies attempted to highlight mainly about the reasons, trends, and impact of road accidents. Mariana J. Makuu (2010), Deus Damian Komba (2006), MA Jabbar et.al (2009) showed the risk factors which were associated to the cause of road traffic accidents. Promothesh Saha (2007), Mohammad Mizanur Rahman Sheikh (2009) in their study discussed the magnitude and current statistics of road traffic accidents. Ms A Aeron-



Thomas et.al (2004), Dr. Safia. M. Jabali et.al (2013), Jolly Jose et.al (2006) in their study estimated the actual incidence as well as the economic and social impacts of road crashes.

The present study, it focuses on the victims or the survivors and their livelihood patterns. It is true that life of a person can be changed in a single moment due to road traffic accident. Every moment many people are being victim of road accidents. Many of those who survived in accident cannot lead normal life due to pain, grief, disability and in certain cases a section have to suffer a miserable life till death. Furthermore, road accident can change the livelihood patterns of the survivors who were physically active and involved in income earning activities before facing accidents. But little is known about this type of people, their livelihood patterns and coping strategies in present situation. However, of all the literature collected and reviewed for this study, only a small fraction of the literatures mentioned their livelihood patterns with coping strategies.

All of these above mentioned literatures more or less relevant to the present study and these reviewed literature helped the researcher to conduct this academic research work effectively. It provided enough data and information regarding road traffic accidents and related issues to the researcher. But relatively few detailed studies have been undertaken on the issue of victims of road traffic accidents in Bangladesh. However, a full list of references from both the literature review and also from the main body of this thesis is included at the end of the document.

## **CHAPTER THREE**

### **Theoretical Framework**

This chapter is devoted to present the conceptual and theoretical framework of the study. Theoretical Framework is very essential for any study. To conduct research without theoretical interpretation or to theorize without research is to ignore the essential function of theory as a tool for achieving economy of thought (Beveridge, 1950).

Theoretical framework is defined as a ‘conceptual model of how one theorizes or makes logical sense of the relationships among several factors that have been identified as important to the problem’ (Sakaran, 2003:19). It provides the structure of logical reasoning, philosophical guidelines and mode of analysis. It also guides the research work, determining what things a researcher will measure, and what type of relationships he or she will look for. No inquirer can investigate a problem from all perspectives simultaneously, and this is why, a theoretical framework is necessary. Theoretical framework provides a structure that guides research by relying on a formal theory, constructed by using an established, coherent explanation of certain phenomena and relationships (Eisenhart, 1991:205). In fact, theory in qualitative research provides an explanation for behavior and attitudes of the people. It enables the researchers to connect a single study to the mammoth of knowledge to which other scholars contribute (Neuman and Kreuger, 2003:64). The present study has been conducted to examine the livelihood patterns of road traffic accidents survivors. Therefore, the researcher thinks that Sustainable Livelihood Framework is significantly relevant to analyze the research issue.

In this Chapter, mainly Sustainable Livelihood Framework and the terms related to livelihood have been discussed to understand the research problem.

#### **3.1 The Sustainable Livelihoods Framework and the Present Study**

Framework of livelihood is a way to understand people’s livelihood. The livelihood framework looks at the complexity of livelihoods, especially the livelihoods of the poor people. It is used to know the various dimensions of a person's livelihood; their strategies and objectives pursued, and associated opportunities and constraints.

It is also an analytical framework that provides a way of understanding the factors that influence the ability of people to achieve sustainable livelihood in a particular

circumstance. It is a way of understanding the capabilities and assets of households which are used to develop livelihood strategies composed of a range of activities. The framework examines the different factors that affect the livelihood pattern of household. The framework also looks at the connections between the local or micro situation and policies, institutions and processes in the wider world.

The livelihood framework facilitates holistic thinking about the things that the poor or victims might be very vulnerable to, the resources that help them to access assets, enhance capabilities and reduce vulnerability, and the policies and institutions in the wider environment which affect on their livelihoods (DFID, 1999). The framework shows a way of thinking on livelihoods through the differing contexts such as constraints and opportunities, and ensuring that important factors are not ignored (Ashley and Carney, 1999).

The (sustainable) livelihood framework identifies a number of factors and shows the relationships between these factors that influence on livelihood strategies and outcomes. Central to the framework is livelihood assets or capitals like natural, social, physical, financial, and human capitals that can be used for achieving sustainable livelihood goal in order to reduce the vulnerability of households or communities. Access to the assets or capitals is interposed by transforming structures (i.e., levels of government, private sector, civil society) and processes (i.e., laws, policies, culture, institutions, power relations), which are also considered to be contributing factors to the vulnerability of livelihoods.

Despite differences in emphasis given by different practitioners, the livelihoods framework helps us to identify the strategies that the people have already adopted to cope with risk and uncertainty; make the connections among the factors that constrain or enhance their livelihoods on the one hand, and policies, process and institutions in the wider environment, and identify measures that can help to access assets, enhance capabilities and reduce vulnerability.

The present study employed “Sustainable Livelihood Framework” as theoretical framework to search for broader meaning of findings. Because this framework is useful to assess the vulnerability context of road traffic accident survivors; identify the livelihood assets or capitals they possessed; prevailing social, institutional and organizational environment; livelihood strategies they deployed; and the outcomes they achieved.

Sustainable Livelihoods concept is formally introduced by Robert Chambers and Gordon Conway in 1991. Then it has been used by FAO in its strategic framework, by CARE in its ‘household livelihood security’ program, by the UNDP and Oxfam. In the UK, the Department for International Development (DFID) increasingly uses Sustainable Livelihood approaches in the context of the commitment made in the Government White Papers on International Development to work towards the International Development Target of eliminating poverty by 2015 (Baumann, 2002:1).

In this study the Sustainable Livelihood Framework (SLF) developed by DFID has been used as an analytic tool to examine the livelihood patterns of road traffic accidents survivors.

### **3.2 DFID’s Sustainable Livelihoods Framework**

Chambers and Conway (1992) developed a definition of livelihoods and the factors that make them sustainable which underpin all of the livelihoods frameworks currently being used:

*“A livelihood comprises of the capabilities, assets (stores, resources, claims and access) and activities required for a means of living: a livelihood is sustainable which can cope with and recover from stress and shocks, maintain and enhance its capabilities and assets, and provide sustainable opportunities for the next generation; and which contributes net benefit to other livelihoods at the local and global levels in the long and short term”.*

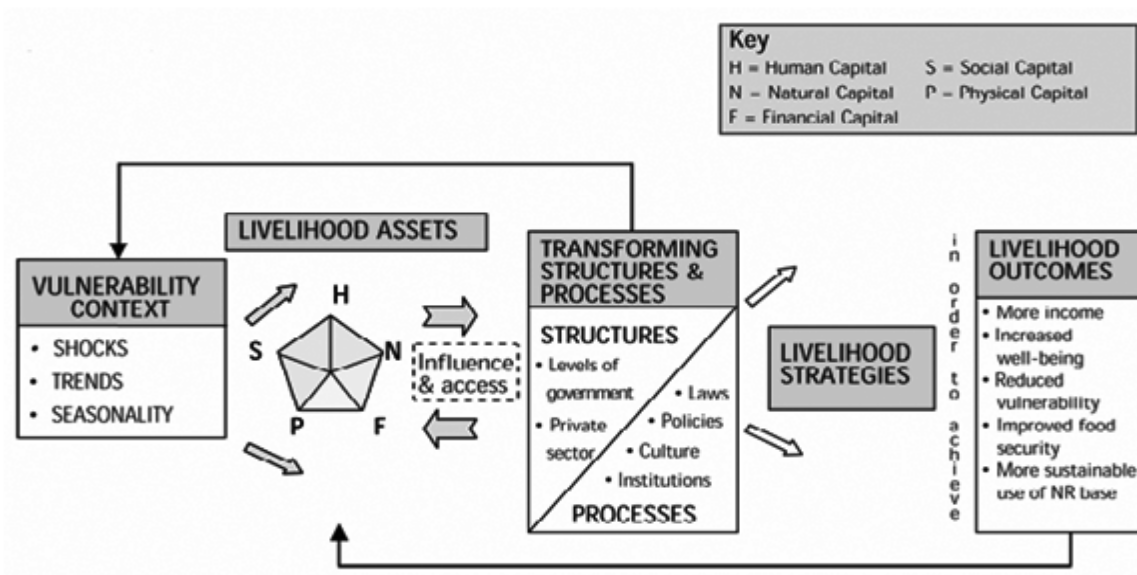
The Chambers and Conway definition was modified by DFID in 1999, as:

*“A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from shocks and stresses and maintain and enhance its capabilities and assets both now and in the future whilst not undermining the natural resource base” (Carney, 1999).*

According to DFID (1999) the sustainable livelihood framework presents the different factors that affect people’s livelihood strategies and outcomes. It can be used in both

planning new development activities and assessing the contribution to make livelihood sustainable by existing activities. In particular, the framework provides a checklist of important issues and emphasizes the multiple interactions between the various factors which affect livelihood patterns of household. In this framework the asset (human capital, social capital, natural capital, physical capital and financial capital) lies at the core of the livelihoods framework, within the vulnerability context.

**Figure-3.1: DFID's Sustainable Livelihoods Framework**



Source: DFID, 2000 p. 1 section 2.

The DFID's framework places people at the centre of interrelated factors that affect the livelihood patterns of themselves and their households. The livelihood assets or capital that the people have access to and use are closest to them at the centre of the framework.

Livelihood assets can include natural resources, their skills, technologies, knowledge and capacity, access to education, their health, sources of credit or their networks of social support. The extent of their access to these assets is strongly influenced by their vulnerability context. Access is also influenced by the prevailing social, institutional and political environment, which affects the ways in which people combine and use their assets to achieve their goals or livelihood strategies (DFID, 2000).

The above framework provides a picture of the key elements in describing or understanding the issues affecting livelihoods in a household, community, region or country. This includes the following concepts-

### 3.2.1 Livelihood Assets

Livelihood assets or resources are the inputs to the livelihood system (Niehof and Price, 2001) and these can be seen as immediate means needed for livelihood generation. Soussan *et al.* (2001) consider livelihood assets as the means of production available to a given individual, household or group that can be used in their livelihood activities. These assets are the basis on which livelihoods are built and, in general, the greater and more varied the asset base the higher and more durable the level of social security.

DFID's Sustainable livelihoods framework identifies five livelihood assets through which livelihoods activities are carried out for means of living. These are:

#### i. Human Capital

Human capital is the capability of a man. It describes the skills, knowledge, experience, and ability to work (including good health) that enable people to pursue livelihood strategies. According to Ellis (2000) Human capital refers to the labor available to the household: its education, skills, and health.

*“Human capital represents the skills, knowledge, ability to do labour and good health that together enable people to pursue different livelihood strategies and achieve their livelihood objectives”* (DFID, 1999).

Human capital is therefore that part of human resources determined by people's qualities such as personalities, attitudes, aptitudes, skills, knowledge and physical, mental and spiritual health. Human capital is important, not only for its intrinsic value, but also because all other capital assets cannot be used without it (NRI, 2000).

#### ii. Social Capital

The term “social capital” was originally used by sociologists, but receives increasing attention from economists. The concept of social capital has now been exported from ‘sociological theory’ into ‘everyday language’ (Portes, 1998:2). Social Capital is the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition (Bourdieu, 1986: 248). Social capital refers to the social network and associations in which people participate, and from which they can derive support that contribute to their livelihoods (Ellis, 2000).

According to Putnam (1995: 67), social capital refers to features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit.

Social capital is not available in cash but is sometimes more influential than other forms of capital, especially when a household is at risk. It has different meanings to different disciplines. It is recognized by development practitioners as a critical resource of the poor (Fox and Gershman, 2001).

Social capital has different dimensions, such as kinship, neighborhood, horizontal and vertical linkages, and ethnicity (Bastelaer, 2000; Putnam, 1995). Social capital includes the attitudes, values, relationships, and institutions that help to govern interactions among people and contribute to develop their socio-economic conditions. This definition indicates two elements or forms of social capital. The first form, which Uphoff (2000) called structural social capital. Structural social capital refers these capitals which are relatively objectives and externally observable such as networks, associations, and institutions, and rules and procedures they embody. The second form is known as cognitive social capital which comprises more subjective and intangible elements such as generally accepted attitudes and norms of behavior, shared values reciprocity and trust.

The most important issues in livelihood are its sustainability and coping with vulnerabilities. Use of social capital is one of the ways to cope with vulnerabilities. It plays an important role beside other types of capital. Though it is not available in cash but sometimes it is more influential than other forms of capital, especially when a household is at risk.

### **iii. Natural Capital**

Natural capital means the natural resources which are given by God free of cost. In livelihood framework natural capital refers to the natural resource base (land, soil, water, forests and fisheries) that yields products utilized by human population for their survival. Sometimes these are referred to as environmental resources, and are thought of jointly as comprising the 'environment' (Ellis 2000).

There is a wide variation in the resources that make up natural capital, from intangible public goods such as the atmosphere and biodiversity to divisible assets used directly for production (trees, land, etc) (DFID,1999).

#### **iv. Physical Capital**

Physical capital can be shown as synonymous with technology. It describes the basic technological infrastructure and tools usable for the supply of energy, water, transport, shelter, and communications.

In economic terms, physical capital is defined as a producer good as contrasted to a consumer good. Producer goods are the tools and equipment that people use to function more productively and effectively. Housing facilities, latrine facilities, source of drinking water, electricity, household furniture, electronics, jewellery, livestock-poultry etc. considered as important issues of physical capital.

Physical capital is important not only for meeting people's needs directly, but also for providing access to other capital via transport and infrastructure (NRI, 2000). Basic infrastructure, such as roads, water & sanitation, electricity, gas schools, ICT; and producer goods, including tools and equipment are Physical capital. According to DFID- "Physical capital comprises the basic infrastructure and producer goods needed to support livelihoods" (DFID, 1999).

#### **v. Financial Capital**

Financial capital denotes the monetary resources that can be accessed to provide a range of livelihood options and that people use to achieve their livelihood objectives. These may include annual return, savings, gifts, microcredit, remittances etc. It refers to stocks of cash that can be used in order to purchase either production or consumption goods. This is likely to be savings, and access to credit in the form of loan. Neither money saving nor loans are directly productive in the forms of capital; they owe their role in the asset portfolio of households to their convertibility into other forms of capital or into consumption (Ellis 2000).

DFID (1999) identified two main sources of financial capital as; available stocks (cash, bank deposits or liquid assets) and regular inflows of money (earned income, pensions, remittances etc.).



**Table 3.1: Resources and Assets in Livelihood Generation**

	<b>Personal Level</b>	<b>Household Level</b>	<b>Environmental Level</b>	
			<b>Natural</b>	<b>Man-Made</b>
<b>Material</b>	Physical Strength, Health, Talents	Space, Income, Tools, Buildings, Livestock	Land, Water, Biodiversity	Soil, Infrastructure, Biodiversity
<b>Non-Material</b>	Skills, Education, Gender, Experience, Capabilities	Experience, Knowledge, Management, Information	(Kinship)	Market, Church, Social or Political Institutions, Support networks

Source: Niehof *et al.* (2001)

All these above mentioned assets functions in an interrelated system for every household or individuals to be able to carry out livelihoods activities for means of living.

These capitals or assets are also important in the lives of road traffic accident survivors. This framework enabled the researcher to understand which assets they have and to what extent they have access to and control over assets whether it is restricted or enhanced by the structure and process.

### 3.2.2 Vulnerability Context

The vulnerability context means the environment within which people pursue their livelihoods. Vulnerability is almost synonymous with insecurity. Vulnerability is defined as an aggregate measure of human welfare that integrate environmental, social, economic and political exposure to a range of potential harmful perturbations, resulting in poverty, famine, hunger malnutrition and unsustainable livelihoods (Downing,1992; Sen,1981). Vulnerability is the inability of a household to cope with the adverse situation with existing assets and resources (Ellis; 2000).

Chambers (1989) defined vulnerability as the exposure to contingencies and stress and difficulty coping with them. He further identified the two sides of vulnerability as; an external side of risks, shocks and stress to which an individual or household is subject; and an internal side which is defenselessness, meaning a lack of means to cope without damaging loss.

In this sense the vulnerability context can be described as the trends, shocks and seasonality over which people have limited or no control, but people's livelihoods and their access and control to resources can be affected by the vulnerability context. The vulnerability context of the livelihood of poor people is usually influenced by external factors in which they have no direct control and is dependent on wider policies, institutions and processes. For this reason to save the people from the negative effects of trends, shocks and seasonality, policy-makers, development workers and practitioners can support people's access to assets and help ensure that the policies, institutions and processes are responsive to the needs of the poor.

In Bangladesh there are many types of vulnerable group. Among them it can be mentioned the name of women, aged, children, and disabled. They face three kinds of vulnerability in their life cycle such as shocks, stress and seasonality. Shocks can be viewed as "adverse events that lead to a loss of household income, a reduction in consumption, a loss of productive assets, and/or serious concern/anxiety about household welfare" (Quisumbing, 2007:8). If shocks repeatedly take place in human life, it may create stress in the life cycle. Road traffic accidents have turned into a common phenomenon now- a- days here. Every year a large number of people are died and injured due to road accidents. Among the injured a portion of victims lead their rest of their life as disabled. The survivors of road traffic accidents in Bangladesh experience different kinds of shocks i.e. additional expenditure of treatment due to accident, loss of income, death of major income earners, accidents etc. On the other hand food insecurity, payment for treatment, indebt, disability and dependency may be considered as stress. Seasonality is another form of vulnerability in the life of road accidents survivors. It is one kind of seasonal trauma for the road accident survivors. For instances, many of the survivors problems due to seasonal fluctuations in prices, production, demotion of health condition, loss of employment, loss of income. These kinds of shocks, stress and seasonality make them more vulnerable in Bangladesh.

**Table-3.2: Mapping of Vulnerabilities Context and Outcomes**

Type of vulnerability	Outcome
Labour	<ul style="list-style-type: none"> <li>• Loss of income</li> <li>• Loss of employment</li> <li>• Extended unemployment</li> <li>• Disability</li> <li>• Lack of appropriate skills</li> <li>• Suicide</li> </ul>
Human capital	<ul style="list-style-type: none"> <li>• Inability to invest or maintain investment in education</li> <li>• Old age dependency</li> <li>• Destitution</li> </ul>
Economic infrastructure	Inability to use productive assets <ul style="list-style-type: none"> <li>• Lack of technical skills</li> <li>• Lack of economic rights</li> <li>• Debt</li> <li>• Lack of services, farm, water, electricity, transport</li> </ul>
Household relations	Increase in domestic violence <ul style="list-style-type: none"> <li>• Alcohol abuse</li> <li>• Lack of adequate childcare</li> <li>• Lack of caregivers for elderly</li> <li>• Disability</li> <li>• Split households</li> <li>• Sexual exploitation</li> </ul>
Social capital	Decline in community-based participation <ul style="list-style-type: none"> <li>• Crime, harassment and homicide</li> <li>• Lack of security and physical mobility</li> </ul>
Externalities	Natural calamities <ul style="list-style-type: none"> <li>• Change in policies</li> <li>• Conflict, exploitation</li> </ul>

The concept vulnerability was helpful because it emphasized on understanding the wider shocks and stresses to which survivor’s livelihoods are subject. On the other hand, it helped to analyze whether road accidents survivors are resourceful and resilient to maintain their livelihoods, since their resourcefulness and resilience determine their survival.

### **3.2.3 Livelihood Strategies**

To cope with the vulnerability an individual or household follows some livelihood strategies. The Oxford dictionary defines strategy as a “plan, method, or series of actions designed to achieve a specific goal or effect”.

Livelihood strategies are the activities that generate the means of survival. People adopt these strategies to attain livelihood goal which is highly influenced by their asset position. Ellis (2000) argues, “livelihood strategies are composed of activities that generate the means of household survival”. These activities help the people to survive against the vulnerability.

Livelihood strategies are the combination of strategies that people choose to undertake in order to achieve their livelihood goals. According to DFID, a livelihood strategy is “the overarching term used to denote the range and combinations of activities and choices that people make in order to achieve their livelihood goals.” It is a combination of various activities that are used to meet various needs and shows a positive correlation and reinforcing relationship with livelihood assets (DFID, 1999). These strategies can vary according to time, season, and situation. To cope with new situation the households determine and design strategies, reviewing the previous strategies and incorporating lessons learned from past experience, sometimes changing their strategies to meet their changing needs.

Livelihood framework helps to understand and determine the strategies pursued and the factors behind people’s decisions; to reinforce the positive aspects of these strategies and mitigate against constraints. A major influence on people’s choice of livelihood strategies is their access to assets and the policies, institutions and processes that affect their ability to use these assets to achieve livelihood outcomes or goals.

Furthermore, people develop their livelihood strategies according to the situation they face on the basis of their past experiences. Households use their assets, livestock or savings, or they use social capital to handle or overcome situations or stress. For example Helen Keller International (HKI) listed the following coping strategies in Bangladesh after the 1998 floods in Bangladesh: use of savings. The strategies were taking food loans; borrowing money or borrowing in kind from relatives or neighbors; borrowing money from local lenders; and distress sales of assets (HKI, 1998).

Usually poor people of Bangladesh survive in the society based on different natural resource based activities. These activities or strategies include cultivation of land, livestock and poultry keeping, involvement in day labor in both agricultural and non agricultural sector. In addition, they also depend on non-natural resource based activities such as different kinds of small trade, marketing of goods etc.

### **3.2.4 Policies, Institutions and Processes**

Policies, Institutions and Processes are crucial in livelihood framework. They work at all levels, from the household to the national, international level, and from the private to the public. Every organization both private and public formulates policy and legislation and works accordingly to deliver services that affect livelihoods. Processes determine the policy and legislation in which structures and individuals operate and interact. They include elements such as macro, sectoral, redistributive and regulatory policies, international agreements, markets, culture, societal norms and beliefs, and power relations associated with gender, caste or class. The institutional processes and organizational structures have a profound influence on access to assets and allow the identification of barriers and opportunities to sustainable livelihoods (DFID, 1999).

The Policies, Institutions and Processes (PIPs) of the livelihoods framework cover the complex social, economic and political context within which people pursue their livelihoods strategies. Policies, institutions and processes include the following inter-related issues of:

- a) Social relations: the way in which gender, culture, ethnicity, history, religion and kinship affect the livelihoods of different groups with a community
- b) Social and political organization: social rules and norms, decision-making processes, civic bodies, leadership, democracy, power and authority, rent-seeking behavior
- c) Governance: the form and quality of government systems including structure, power, rights and representation, efficiency and effectiveness,
- d) Service delivery: the effectiveness and responsiveness of state and private sector agencies engaged in service delivery such as education, health, housing, water and sanitation

- e) Resource access institutions: the social norms, customs, rules and behaviors that define people's access to resources
- f) Policy and policy processes: the processes determine and implement policy/legislation and their effects on people's livelihoods.

PIPs can be operated at global, national, regional, district and local levels. Appropriate policies, legal instruments and enforcement can remove constraints to the development of survivors of road traffic accidents in Bangladesh. Most of the Road Traffic Accidents victims are poor and they have limited resources. Government agencies, NGOs and the private sector can provide support to them. But these development agencies have not played much of a role in the development of the RTA survivors. Thus, a lack of institutional and administrative help, poor infrastructure and inadequate extension services all have an effect on livelihoods of the survivors. However, the proper functioning of these institutions depends on government policies, priorities of donors, infrastructural facilities.

### **3.2.5 Livelihood Outcomes**

Livelihood outcomes are the results of pursuing livelihood strategies. Livelihoods framework stress the importance of understanding and supporting people's efforts so that they can achieve their goals and lead a happy lives. Utilizing the assets or capital people try to achieve their goal. Furthermore, transforming structures and processes directly influences livelihood strategies as well as livelihood outcomes. Livelihood outcomes help to understand the "output" of the current configuration of factors within the livelihood framework; what motives people to behaves as they do; what their priorities are; how they are likely to respond to new opportunities, and which performance indicators should be used to assess support activity. The most important livelihood outcomes are: more income, increased well being, reduced vulnerability, improved food security and more sustainable use of natural resource base (DFID,1999).

DFID's Livelihood Framework was relevant to this study as the framework is helpful to understand the livelihood patterns of people. In this study the researcher tried to analyze and understand how, in different contexts, the road accident survivors manage to cope with or adapt their livelihoods. The livelihood framework enabled the researcher to understand factors limiting the survivor's access to productive resources, assets, and opportunities and strategies they employ in tackling them.

## CHAPTER FOUR

### Research Design and Methodology

*“The goal of a methodology chapter is to provide a clear and complete description of the specific steps to be followed. It is necessary to describe these steps in sufficient detail to permit a naive reader to replicate the study”*(Rudestam & Newton, 1992).

The main purpose of this chapter is to present research methodology used in this study. Research methodology is a way of studying research problems in a systematic manner. It describes the methods and techniques that the researcher uses in the research (Sarker, 2014:151). According to Mingers (2001), research methodology is a structured set of guidelines or activities to generate valid and reliable research results. This chapter mainly illustrates the research methodology for answering the research questions and attaining the purposes. The chapter explains how this study has been conducted, the methods and techniques applied in data collection, and the reasons as to why they are applied according to the research objectives. The chapter also discusses the research techniques adopted for the study, including the design, sources of data, sampling and sample size determination and the location of the study area. Subsequently, the issues of validity and reliability are also considered in relation to the data collection. Therefore, the chapter has been concluded with discussions on the techniques used in analyzing and processing the data for the study.

#### 4.1 Research Design

Research design addresses how to make plan to conduct a research (Flick,2009). Selltiz and his associates define a research design as the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure (Selltiz, 1965).

Based on a research design, a researcher plans the whole study and identifies the successive stages of the research. For doing a good research first of all it is needed to choose an appropriate method. Without using suitable method it is never possible to

accomplish a scientific research work. But which method will be chosen depends on the nature and objectives of the study. Looking at the nature and objectives of the present study, a qualitative design was followed which was facilitated by case study approach.

## **4.2 Qualitative Research Method**

Some social researchers stated that ‘social world is essentially realistic and can only be understood from the view of individuals who are directly involved in the activities’ (Burrell & Morgan, 1979). In such a context qualitative research methods are developed in social sciences to enable researchers to study social and cultural phenomena (Myers, 1997). Qualitative methods help to understand life experiences and to reflect on the understandings and shared meaning of peoples’ everyday social life and realities (Limb 2001). According to Strauss and Corbin (1990) *“Qualitative methods can be used to uncover and understand what lies behind any phenomenon about which little is yet known. Or to gain novel and fresh slants on things about which quite a bit is already known. It is claimed that qualitative methods are a useful way of proceeding when we are interested in a multiplicity of meanings, representations and practices qualitative methods can give the intricate details of phenomena that are difficult to convey with quantitative methods”* (Strauss & Corbin 1990).

Qualitative method emphasizes quality, depth, richness and understanding of any phenomenon, instead of statistical representation. It can see and interpret the phenomena in terms of people’s perspective. Due to the fact that the present study focused on the survivors of road accidents and their livelihood patterns, the researcher undertook a qualitative method, because it facilitates the researcher to analyze the issue in-depth and detail that can represent the participants’ own experiences, meanings and understandings.

## **4.3 Case Study Approach**

A qualitative case study uses to portrait the social settings and full description with detailed access of social behavior and values in individuals’ environment in where they operate. Case study can provide a holistic understanding of the phenomena to explore and interact study participants in their own settings (Bryman, 2008; Yin, 2009; Gall et al, 2007). It enables a researcher to explore, reveal and understanding problems, issues and relationships. The goal of case study is to provide accurate and complete description of the case. It involves an in-depth examination of a single person or a few. In the present study



19 (nineteen) road accident survivors were taken as cases to reveal their livelihood patterns.

#### **4.4 Location of the Study**

The present study was conducted in greater Dhaka of Bangladesh. Dhaka is the capital of Bangladesh and whole country is connected with Dhaka by roads. So the pressure on the roads of greater Dhaka is more than the others of the country because of the fact that other transports moves towards Dhaka from for off places get together in the greater parts of Dhaka. As a result the area is most vulnerable both in terms of total number of accidents and accident rates. For this reason, the researcher selected Greater Dhaka as study location.

#### **4.5 Population of the Study**

Population of the study means the subjects of the study. Population is the entire group of items or individuals of interest in a study. The main subjects of the study are the victims and survivors of road traffic accidents. Therefore, all the survivors of road traffic accidents living in greater Dhaka area of Bangladesh were considered the population of the study.

#### **4.6 Sampling and Sample Size**

Sampling and sample size are crucial issues in a research work. Sampling is the process of selecting a representative portion of a population. It is about ‘the segment of population that is selected for investigation’ (Bryman,2008: 168). Sampling therefore refers to the techniques by which a researcher selects the units or objects i.e documents, people, institutions etc. for a study that represents the large number of groups. In the qualitative study, a researcher wants to get the deepest understanding possible from the single situation and for this reason the sample size of this type of study is usually small and not chosen randomly. Purposive sampling is a technique widely used in qualitative research for the identification and selection of information-rich cases for the most effective use of limited resources (Patton, 2002). In purposive sampling, researchers can select unit of analysis within their sites to reach a targeted sample quickly. It enables researchers to select a sample based on the purpose of the study. Since this study focuses on the livelihood patterns of road accident survivors, the researcher selected purposive sampling because road accident survivors were not available in number and they were scattered in

study area. The present study was conducted on 19(nineteen) survivors but now physically disabled due to road traffic accidents who were knowledgeable and able to provide information about the study problem. The researcher thought that sample size nineteen was not too small or too large. The case respondents were not selected proportionately from the different districts of Greater Dhaka area because of variation of their availability. Out of 19 respondents most of them (6 respondents) were in Dhaka district, three each in Gazipur, Narayanganj and Manikganj districts, two each in Munshiganj and Narsingdi district. The researcher tried to select those both male and female who were physically active and contributing to the household income before accident. At first the researcher took the help from hospital, upazila social service office, trauma center, police stations and different organizations working in this field to know the locations of the road traffic accidents survivors. Then for selecting them, the researcher used purposive sampling.

#### **4.7 Sources of Data**

For the sake of accomplishing the expected outcomes, the required data were gathered from both primary and secondary sources. A primary source provides direct or firsthand evidence about an event, object, person or work of art (Sarker,2014:94). In this study primary data were collected from selected samples and FGDs participants. On the other hand, the Secondary data were gathered from published and unpublished research reports, journals, books, as well as from record and documents of relevant agencies. The researcher also used electronic sources, such as the internet and the World Wide Web as the important sources of secondary information.

#### **4.8 Methods of Data Collection**

As it is a qualitative study in nature, it used both narratives as well as text information to attain the study objectives. Therefore, face-to-face interview, focus group discussion (FGD), and observation methods were applied to collect more in-depth information. In addition, document analysis was used to supplement the collected data. The researcher thinks these combinations of data collection methods made it possible to have in-depth and rich information about the livelihood patterns of the road traffic accidents survivors.

##### **4.8.1 Interviews**

In social science research, the importance of interviews has long been recognized. As the study is qualitative in nature, to provide detailed descriptions of individuals and events in

their natural settings, interviewing has usually been used as a key technique of data collection. According to Kvale (1996: 174) an interview is “a conversation, whose purpose is to gather descriptions of the (life-world) of the interviewee” with respect to interpretation of the meanings of the ‘described phenomena’. In a similar way, Schostak, (2006: 54) adds that an interview is an extendable conversation between partners that aims at having an ‘in-depth information’ about a certain topic or subject, and through which a phenomenon could be interpreted in terms of the meanings interviewees bring to it.

In this study a total of nineteen respondents were interviewed. This was done with the road traffic accidents survivors who were physically disabled due to accidents. An interview guide with a total of eighty four semi-structured questions was used (See Appendix). The main intension of interviewing accident survivors was to better understand of their livelihood patterns and coping strategy to the situation for survival.

#### **4.8.2 Focus Group Discussion (FGD)**

Another data collection technique used in this study was Focus Group Discussion (FGD). The focus group may be defined as an interview style designed for small groups usually between four and eight individuals who are brought together to discuss a particular topic chosen by the researcher(s)(Berg,2001). The FGD gives the researcher access to the multiple and transpersonal understandings that characterize social behavior which sometimes misses while conduct individual interviews. This method helped the researcher to come in direct contact with group to solicit information by talking or discussing. In this study the researcher conducted 3 FGDs, two with the transport workers and another one with the commuters. Unfortunately, it was not possible to organise any FGD with the road accidents survivors as they were too widely scattered. As a moderator researcher followed a predetermined interview guide to direct a discussion in a group in order to get their perceptions, attitudes, and experiences on a defined topic.

#### **4.8.3 Personal Observation**

Rich information and awareness about a phenomenon can be obtained through observation. Observation is an important technique to collect data when the information is considered sensitive and when a high degree of reliability and accuracy is required (Narayan, 1996). Observation during the research period enable to establish a relationship of trust with research participants which facilitate greater access to “inside” knowledge,

thereby enhancing the credibility of the findings (Stringer and Genat, 2009). In this study direct observation method was used in all attempts in order to achieve authenticity, validation and cross-checking of the collected data.

#### **4.8.4 Document Analysis**

Document analysis is the study of existing documents, either to understand their substantive content and to illuminate deeper meanings which may be revealed by their style and coverage. According to Bowen (2009), document analysis is a form of qualitative research in which documents are interpreted by the researcher to give voice and meaning around an assessment topic. Researching documents is particularly useful where the history of events or experiences have relevance and where private as well as public accounts are needed. Public documents like media reports, government papers or publicity materials, procedural documents (e.g. minutes from meeting, formal letters or financial accounts) etc. were used in present study. It was helpful to set up objectives, questionnaire, comparing documents and cross referencing.

### **4.9 Instruments of Data Collection**

For present research work the researcher prepared and used semi-structured interview schedule to conduct case studies to reach the objectives of the study. Semi-structured interview is a very flexible technique provides more useful data when the sample size is relatively small. All the questions are not predetermined in semi-structured interview and it gives the researcher opportunities to probe for views and opinions of the interviewee. For this reason a semi-structured interview schedule was prepared for gathering information from the selected sample of road traffic accident survivors in Greater Dhaka. Different sort of questions were incorporated in the schedule about their socio-economic condition, road traffic accidents and its consequences, problems faced by them, their coping strategy and so on. As for the language side, most of the respondents might not be so good in English that's why the researcher made the interview schedule in Bangla which allowed the interviewer to ask other relevant questions and make it much clear.

Besides, semi-structured interview guide, a checklist was used for the Focus Group Discussions (FGDs). Digital voice recorder (smart phone), notepads, diary and pen were also used to take note and capture the interviews for analysis.

#### **4.10 Data Processing and Analysis**

Kreuger and Neuman (2006,p:442) stated that, *“Data analysis involves examining, sorting, categorizing, comparing, evaluating, synthesizing, and contemplating the coded data as well as reviewing the raw and recorded data”*. Qualitative data analysis transforms data into findings though no fixed formula exists for that transformation. Direction and guidance can be offered and the purpose remains unique for each inquirer known only when or if arrived (Patton, 2002: 438).

In the study the researcher tried to analyze the collected data following basic rules in step by step. First of all, the data were transcribed from interviews and observation, then, were gone through a deep and intense process like word by word or line by line repeatedly into meaningful segments under the research questions relation with literature before developing more general ideas. Then the collected data were processed after careful editing. As the study was qualitative in design, so qualitative data were processed based on the objectives of the study maintaining the sequence of the chapters of the research report or dissertation. The researcher has categorized the transcription by using different themes using thematic analysis for processing and analyzing data in descriptive manner. Case profiles of 19 respondents were presented in boxes along with study findings. Moreover, verbatim quotations of the respondents were used in order to provide in-depth insight as well as to strengthen the qualitative analysis.

#### **4.11 Reliability and Validity of Data**

In any social research reliability and validity are the most important consideration. Qualitative researcher should be concerned about reliability and validity when the study is designed (Patton, 2002 & Bryman, 2008).

##### **Reliability**

Reliability is concerned with the matter of whether the results of a study can be repeated, in a single term ‘consistency of measurement’. This exhibits that measurement is stable over time and indicators are related to each other (Bryman, 2008). In this research to enhance the dependability of data it was crosschecked. For example, the researcher often checked his observations with interview questions to verify whether it was correctly understood what was observed. Sometimes the survivors of road accidents as well as their guardians or neighbors were interviewed to crosscheck the consistency between their

opinions and activities. It was also tried to check out inconsistencies or distortion by examining informant's responses given in different time. Besides, in the process of and after the interview, the researcher often checked his understanding with the interviewees' to ensure that it was understood them correctly.

### **Validity**

Validity, the most important criterion of research in many ways, is concerned with 'integrity of the conclusions that are generated from piece of research' (Bryman, 2008:32). The validity of research findings refers to the extent to which the findings are an accurate representation of the phenomena they are intended to represent. Validity is briefly defined as the degree to which the findings are interpreted in a correct way (Kirk and Miller, 1986). Grbich (1999) defined validity as the ability with which the results of a study can be verified against the stated objectives.

For maintaining validity the researcher followed several techniques such as adopting more applicable operational meaning of the concepts, data collection methods and tools, and analysis procedures. Besides, the researcher consulted different documents in relation to road traffic accidents. The researcher also emphasized on triangulation which involves different data collection methods such as in-depth interview, observation and focus group discussion.

To ensure the validity of the data, the researcher paid close attention to the design of the interview questions and to the general selection of participants. In order to avoid any loss or distortion of data, all the interviews were recorded and transcribed after the data collection had begun. According to Patton (2002), if the interviewee is concerned it is appropriate to tape interviews and make immediate and intense note after the interviews, otherwise it must be lost. Quotations from some portions of the interviews were used to represent the respondent's views.

Furthermore, the researcher applied respondent validation (to validate research findings by taking back to the respondents with research findings to see whether they conform to their own experiences) for ensuring that the researcher presents data in consistent with the informant.

Qualitative research is more connected with the natural world than quantitative research. As interviews and observations are more natural techniques than the others, for ecological validity questions under a questionnaire were not kept its limit. The researcher tried to get

information in their natural settings and interviewed participants on their feasible places like residence, workplace, shops etc. At the time of observations, it was tried to keep the settings as spontaneous as possible though it was not always easy to maintain, because for the road accident survivors it was a new experience.

#### **4.12 Ethical Consideration of the Study**

Social research deals with human behavior, human activities as well as social world. So, ethical issues are crucial elements in social research. In every step of a research, certain ethical concerns guide the researcher. Ethics should be a primary consideration rather than an afterthought, and it should be at the forefront of the research's agenda (Hesse-Bieber and Leavy, 2006). The goal of ethics in research is to ensure that no one is harmed or no one suffers from adverse consequences from research activities. Because integrity in research is vital, ethical consideration should be given primary importance when preparing research design (Cooper and Schindler, 1998). Ethical position helps a researcher to avoid scientific misconduct, research fraud and plagiarism, charges of insensitivity and abuse of power and trust that could occur in conducting the research. Hence, the researcher prohibited himself from causing unnecessary and irreversible harm to subjects and humiliating subjects, releasing the harmful information about specific individual that was collected for research purposes. Even the researcher tried to avoid any kind of deception, specially forbidden the deliberate misinterpretation and restrained from any kind of fabrication of fraudulent materials for maintaining the accuracy of data. Therefore, the main ethics in the study were informed consent, anonymity and confidentiality of the research participants.

The respondents have the right to be informed regarding the nature, objectives and consequences of research in which they are involved and participated in. Even, they have the right of withdrawal from the participation during interview and even after data collection. So, before interviewing, the respondents will be informed about the study and invited to take part. Then only after getting positive responses interviews will be conducted. Therefore, the researcher provided a brief description of the background, objectives and methodology of the study along with its benefits such as addressing their concerns before taking any interview as well as focus group discussion. The researcher also obtained the participants' consent before interviewing to avoid any confusion. When the respondents were agreed to take part voluntarily and enthusiastically, then the data

collection procedure was started by the researcher. But it was not written consent mentioning that the information collected would be strictly confidential and their actual identity would not be disclosed. At the time of interviewing survivors of road traffic accidents, the researcher tried to establish the relationship with the interviewee which was a prerequisite for a successful in-depth interview. The researcher realized that they accepted researcher very cordially among them and did not feel hesitant to express their opinion.

The researcher recorded and noted all the information given by the respondents very carefully. The researcher phoned participants several times to clarify any doubts and gave a secret code to all the respondents to maintain anonymity. By following the ethics of anonymity, the researcher used pseudonyms name to protect the identity of the respondents and maintain confidentiality so that they would not be disclosed to anyone. All personal data of the respondents ought to be secured and concealed and made public only behind a shield of anonymity (Neuman and Kruger, 2003:139). Since the disclosure of private knowledge is considered damaging, the researcher was aware not to make any harm or embarrassment to the respondents. The researcher maintained confidentiality of given information by the respondents. Furthermore, throughout data collection, analysis and even report writing the researcher remembered some factors like human subject protection, honesty, objectivity and legality. All raw research data were kept as private and confidential as possible.

#### **4.13 Field Experiences: Problems and Challenges**

Data collection of a research is a tough job for a researcher. Every researcher has to experience some problems at the time of collecting data. In this study the researcher had to face multidimensional problems during data collection though the researcher tried to overcome these problems hard and soul. The challenges and problems encountered during the field work of the study can be mentioned as follows:

1. The study was conducted to know the livelihood patterns of road accident survivors. But the required numbers of respondents were not available in a certain place. As a result the researcher had to move different places to find out the respondents. If found, in many cases they were not interested to take part in the interview. In some cases at the time of interviews the other family members of the respondent were present and tried to give answer in lieu of interviewee.



- Furthermore, it created problems to answer freely for the respondents and to maintain confidentiality.
2. One of the respondents was suffering from chronic disease and she could not give answer properly. What she tried to answer was unclear. Lastly it was understood with the help of one of her relatives.
  3. Sometimes the interviewees were reluctant to give answer regarding attitude towards them, participation in decision making, familial relations, and attitude towards them and so on. Because they did not want to disclose themselves to others. Some respondents were doubtful about the confidentiality of their information. They felt hesitate to answer some questions. It was very hard to make them understand as well as data collection from them.
  4. To find out road accident survivors the researcher had to travel many places even very remote area where transportation system was not favorable. Bad weather also created problems during data collection.
  5. In few cases at the time of interview with the respondents, the surrounding people looked at the researcher in a suspicious way. They thought, the researcher had personal interest in this work. It was not easy to make them understand. Somewhere the other people assumed that the researcher was preparing list for distributing relief or other assistance. As a result they tried to gather at the place and made a noise which hindered to collect data smoothly.
  6. It was very difficult to manage a good place and soundless environment for talking with the respondents.
  7. Many of the respondents did not have enough time to provide information due to their business. As a result, the researcher had to go to the respondents frequently to collect the information.

## CHAPTER FIVE

### Profile of the Study Area

The area of the present study covers six administrative districts of Bangladesh which are in together known as Greater Dhaka. The contextual features of this area have been presented in this chapter. More specifically, this chapter gives an account of the geographical location, demographic-economic characteristics, roads network and transportation system of this area. Moreover, the chapter includes a scenario of road traffic accidents in greater Dhaka area.

#### 5.1 Geographic Area and Location of the Study

The study was carried out in greater Dhaka which was selected as the study area. The study area consists of six administrative districts including Dhaka of Bangladesh. The districts are contiguous with one another. The name of the districts are Dhaka, Narayanganj, Gazipur, Narsingdi, Manikganj and Munshiganj. The Study area is located at the geographical center of the country.

There are four City corporations (Dhaka North, Dhaka South, Gazipur, and Narayanganj) and four Cantonment Boards, semi-urban and urban-fringe areas and a few rural pockets in the study area. The total area is about 7,492 sq. km (2011) which is only 5% of the total area (147,570sq km) of Bangladesh. Out of six districts of Greater Dhaka, Gazipur is the biggest (1806sq km) and Narayanganj is the smallest(684sq km) in geographic area.

**Table-5.1: Area of Greater Dhaka Districts**

<b>Districts</b>		<b>Area(km2)</b>
Greater Dhaka Area	Dhaka	1464
	Gazipur	1806
	Manikganj	1384
	Munshiganj	1004
	Narayanganj	684
	Narsingdi	1150
	<b>Total</b>	<b>7492</b>
% to national		5%
National		147570

Source: BBS, 2012.Population and Housing Census 2011

Greater Dhaka is surrounded on the north by Mymensing and Tangail and Kishorganj districts, on the east by Brahmanbaria and Comilla districts, on the south by Chadpur and Shariatpur districts and on the west by Pubna, Rajbari and Faridpur districts. Most of the area is generally low, flat, fertile and flood-prone. Of the total area of Greater Dhaka area, only 33% is settlement area that has been expanded from Dhaka Central Region towards north and northeast side, i.e., Gazipur, Narayanganj and Narasingdi. However, northern part has relatively higher elevation. Forest area is spread around Gazipur district.

Bangladesh is a land of rivers. She has more than 230 rivers and most of the main rivers of the country like Padma, Meghna, Dhaleshwari, Ichamati, Turag Shitalakshya are flowing through the districts of Greater Dhaka. The old Brahmaputra river passes through the center of the study area from the northwestern boundary to the center of southern boundary. The area is within the monsoon climate zone where annual average temperature of the Dhaka district is maximum 34.5 °C, minimum 11.5 °C and rest of the other five districts of study area are maximum 36°C, minimum 12.7°C ; average annual rainfall is 2331mm (BBS,2013).

## **5.2 Demographic Characteristics of the Study Area**

The total population of Greater Dhaka stands at approximately 23.5 million which is 16.3% of the national population (2011). Among the districts of Greater Dhaka, Dhaka has the largest population and Gazipur has the second largest population. On the other hand, the district of Manikganj has the lowest number of population. The average density of population is 3,293 per square kilometer, as against the average national density of 839/km<sup>2</sup>. However, there exists a marked difference in population density among districts. Dhaka has the highest density of population not only among the districts but also in the country and that is 8229 km<sup>2</sup>. The lowest density of population is in Manikganj which is 1007 km<sup>2</sup>. In urban area of Bangladesh, extended family is decomposing into nuclear families against increase of per capita income, migrants to urbanized area, and so on. As a result, the number of average household members of Bangladesh is gradually decreasing from 2000 to 2010 of 5.13 persons to 4.41 persons respectively. The per household population of the greater Dhaka is about 4.34.

**Table-5.2: Number of Household, Population and Density in Greater Dhaka (2011)**

<b>Greater Dhaka Area</b>	<b>District</b>	<b>Population</b>	<b>Density per sq.k.m</b>	<b>Average size of household</b>
	Dhaka	12043977	8229	4.21
	Gazipur	3403912	1884	4.07
	Narayanganj	2948000	5266	4.34
	Manikganj	1392867	1007	4.26
	Narsingdi	2224944	1934	4.62
	Munsiganj	1445660	1439	4.55
	Total	23459360	-	4.34

Source: BBS,2013

The annual growth rate of population of the study area is rapid than any other regions of the country. It is a known fact that people from outside of Greater Dhaka consider this region a potential location of employment, better income and other facilities. As per the census in 2011, Dhaka, Gazipur and Narayanganj are the 3 main districts of GDA which taken 96% of total migrants wherein 64% of it goes to Dhaka district. The level of urbanization in study area is the highest than any other regions in the country.

### **5.3 Economic Characteristics of the Study Area**

The economy of Greater Dhaka is mixed type with agriculture and non agriculture. It can be said that the rural area is agro-based and urban area is industry based. The area is known to be the most developed and urbanized in Bangladesh. Among the districts of study area Dhaka megacity alone shares more than half of the urban sector's contribution. The dominance of Dhaka in the country's economy is a historical fact. Its favorable location at the center of the country, easy communications and preferential investment in Dhaka helped receive rural migrants and contributed to its population growth. Dhaka city is the commercial heart of Bangladesh. Many skilled workers are employed in the businesses and industries located here. Most of the RMG industries are located in Dhaka, Narayanganj and Gazipur along the major communication routes. The Greater Dhaka area has the largest concentration of industries in the country comprising more than one fourth of the country's industrial employments (BBS, 2008). According to number of employments, three districts of Greater Dhaka were in top 5 positions in 2003 where Dhaka district ranked 1st and Narayanganj and Gazipur ranked 3rd and 5th

respectively among 64 districts of Bangladesh. Most of the manufacturing industries (about half) were located in Dhaka Metropolitan Area (DMA) which has an area of only 360 sq.km. The second largest concentration of manufacturing establishments was at Narayanganj, followed by Gazipur and Narsingdi (ADB, 2010). Manikganj has the lowest concentration of manufacturing industries. Within the DMA the major concentration of industries is in the central city area. Outside of DMA, largest concentration of manufacturing industries is in Savar, Narayanganj City, Tongi and Gazipur.

The Narayanganj district is pioneer in merchandising and manufacturing of jute, yarn and dying items. Cottage industry like weaving abounds in this district. International trading, import and export business, garments industries, knitwear garments, shipyard, brickfield etc, create employment opportunities to the people facilitating additional income to the household population. The only machine tools factory of the country, Bangladesh Rice Research Institute, Agricultural Research Institute for post graduate studies in Agriculture and the national park etc. situated in Gazipur district create employment opportunities which ultimately helps economic development of the locality as well as of the country. The economy of Narsingdi is mixed type with agriculture and non agriculture. The district is famous for its textile craft industry. The district is riched by several numbers of jute mills, two urea fertilizer industries in Palash and Ghorashal which play an important role in economy. Different types of vegetables are grown in Narsingdi and Munshiganj. Munshiganj district is famous for the production of potato and pumpkin. The economy of Manikganj is predominantly agricultural. Out of total 293,977 holdings of the District, 58.19% holdings are farms that produce varieties of crops, namely, rice, wheat, vegetables, spices, cash crops, pulses, sugarcane and others (BBS,2013).

#### **5.4 Road Length and Network System of the Study Area**

Transportation facilities are a fundamental need in modern societies. Road transport plays an important role for carrying passengers and commodities within different places in Bangladesh. It has achieved a significant growth in the road transport sector over the past few years. Road transport carries a large portion of the country's total passengers and cargos. The rate of road transport in Bangladesh is comparatively cheap in the world.

The road network of Bangladesh consists of national highways, regional highways, and zilla or district roads. The Road and Highway Department (RHD) under the Ministry of Road Transportation and Bridges is responsible for the management of this roads. The

Local Government Engineering Department (LGED) has the responsibility for rural roads (upazila, union, village roads) and some of the other local roads. The rest of the local roads belong to local government agencies.

**Table-5.3: Road Classification in Bangladesh**

Domain	Classification	Primary Connection/ Function
RHD	National Highway	Connect the capital city with district headquarters, port cities and international highways
	Regional Highway	Connect between district headquarters, main river/land ports, unconnected with highways
	Zilla Road	Connect district headquarters to Upazila headquarters, or between Upazila headquarters, by main single connection with national/regional highway, through shortest distance/route
LGED in collaboration with Local Government Institutions(LGI)	Upazila Road	Connect Upazila headquarters with growth center(s), or between growth centers by main single connection, or growth center with higher road system (national highways, regional highways and Zila roads) with shortest distance/route
	Union Road	Connect Union headquarters with Upazila headquarters, growth centers or local market
	Village Road(Type A)	Connect villages to Union headquarters, local markets, farms and ghats, or with each other
	Village Road(Type B)	Connect roads within a village
Municipalities	Municipal Road	Connect roads within urban areas

The Roads and Highways Department (RHD) manage several categories of road. RHD has total length of 20,948 Km road under its control. RHD also control a total number of 4,659 bridges and 6,122 culverts. RHD are currently operating about 161 ferry boats in 81 crossings (13 on national highways, 11 on regional highways and 57 on feeder roads) on its road network throughout the country. As of January 2010, Local Government Engineering Department (LGED) has so far constructed a total of 133,514 km (64,691 km

dirt road and 68,823 km paved roads) upazila and union roads and 971,498 bridges/culverts (BIDA, 2017).

Greater Dhaka located at the geographical center of the country. The whole country is connected with this area. Road network plays an important role in this connection. It can be said that most of the national highways are passed through this area to connect with Dhaka city, the capital of Bangladesh. Besides to make this connection easier other types of roads in the districts of Greater Dhaka are developed and expanded than any other area of the country.

**Table-5.4 : RHD Road Length (km) in Greater Dhaka Area**

Zone	Total Road Length(km)			
	National	Regional	Zila	Total
Dhaka	716.99	1,191.35	2,315.11	4,223.45

Source : Maintenance and Rehabilitation Needs Report of 2006 - 2007 for RHD Paved Roads, RHD, 2006

The total length of road network (Upazila and Union Roads) in Greater Dhaka district is 5,704.81 km which is maintained by LGED under the Ministry of Local Government and Rural Development.

**Table-5.5: Length of Upazila and Union Roads in Greater Dhaka Area**

Greater Dhaka Area	Upazila Road	Union Road
Dhaka	485.34km	582.52 km
Gazipur	709.38 km	731.41 km
Narayanganj	312.35 km	148.06 km
Manikganj	468.14 km	540.16 km
Narsingdi	441.15 km	540.59 km
Munsiganj	359.17 km	350.54Km
Total	2775.53 km	2929.28 km

Source: LGED, Road Database, Ministry of Local Government, Rural Development & Cooperatives.

From the Zila Statistics 2011 of Bangladesh Bureau of Statistics, it is found that total length including all types of roads in different districts of Greater Dhaka is 25605.10 km.

**Table-5.6: Length of Metalled, Semi Metalled and Unmetalled Road, 2011**

District	Metelled Road	Semi-metalled Road	Un-metalled (kanchs)	Total (in Kilometer)
Dhaka	2758	650	3424	6832
Gazipur	1495	391	3221	5108
Munshiganj	436.47	136.77	1587.59	2160.83
Manikganj	562	70	2091	2723
Narayanganj	699.21	243.22	1405.69	2348.12
Narsingdi	2138.60	1399.94	2490.19	6433.15
Total	8089.28	2890.93	14219.47	25605.10

Source: BBS, 2013

Dhaka is well connected with the rest of the parts of the country by roads. Dhaka has three bus terminals and a good number of passengers enter and exit through these terminals. About 2500 buses travel from Dhaka city's Saidabad bus terminal daily. If each, on average, carries 35 passengers, then that means every day about 87,500 passengers travel from this terminal. These buses mainly go to districts in Dhaka, Chittagong, Sylhet, Barisal and Khulna divisions. The buses from Gabtali terminal go to almost all districts of the north, south and south-west. Around 1,600 buses and mini-buses travel this route on average during normal times. Of these, around 400 travel to districts around Dhaka. If these vehicles carry about 35 passengers each, then every day about 56,000 passengers travel from this terminal.

Buses travel to about 16 districts from the Mohakhali bus terminal to Dhaka, Sylhet, Rajshahi, Rangpur and Mymensingh. On normal days, about 900 buses travel from this terminal, with 31,500 passenger( The Daily Prothomalo,19 January,2015).

**Table-5.7: Number of Bus Stand in Greater Dhaka-2011**

Sl No.	District	Bus Stand
1	Dhaka	114
2	Gazipur	48
3	Munshiganj	28
4	Manikganj	68
5	Narayanganj	54
6	Narsingdi	37

Source: BBS,2013

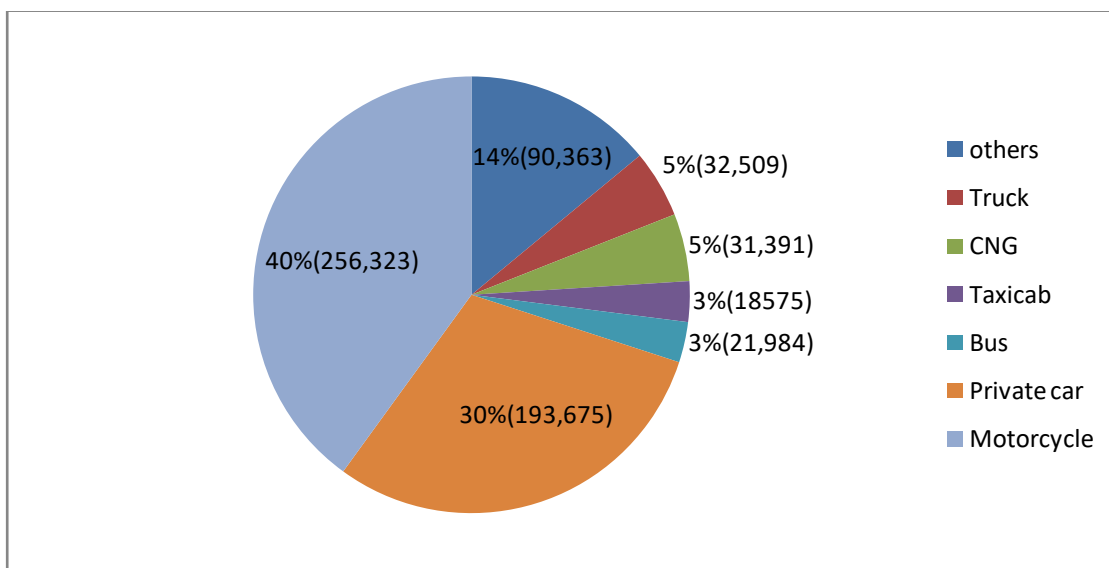


RAJUK recently published the draft of 'Dhaka Structure Plan 2016-35' and in this report it was indicated that on an average five lakh people enter or exit from Dhaka every day. The report says that Gabtoli has the highest passengers, 50 thousand per day while some 35 thousand passengers take Sayedabad, 32 thousand take Fulbaria and Mohakhali bus terminal 20 thousand. However, there are hardly any planned initiatives for the commuters in the four bus stations of the capital (The Asian age, 27 February 2016).

### 5.5 Road Transportation System in Greater Dhaka

Transport is an important component of economic activity in all countries of the world. Transport system of Bangladesh consists of roads, railways, water and air. But among the various modes of transport, road transport has been playing a significant role in transporting passengers and commodities. Different types of road transport are seen in Greater Dhaka, but at present, major modes of transport are motorcycle, private car, microbus, truck, minibus, bus, taxi, CNG run auto rickshaw, rickshaw etc. Recent time, a new type of vehicle locally known as ‘easy bike’ which is basically operated by battery is also found in some areas. Among all the public mode of transport, bus is the cheapest and for this it has turned into the main mode of transport for dwellers of GDA in Bangladesh. But the number of buses is not enough to its demand. The number of bus routes is increasing every year to meet the travel demand of the people. However, the number of trips is still insufficient to meet the present demand.

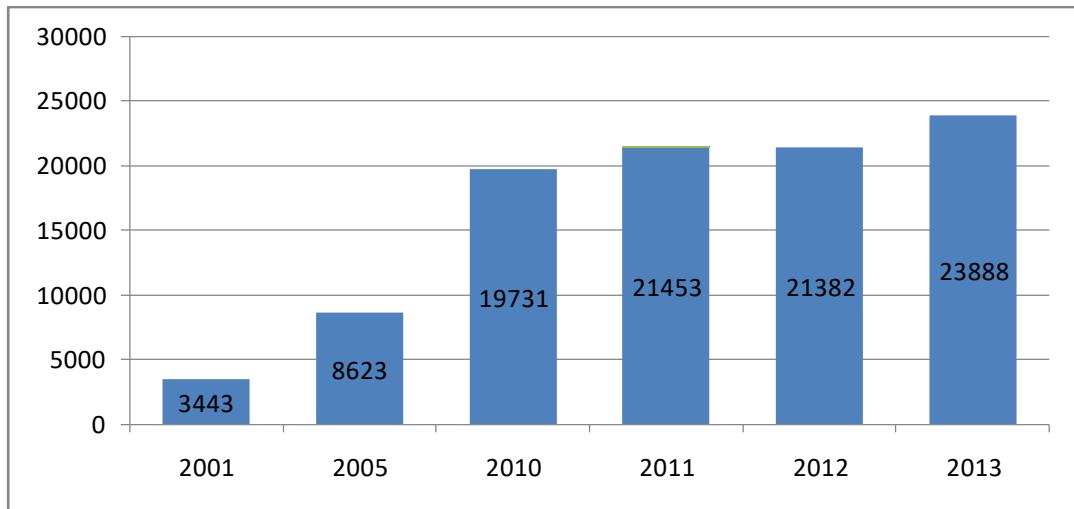
**Figure-5.1: Share of Total Newly Registered (2001-2013) Vehicles in GDA**



Source: BRTA

Truck is an important mode to transport goods within the districts of Bangladesh. The number of truck trips within Dhaka city is increasing every year. In 2009, a total of 28,706 trips were calculated within 24 hours (JICA,2010).

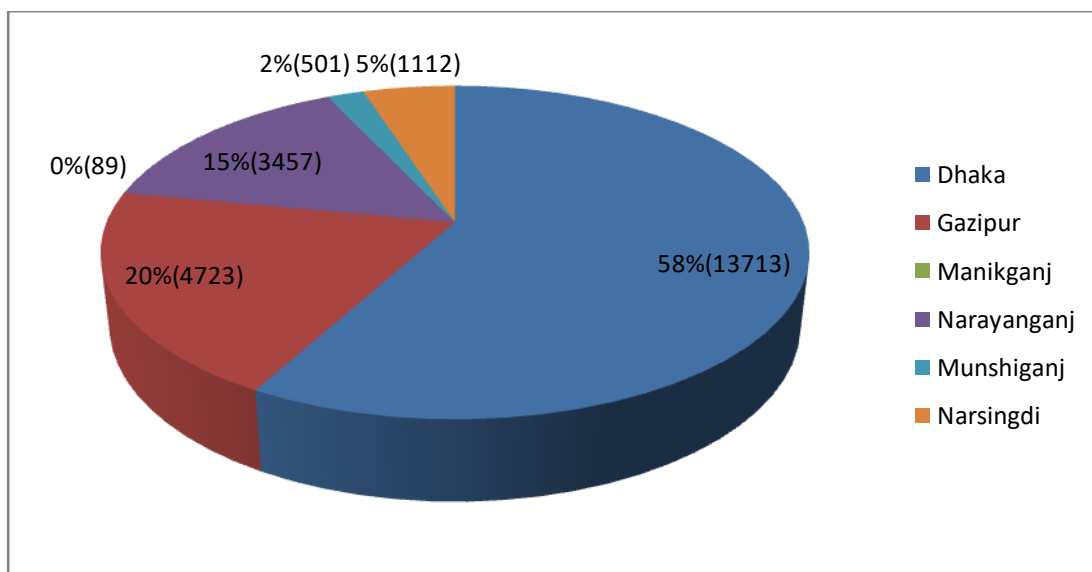
**Figure-5.2: Number of Trucks in GDA from 2001 to 2013**



Source: BRTA

Three-wheeler auto rickshaw (CNG) plays a vital role in public transportation system of Dhaka. In 2013, there are around 23.5 thousand CNG's operating in GDA as per BRTA. Out of these, around 14,000 units are registered in Dhaka district while Gazipur and Narayanganj have also significant numbers of CNG among the other districts of GDA.

**Figure-5.3: Share in CNGs (2013) among GDA Districts**



Source: BRTA

Over the last few years a new type of transport added to public transportation system of GDA. This is basically one type of rickshaw driven with rechargeable battery and is known as ‘Easy bike’. Cheap fare system is the reason of easy bike’s popularity as it can carry 4-6 passengers and the fare will be shared by each passenger. However, easy bike is not regarded as a vehicle by the Ministry of Road Transport and Bridges and no registered license being issued by BRTA. Therefore, all easy bikes seen in different parts of GDA are illegally operated.

In GDA, private cars also play an important role in transportation system. Private cars are mainly used by the middle and high income people. Only in Dhaka city private cars occupy at least 70 percent of road space (The daily Star, 23January, 2011). The number of private cars in GDA is increasing year by year at a rapid rate. As per BRTA, registered number of private cars in GDA, as of 2013 is approximately 193,000.

Rickshaws are another non-motor vehicles found in different parts of GDA, particularly Dhaka city is known to be a city of rickshaws. The registered number of rickshaws in Dhaka city according to DNCC and DSCC are around 100,000. In many reports, it is published that quite a number of unregistered rickshaws are operating in Dhaka. Out of all the districts of GDA, Dhaka is holding 88% of the rickshaws while Narayanganj and Gazipur districts are at number 2 and 3 position respectively. People in Dhaka city mostly use rickshaw for travelling short distance 1-3 kilometer and students and business persons are using more than 90% of these rickshaw trips (JICA,2010).

**Table-5.8: Number of Registered Rickshaws in Urban GDA**

Districts	Number of Rickshaw (2011)
Dhaka	290247
Gazipur	12056
Manikgonj	4112
Munshiganj	1953
Narayanganj	16843
Narsingdi	4932
Total	330143

Source: Statistical Year Book of Bangladesh 2010 & 2012, BBS

Motorcycle is becoming a popular mode of transport in Dhaka city as it can be driven through a narrow space and considered to be a useful transport to reach the destination in the midst of the city's traffic congestion. Besides, fuel consumption is quite low compared to other private vehicles.

## 5.6 Road Traffic Accidents in Greater Dhaka

Road traffic accidents, injuries and fatalities are of great concern in Greater Dhaka area of Bangladesh. It has turned into a serious problem here. The magnitude of the problem however varies considerably by region. But the rate of road accidents in Greater Dhaka is comparatively high than the other parts of the country. Because Greater Dhaka is located at the centre of Bangladesh and the capital city Dhaka is also located at this part. The whole country is connected with Dhaka by roads and as a result the pressure of different types of vehicles on these roads is more than others. Greater Dhaka covers Dhaka, Gazipur, Manikganj, Munshiganj, Narayanganj, Narsingdi districts that are connected with each others.

Every year a big number of road accidents took place in Greater Dhaka area though a large percentage of accidents remain unreported due to lack of systematic information. It is true that there is no district wise complete updated statistics on road traffic accidents in Bangladesh. So it is tough to present the real scenario of road accidents in Greater Dhaka area. But to get an idea using data from annual report of BRTA which was published in 2008 can be presented below. Though the situation in this area is worsening over the past few years.

**Table-5.9: Recorded Casualty Accidents by District (Zila) in Greater Dhaka**

Greater Dhaka Area	Number of accidents			Total Accidents
	Severity			
	Fatal	Grievous	Simple injury	
Dhaka District	79	11	02	92
Dhaka City	392	133	34	559
Gazipur	25	5	1	31
Manikganj	14	11	5	30
Munshiganj	7	5	0	12
Narayanganj	89	22	2	113
Narsingdi	67	23	8	98

Source: BRTA Annual Report-2008

The figure depicts the recorded casualty accident rates from the year 1999 to 2007 of different districts in Greater Dhaka Area. These accidents included the fatalities, grievous and simple injuries. It is seen that among the number of total accident most of the accidents took place in Dhaka City in which out of 559 accidents 392 were fatal accidents. Dhaka, the capital city of Bangladesh, is the most vulnerable city both in terms of total number of accidents and accident rates. The complexity of the road environment with mixed traffic is reality of road transportation in Dhaka, where road planning and designs are not appropriate for mixed traffic conditions. As a result there is a high level of conflicts between motorized and non motorized transport here. Road accidents among the districts of Greater Dhaka area Narayanganj were the highest in number and it was 113. Then Narsingdi 98, Dhaka 92, Gazipur 31 and Manikganj 30. Lowest number of road accident took place in Munshiganj and it was only 12.

In another, from ARI database it was found that in 2000 to 2010 total 4953 road accidents took place in Greater Dhaka area. Among them most of the accidents occurred at Narayanganj district and that was 1230. After Narayanganj highest number (977) of accidents was in Dhaka and the lowest number was in Munshiganj and that was 595.

**Table-5.10: Number of Accidents by Year in Different Districts of Greater Dhaka**

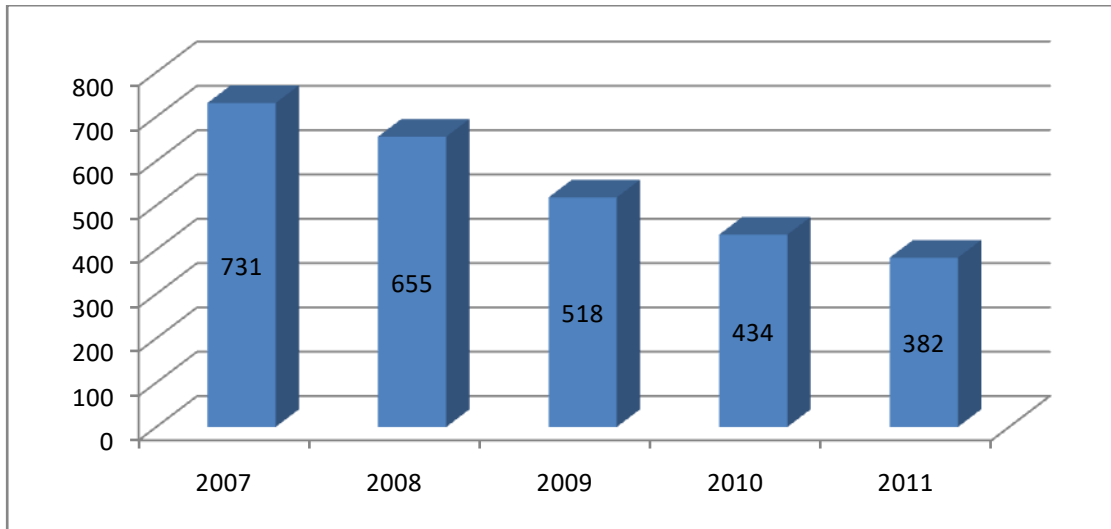
District	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Dhaka	60	58	86	105	78	73	141	179	99	38	60	977
Manikganj	54	42	60	80	77	63	76	38	30	75	57	652
Munshiganj	79	60	49	103	72	74	87	32	12	16	11	595
Narayanganj	116	65	102	146	151	152	142	126	119	54	57	1230
Narsingdi	78	69	56	74	92	67	77	74	103	88	37	815
Gazipur	38	30	86	53	65	65	130	68	34	71	44	684
Total	425	324	439	561	535	494	653	517	397	342	266	4953

Source: ARI database.

But it is clear that number of accidents have been changing and fluctuating over the years. It is found that the number of accidents in 2000 was 425. After that almost every year the number of accidents has been increased except some specific years. The highest number of accidents reported is 653 in the year 2006. Till 2006 the number of accident fluctuated with high rate but after 2006 it has been decreased gradually.

Dhaka, the capital city of Bangladesh, is the most vulnerable city both in terms of total number of accidents and accident rates. A total number of 2,720 accidents occurred during 2007-2011 in Dhaka city which is one of the causes to be a big number of accidents in Greater Dhaka area.

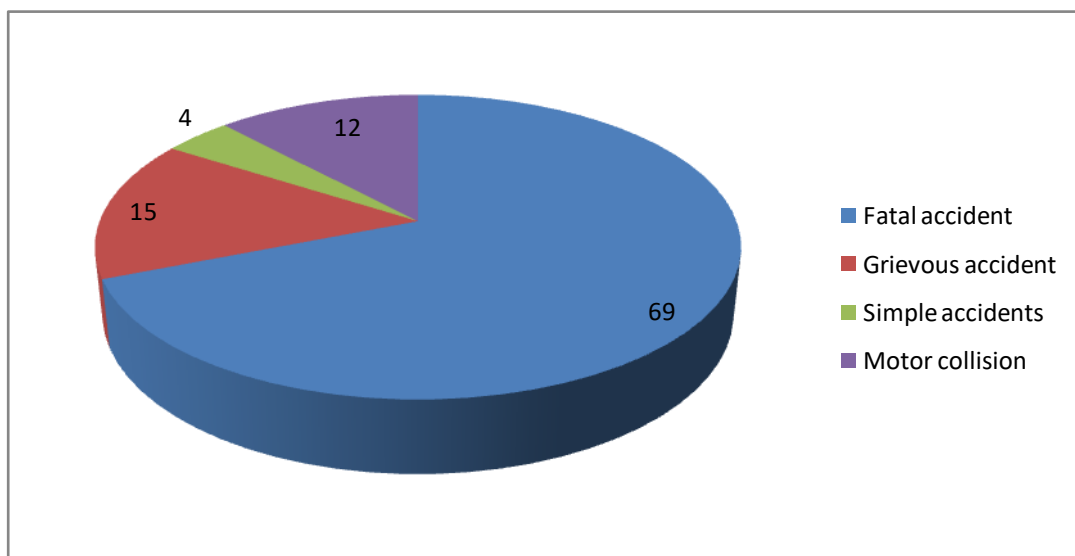
**Figure-5.4 : Total Number of Recorded Accidents in Dhaka City (2007-2011)**



Source: Ahmed and Ahmed, 2013

From the above figure, it is clear that numbers of motor collision accidents in Dhaka City have been decreased gradually over the years from 2007 to 2011. But it is not accepted by all.

**Figure-5.5: Traffic Accidents in Dhaka City by Severity (2007-2011)**



Source: Ahmed and Ahmed, 2013

From the analyses it was evident that fatal accidents are dominant in DMP area (Figure 5.5). About 69% accidents caused fatality, while 19% accidents caused injury. Motor collision accidents occur in small numbers in Dhaka City and that is 12%.

Greater Dhaka area is highly vulnerable to road accident all over the country due to the high population density and huge pressure of vehicle on its roads. The thriving motorization, nature of road infrastructure, the walking behaviour and vibrancy of the people in the area also important factors of road accidents.

## **CHAPTER SIX**

### **Road Traffic Accidents and Related Issues**

Road traffic injuries and fatalities have been turned into an alarming issue throughout the world. This problem of road traffic accidents and resulting injuries and fatalities is however more acute in low and middle income countries. Bangladesh is no exception as a developing country. This chapter represents the overall road traffic scenario in global and Bangladesh perspective. It also presents the causes and the impact of road traffic accidents.

#### **6.1 Road Traffic Accidents: Global Perspective**

Road traffic accident at present has become a global concern. All the people of the world irrespective of race, religion, caste, creed and age have the chance of being victim by road traffic accidents. For this reason this issue is addressing worldwide as a burning issue. Every year a big number of people are died and injured due to road traffic accidents. It has turned out to be a significant problem both in terms of loss of human life and economic consequences. No country of the world is free from this problem. The International Federation of Red Cross and Red Crescent Societies have described the situation as “a worsening global disaster destroying lives and livelihoods, hampering development and leaving millions in greater vulnerability”(Cater and Walker,1998).

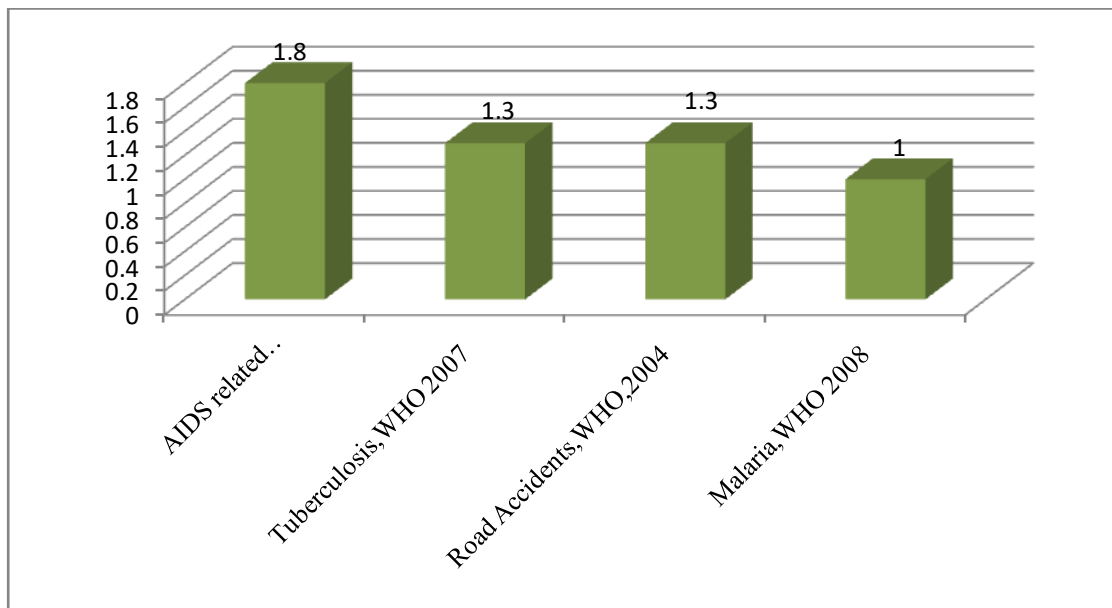
The problem of RTA is not new. The problem began before the introduction of the car. However, it was with the car – and subsequently buses, trucks and other vehicles – that the problem escalated rapidly. By various accounts, the first injury crash was supposedly suffered by a cyclist in New York City on 30 May 1896, followed a few months later by the first fatality, a pedestrian in London (WHO, 2004:33).

Road traffic injuries pose a global threat to health and the socio-economic development. In a report of “Global Status Report on Road Safety” World Health Organization (WHO) estimates that road traffic crashes cause over 1.2 million deaths and between 20 and 50 million suffer non-fatal injuries per year and these injuries are an important cause of disability worldwide. The WHO anticipates, unless immediate action is taken, that over the next 15 years, the number of people dying annually in road traffic crashes may rise to



2.4 million. The increase will probably entirely occur in low and middle income countries and road traffic injuries will become there one of the three major causes of death (WHO, 2009). In another WHO estimates, road traffic injuries are a leading cause of death, killing nearly 1.3 million people annually more than 3000 deaths each day. Globally, road traffic injuries are already today among the three major causes of death for the age group 5 to 44 years of age (Ahmed,2012:4).

**Figure-6.1: Road Safety is a Growing Health and Development Issue**



Source: Ahmed,2012:4

At present, road traffic fatalities are the 9th leading cause of death and disability in the world (Table:6.1). The World Health Organization (WHO) has described them as ‘hidden epidemics’ and has forecast that it will be the 5th leading cause of death worldwide and the 2nd leading cause of Disability-adjusted life year losses in many developing countries by 2030 (Murray and Lopez, 1996).

**Table-6.1: Leading Causes of Death, 2004 and 2030 Compared**

2004			2030		
RANK	LEADING CAUSRS	%	RANK	LEADING CAUSRS	%
1.	Ischaemic heart disease	12.2	1	Ischaemic heart disease	14.2
5	Cerebrovascular disease	9.7	2	Cerebrovascular disease	12.1
3	Lower Respiratory infections	7.0	3	Chronic obstructive pulmonary disease	8.6
4	Chronic obstructive pulmonary disease	5.1	4	Lower Respiratory infections	3.8
5	Diarrhoeal disease	3.6	<b>5</b>	<b>Road traffic injuries</b>	3.6
6	HIV/AIDS	3.5	6	Trachea,bronchus,lung cancers	3.4
7	Tuberculosis	2.5	7	Diabetes mellitus	3.3
8	Trachea,bronchus,lung cancers	2.3	8	Hypertensive heart disease	2.1
<b>9</b>	<b>Road traffic injuries</b>	2.2	9	Stomach cancer	1.9
10	Prematurity and low birth weight	2.0	10	HIV/AIDS	1.8

Source; WHO, 2009,P-ix

It is mentioned before that road traffic accidents are emerging as one of the leading causes of death, injuries and disability worldwide. People of any age can be victim of road traffic accidents at any time. But by age it should be noted that road traffic injuries affect mostly the young and the middle age people in the society. Road Traffic Accidents are the world's number one cause of death among young adults in the age range of 15-29 years old that is their most productive year. Among both children aged 5-14 years and adult people aged 30-44 years road traffic injuries are the second and third leading causes of death respectively worldwide.

**Table-6.2: Leading Causes of Death by Age, World, 2004**

Rank	0-4 YRS	5-14YRS	15-29YRS	30-44YRS	45-69YRS	70+ YRS	Total
1	Perinatal cause	Lower respiratory infections	<b>Road traffic injuries</b>	HIV/AIDS	Ischaemic heart disease	Ischaemic heart disease	Ischaemic heart disease
2	Lower respiratory infections	<b>Road traffic injuries</b>	HIV/AIDS	Tuberculosis	Cerebrovascular disease	Cerebrovascular disease	Cerebrovascular disease
3	Diarrhoeal disease	Malaria	Tuberculosis	<b>Road traffic injuries</b>	HIV/AIDS	Chronic obstructive pulmonary disease	Lower respiratory infections
4	Malaria	Drowning	Violence	Ischaemic heart disease	Tuberculosis	Lower respiratory infections	Perinatal cause
5	Measles	Meningitis	Self-inflicted injuries	Self-inflicted injuries	Chronic obstructive pulmonary disease	Trachea,bronchus,lung cancer	Chronic obstructive pulmonary disease
6	Congenital anomalies	Diarrhoeal disease	Lower respiratory infections	Violence	Trachea,bronchus,lung cancer	Diabetes mellitus	Diarrhoeal disease
7	HIV/AIDS	HIV/AIDS	Drowning	Lower respiratory infections	Cirrhosis of liver	Hypertensive heart disease	HIV/AIDS
8	Whooping cough	Tuberculosis	Fires	Cerebrovascular disease	<b>Road traffic injuries</b>	Stomach cancer	Tuberculosis
9	Meningitis	Protein-energy malnutrition	War and conflict	Cirrhosis of the liver	Lower respiratory infections	Colon and rectum cancer	Trachea,bronchus,lung cancer
10	Tetanus	Fires	Maternal hemorrhage	Poisoning	Diabetes mellitus	Nephritis and nephrosis	<b>Road traffic injuries</b>
11	Protein-energy malnutrition	Measles	Ischaemic heart disease	Maternal hemorrhage	Self-inflicted injuries	Alzheimer and other dementias	Diabetes mellitus
12	Syphilis	Leukaemia	Poisoning	Fires	Stomach cancer	Tuberculosis	Malaria
13	Drowning	Congenital anomalies	Abortion	Nephritis and nephrosis	Liver cancer	Liver cancer	Hypertensive heart disease
14	<b>Road traffic injuries</b>	Trypanosomiasis	Leukemia	Drowning	Breast cancer	Oesophagus cancer	Self-inflicted injuries
15	Fires	Falls	Cerebrovascular disease	Breast cancer	Hypertensive heart disease	Cirrhosis of liver	Stomach cancer
16	Tuberculosis	Epilepsy	Diarrhoeal disease	War and conflict	Nephritis and nephrosis	Inflammatory heart disease	Cirrhosis of liver
17	Endocrine disorders	Leishmaniasis	Falls	Falls	Oesophagus cancer	Breast cancer	Nephritis and nephrosis
18	Upper respiratory infections	Violence	Meningitis	Diarrhoeal disease	Colon and rectum cancer	Prostate cancer	Colon and rectum cancer
19	Iron deficiency anemia	War and conflict	Nephritis and nephrosis	Liver cancer	Poisoning	Falls	Liver cancer
20	Epilepsy	Poisoning	Malaria	Trachea,bronchus,lung cancer	Mouth and oropharynx	<b>Road traffic injuries</b>	Violence

Source: WHO, 2009:3

The above table indicates the position of road traffic accidents among the global leading causes of death. The picture is not positive at all. Moreover it is very alarming as WHO predicts that, unless immediate action is taken, road traffic injuries will rise from the current position to become the fifth leading cause of death by 2030(WHO,2009).

The number of road traffic injuries has continued to rise in the world as a whole, but road traffic fatalities and mortality rates show clear differences in the pattern of growth between high-income countries, on the one hand, and low-income and middle-income countries on the other. WHO states the overall global traffic injury mortality rate of 19.0 per 100,000 populations. Low-income and middle-income countries have a rate slightly greater than the global average, while that for high-income countries are considerably lower. 90% of the world’s fatalities on the roads occur in low and middle income countries, although these countries only have about 48% of the world’s registered vehicles. Only 10% of road traffic deaths occur in high income countries (WHO,2004:33-34).

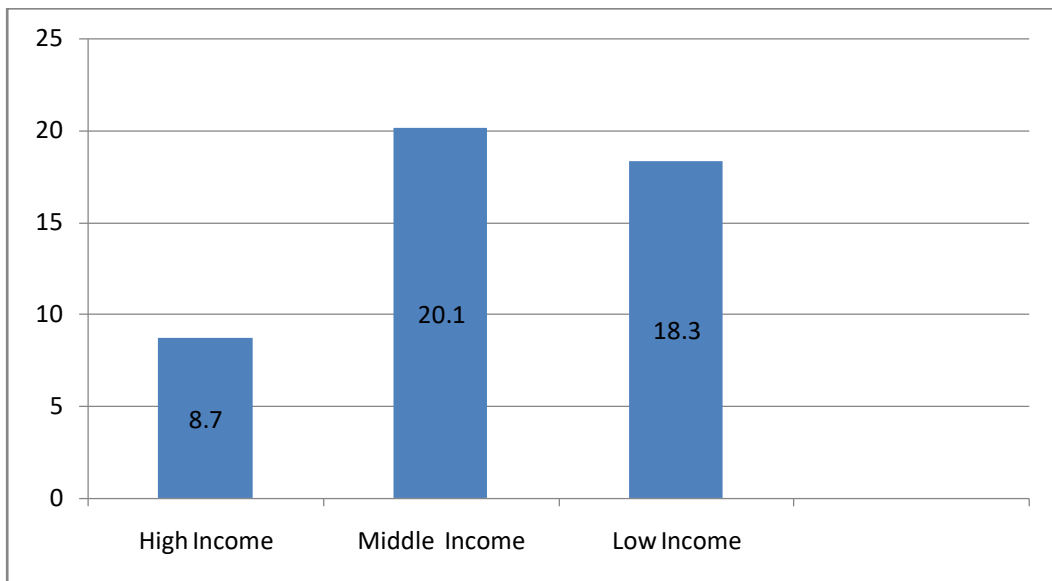
**Table-6.3: Estimated Global Road Traffic Injury-Related Deaths**

Countries	Number	Rate per 100,000 population	Proportion of total (%)
Low-income and middle-income countries	1 065 988	20.2	90
High-income countries	117 504	12.6	10
Total	1 183 492	19.0	100

Source: WHO, 2004:34

In an another report “*Global Status Report on Road Safety-2013*” reveals that the overall global road traffic fatality rate is 18 per 100,000 population. However, middle-income countries have the highest annual road traffic fatality rates, at 20.1 per 100,000, while the rate in low income countries is 18.3 per 100,000 and high-income countries is lowest, at 8.7 per 100,000.

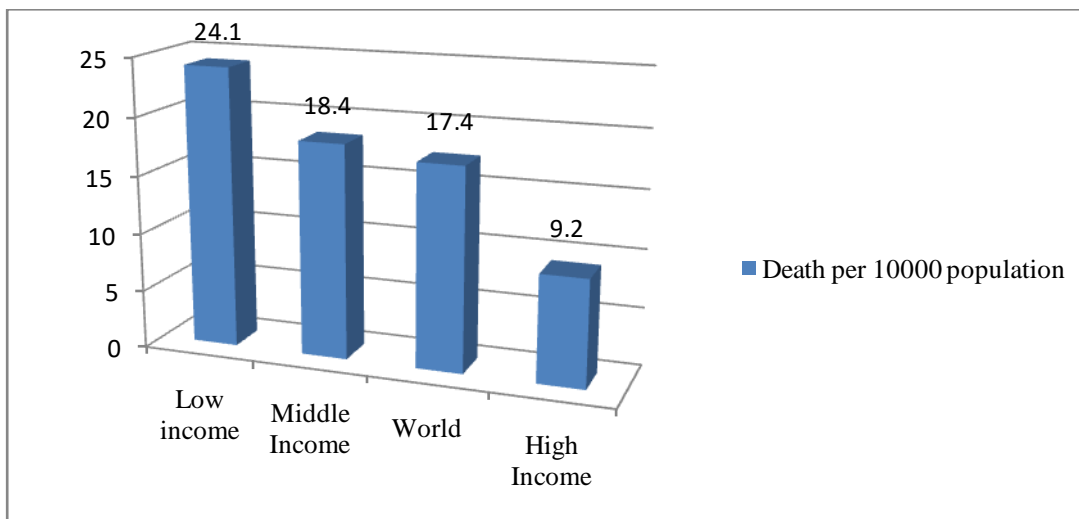
**Figure-6.2: Road Traffic Death Rates Per 100,000 Population**



Source: WHO, 2013,p.4

In a report “*Global Status Report on Road Safety-2015*” reveals slide difference from the previous one. In this report it is revealed that the overall global road traffic fatality rate is 17.4 per 100,000 population. However, low-income countries have the highest annual road traffic fatality rates, at 24.1 per 100,000, while the rate in middle income countries is 18.4 per 100,000 and high-income countries is lowest, at 9.2 per 100,000.

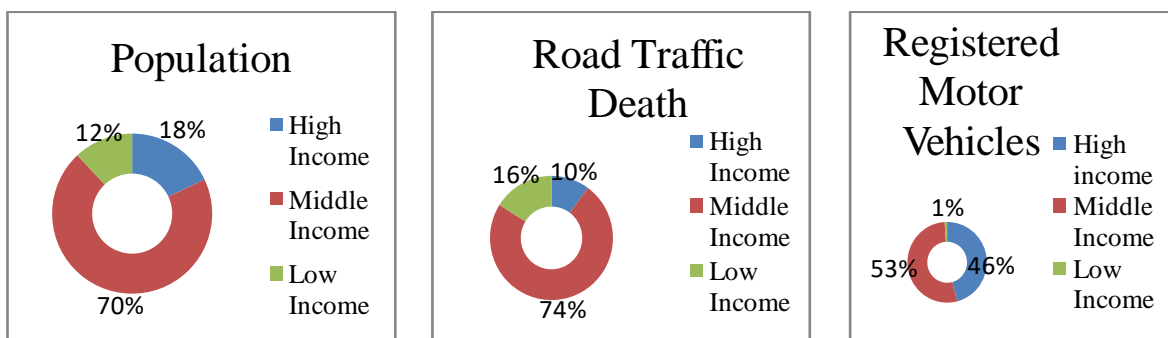
**Figure-6.3: Road Traffic Deaths Per 100,000 Population**



Source: WHO,2015, P-5

There are relations among the number of population, registered vehicles and road traffic deaths. Generally, largest number of vehicles indicates highest number of road traffic deaths. But it is not true for the high income countries. Although high income countries have the largest number of registered vehicles, they have the lowest population as well as the lowest percentage of road traffic death. On the other hand, the percentage of deaths due to road accidents in low and middle income countries is high though they have a much lower share of the registered vehicles. Here highest population works as one of the contributory factors for road traffic accidents. Ninety-percent of road traffic deaths occur in low- and middle-income countries, and while these countries account for 82% of the world's population. Moreover, these countries account for only 54% of the world's registered vehicles ( Figure-6.4).

**Figure-6.4: Population, Road Traffic Deaths and Registered Motorized Vehicles, by Country Income Status**

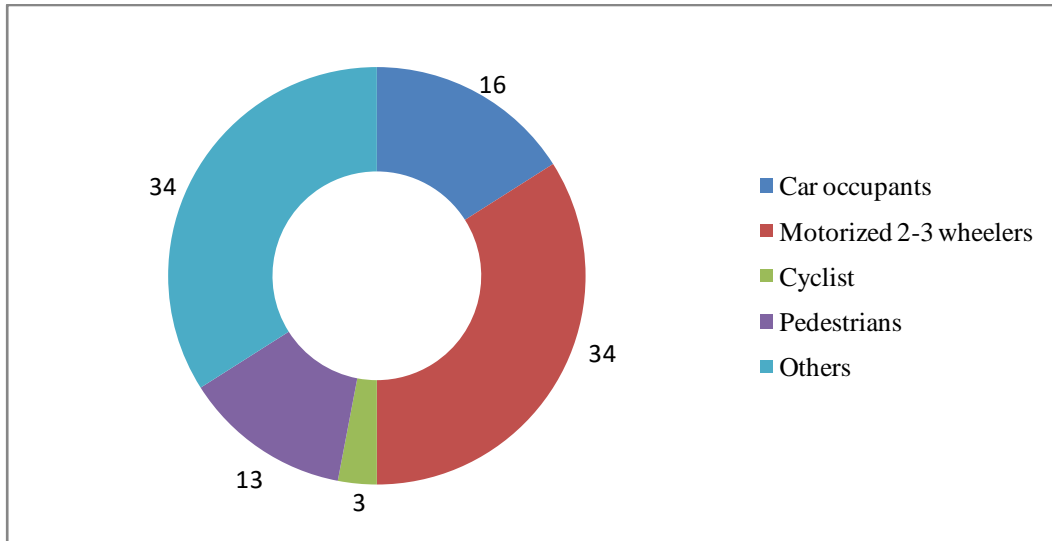


Source: WHO,2015,P-4

Road transport system is the main means for carrying passengers in any country and many people use road transport everyday for their daily purposes. But all types of road users are not equally vulnerable of road traffic accidents. Half of the world's road traffic deaths occur among motorcyclists (23%), pedestrians (22%) and cyclists (5%) with 31% of deaths among car occupants and the remaining 19% among unspecified road users. However, in most low- and middle-income countries, a much higher proportion of road users are pedestrians, cyclists and users of motorized two- or three-wheeled vehicles than in high income countries. As a result, low-income countries have the highest proportion of deaths among vulnerable road users (pedestrians, cyclists and motorcyclists combined) at 57%, with this figure lower in both middle-income (51%) and high-income countries (39%)(WHO,2013:6).

Almost same picture is found in the South-East Asian region. Here vulnerable road users like- pedestrians, cyclists and motorcyclist make up 50% of all road traffic deaths (Figure-6.5).

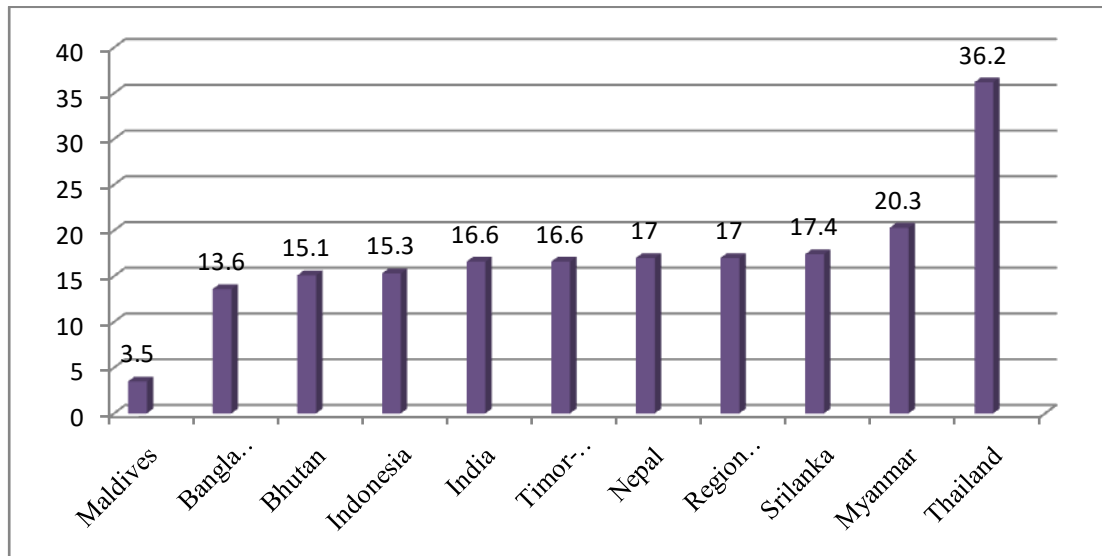
**Figure-6.5: Deaths by Road User Type, South-East Asia Region**



Source : WHO,2016,p-6

There is also considerable disparity in rates between countries within the same region. The European Region has the highest inequalities in road traffic fatality rates. There are approximately 316,000 road traffic deaths occur in the South-East Asia Region each year that is approximately 25% of the world's road traffic deaths. The region's road traffic fatality rate, at 17.0 per 100,000 population. However, there is considerable variation in fatality rates within the region, ranging from 3.5 per 100,000 in the Maldives to 36.2 per 100,000 population in Thailand.

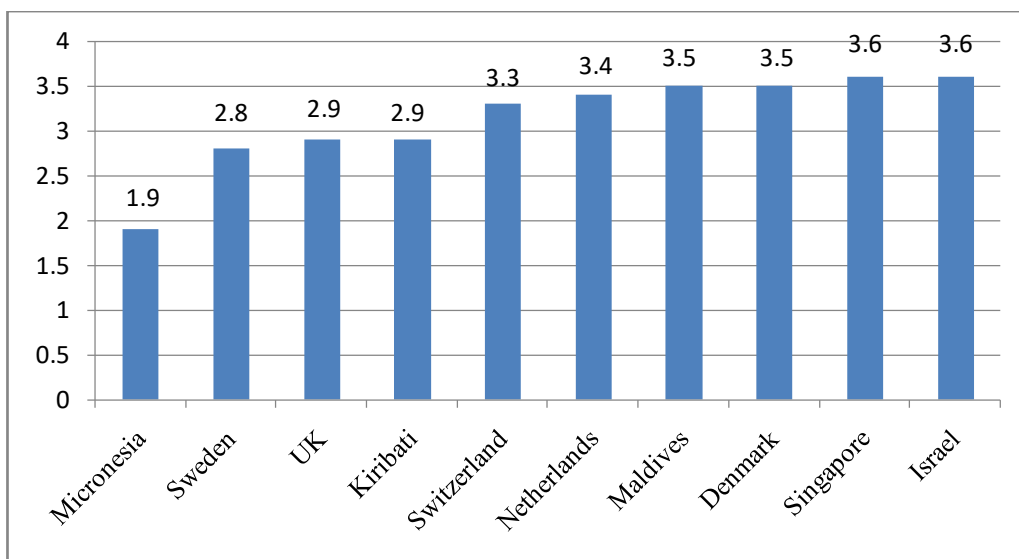
**Figure-6.6: Road Traffic Fatalities Per 100,000 Population in South-East Asian Region**



Source: WHO,2016

Road traffic accidents fatalities rate vary country to country of the world. The World Health Organisation (WHO) has released its Global Road Safety report 2015, where Libya was the nation with the highest rate of road traffic deaths – some 73.4 deaths per 100,000 people every year. On the other hand WHO estimated the lowest road traffic death rates in the Federated States of Micronesia, which has a rate of just 1.9 deaths per 100,000 people.

**Figure-6.7: Countries with the Fewest Road Traffic Deaths (Per 100,000 Population, 2015)**



Source: WHO,2015



Second on the list is Sweden, with a rate of 2.8. The United Kingdom is in top three, with a rate of 2.9 deaths per 100,000 people.

Though road traffic accident is common phenomenon in all over the world, it is not inevitable. Evidence from many countries of the world shows that dramatic successes in preventing road traffic injuries can be achieved through combined efforts at national level. In 2010, the United Nations General Assembly adopted resolution 64/2551, which proclaimed a Decade of Action for Road Safety. The goal of the Decade (2011–2020) is to stabilize and reduce the increasing trend in road traffic fatalities, saving an estimated 5 million lives over the period (WHO,2013:1).

Since the 1960s and 1970s, there has been a decrease in the numbers and rates of fatalities in high-income countries such as Australia, Canada, Germany, the Netherlands, Sweden, the United Kingdom and the United States of America through coordinated, multi-sectoral response to the problem. Though about 60% of the world's total vehicular concentration is seen in highly motorized countries; they witness only 14% of total road fatalities (Mittal,2008). Even death rates have been declining over the last four or five decades in many high income countries. In contrast, numbers of road traffic deaths have risen steadily since the late 1980s in the developing countries of Middle East and North Africa and in Asia.

In all parts of the world, whatever the rates of fatalities of road accidents, there is a need to ensure road safety for all its users. For this reason first of all policy makers, decision makers, professionals and practitioners should recognize that the road traffic accident is a problem. Then necessary steps should be taken to increase institutional capacity across a range of interlinking sectors, backed by strong political commitments.

## **6.2 Road Traffic Accidents: Bangladesh Perspective**

Bangladesh, a country of South Asia, is densely populated and low lying country with about 160 million people living in a area of 1,47,570 sq. Km. It is called a land of rivers. There are numerous rivers, tributaries, tidal channels and very low elevation largely determined the nature of transportation system in earlier days in the BENGAL DELTA. As a result water transport was the only easiest modes of transportation in many places even a few decades ago. But after the independence of Bangladesh, road transportation emerged as the most important mode of communication. War-ravaged roads, culverts and bridges were reconstructed rapidly. Some national highways along with new bridges were

built. All the district headquarters were connected with the national highway network. Now road transport has become the main mode of communication and also an important part of economy. Furthermore, the road network in the country is expanding dramatically day by day. At the time of independence, it was only 3,000 km now it is over 55,000 km today. A large number of different agencies are involved in planning the development of road transportation, management of the traffic and maintenance of roads and highways. The Ministry of Road Transport and Bridges is the highest regulatory and policy making body of the government in the sector. The Roads and Highways Department is responsible for construction, re-construction and maintenance of national highways, regional and feeder roads. Under the jurisdiction of Roads and Highways department (R&HD) in 2001, there was about 20,854 km of highways, which included 3,144 km of national highways, 1,746 km of regional roads and 15,964 km of Type A feeder roads. In 2011 it was about 21,000 km, which includes over 3478 km national highways and 4221 km of regional highways, 18,258 bridges to connect the roads. But from the latest data of Roads and Highways department (R&HD) it is found that total length of roads in Bangladesh is now 21,483.21 km.

**Table-6.4: Various Categories of Roads under Roads and Highways Department**

<b>Type of roads</b>	<b>Length</b>
National Highway	3544.06 km
Regional Highway	4280.02 km
Zilla roads	13,659.13 km
Total	21,483.21 km

Source: R&HD website

The Local Government Engineering Department (LGED) under the Ministry of Local Government and Rural Development is entrusted with the construction of smaller feeder roads connecting growth centres, villages and upazila headquarters. Total length of road network constructed by LEGD is about 149,167 km consisting of 14,393 km of Type B feeder road and three types of rural road R1, R2 and R3, respectively of lengths 37,827 km, 49,538 km and 47,409 km (Islam,2003). Road network is developing and expanding day by day. Rapid urbanization and motorization is one of the contributory factors of expanding road network. Urbanization in Bangladesh has been increasing steadily over the last 10 to 20 years with current urbanization level at around 24 percent. The percentage of

people live in urban areas is expected to rise to 30 percent by the year 2010 and to 50 percent by the year 2025. Even the rate of urbanization is alarmingly high compared with other developing countries (e.g. India 4%, Pakistan 5%). The current rate of urban population growth in Bangladesh is found to be the highest in Asia. Rural-urban migration is considered to have made the major contribution towards the rapid growth of urban population in Bangladesh (Hoque et al, 2005). Growth of urban population leads rapid growth of motor vehicles which is one of the contributory factors of road traffic problem in any country. Kopits and Cropper (2003) have observed that in low-income countries, the growth in motor vehicles that follows economic growth usually brings in its wake increased road traffic accidents.

According to the World Health Organization (WHO) estimation, every year nearly 1.3 million and each day more than 3,000 deaths occurred due to road accidents which are a leading cause of death, killing. On the other hand more than 20-50 million people sustain non-fatal injuries from road accident which is an important cause of disability worldwide. Approximately 90% of these deaths occur in low and middle-income countries-70% of total road traffic deaths occur in low income countries, which claim less than half the world's registered vehicle fleet (WHO, 2011).

Road accident rates in developing countries are often 10-70 times higher than in developed countries (Sheikh,2004). In Bangladesh road traffic accidents are now growing and serious problem and the safety situation is worsening day by day. Fatality rate in Bangladesh is almost 25 times higher comparing with that of most of the developed countries, 8 times higher than that of Thailand and 3 times higher than that of India (Jahan,2006). With the growth of urbanization, motorization and hence number of road users, the number of accidents and fatalities on road are increasing particularly in the recent years.

Road safety problem has become one of the major issues for the transport regulators and traffic law enforcers in Bangladesh. The main causes of road accidents in Bangladesh are over speeding, overloading, and overtaking by motor vehicles. Unregulated movement of non-motorized vehicles along with motorized vehicles on the same route is another major cause for road accidents. Lack of awareness and reckless driving habits also result in frequent accidents. The heterogeneity of traffic, plying of modes with varying speed and maneuvering time make the intersections of cities of Bangladesh even more hazardous (Anowar, et al,2008). Bangladesh Passengers' Welfare Association claimS that around 3 lakh unfit vehicles and 10 lakh locally made three-wheelers like Nasiman, Kariman,

Bhatbati and easy-bikes, all illegal are mainly responsible for the road accidents in Bangladesh (The Daily Star, 10 January, 2016).

Though road traffic accident is a common phenomenon in Bangladesh, it is not possible to give any concrete figure of deaths or injuries in accidents. In fact, there is no holistic government or private studies on road accidents and their impacts on livelihood patterns of accident victims. It can be said that Bangladesh has one of the highest fatality rate in road traffic accidents. According to the statistics provided by police, road accident in Bangladesh claims on an averages 4,000 lives and injure another 5,000 in a year. However WHO estimates that the actual fatalities could well be 20,038 each year (WHO, 2009). Generally, Bangladesh Police are the main source of data relevant to road accidents as they are formally assigned to collect and record all the accidents in the Accident Report Form (ARF) and then the data used by BRTA and Accident Research Institute of Bangladesh University of Engineering and Technology (BUET), Dhaka. The trend of road traffic accidents in Bangladesh can be presented using data collected by police in table.

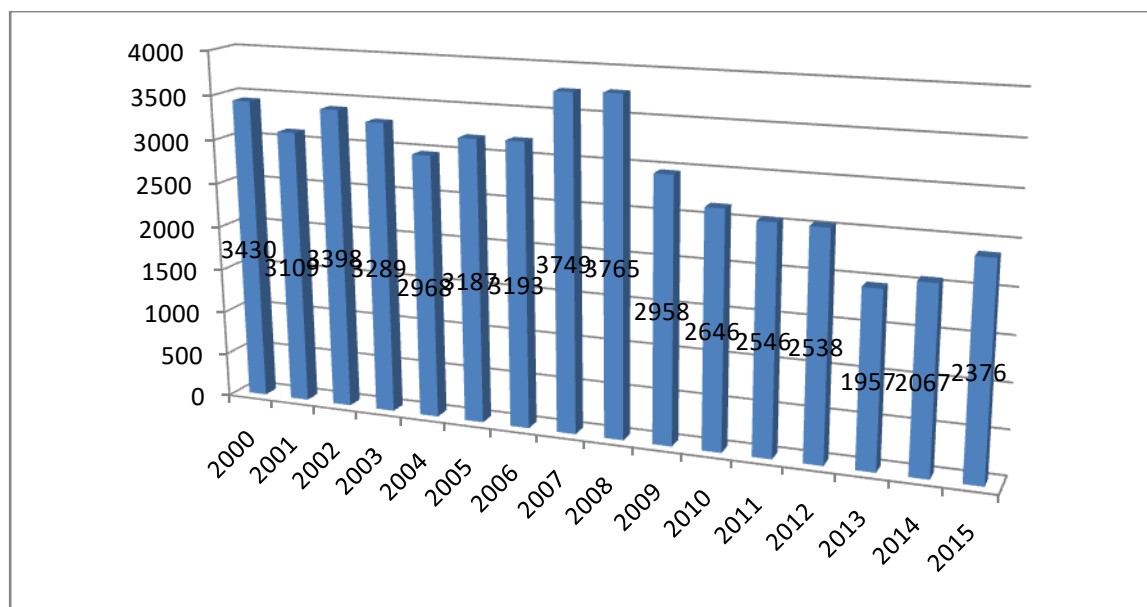
**Table-6.5: Police Reported Accidents in Bangladesh (1971 to 2015)**

Year	No. of accidents	No. of fatalities	No. of injuries	Total no. of casualties
1971	759	75	170	245
1972	1,140	187	421	608
1973	1,394	268	490	758
1974	1,490	432	631	1,063
1975	1,404	356	769	1,125
1976	1,513	428	1,006	1,434
1977	2,004	551	939	1,490
1978	2,683	665	1,478	2,143
1979	3,022	744	1,389	2,133
1980	2,956	791	1,483	2,274
1981	3,222	928	1,897	2,825
1982	2,782	1,009	2,172	3,181
1983	3,195	1,116	3,515	4,631
1984	3,787	1,242	2,587	3,829
1985	3,923	1,463	2,741	4,204
1986	1,568	1,169	1,651	2,820
1987	1,521	1,156	1,988	3,144
1988	1,890	1,367	2,083	3,450
1989	2,986	1,867	3,016	4,883
1990	3,276	1,844	2,687	4,531
1991	3,224	1,982	2,929	4,911
1992	4,012	2,317	4,509	6,826
1993	3,134	1,487	2,434	3,921
1994	3,013	1,597	2,686	4,283
1995	3,346	1,653	2,864	4,517

1996	3,730	2,041	3,300	5,341
1997	5,448	3,162	5,076	8,238
1998	4,769	3,085	3,997	7,082
1999	4,916	3,314	3,453	6,767
2000	4,357	3,430	1,911	5,341
2001	4,091	3,109	3,127	6,236
2002	4,918	3,398	3,772	7,170
2003	4,749	3,289	3,818	7,107
2004	3,917	2,968	2,752	5,720
2005	3,955	3,187	2,755	5,942
2006	3,794	3,193	2,409	5,602
2007	4,869	3,749	3,273	7,022
2008	4427	3765	3284	7049
2009	3381	2958	2686	5644
2010	2827	2646	1803	4449
2011	2667	2546	1641	4187
2012	2636	2538	2134	4672
2013	2029	1957	1396	3353
2014	2027	2067	1535	3602
<b>2015</b>	<b>2394</b>	<b>2376</b>	<b>1958</b>	<b>4334</b>

Source: Police Headquarters (FIR) Report

**Figure-6.8: Number of Deaths in Bangladesh in Cases of Road Accidents Filed by Police (2010-2015)**



From the above figures it is clear that number of accidents and number of fatalities have been changing and fluctuating over the years. There are various causes behind this changes and fluctuations. The road transportation system, number of motor vehicles, number of road users, trend of urbanization and other factors do not work equally all the times. It is found that the number of accidents in 1971 was 759 in which total no. of

casualties was 245. After that almost every year the numbers of accidents as well as casualties have been increased except some specific years. The highest number of accidents reported is 5,448 in the year 1997. Number of accidents has increased from 759 in 1971 to 2394 in 2015. The highest number of accident reported was 5,448 in the year 1997 where the total no. of casualties was 8,238. Some times the number of accident was not so high but casualties were high according to number of accidents. The highest number of casualties (7,170) was in the year of 2002 and among these numbers of fatalities were 3,398 and injuries 3,772. Till 2007 the number of accident fluctuated with high rate but after 2007 it has been decreased gradually. At the same time number of fatalities and injuries also decreased with some exceptions though the following data are not accepted by everybody.

According to World Health Organization’s “Global Status Report on Road Safety, 2015” around 21,316 people were killed in road accidents across the country in 2012 alone. The report said Bangladesh was among the 68 countries where road crashes had a rising trend but the government had not recognized the fact and seemed reluctant to take necessary steps to improve road safety.

It is said that there is a co-relation of high growth in motorization with road accidents. In Bangladesh the present growth in motor vehicles stands at 8% which is working as one of the important contributory factors leading to road traffic accidents. Though the poor countries have about 40 percent of world's motor vehicles but have 86 percent fatalities (Hoque et al., 2001). According to World Bank statistics, annual fatality rate from road accidents is found to be 85.6 fatalities per 10,000 vehicles. Hence, the roads in Bangladesh have become deadly (The Independent, 10 August, 2015).

**Table-6.6: Growth of Motor Vehicles and Road Accident Casualties in Bangladesh**

Year	Registered vehicles	Death	Injury	Total Casualties
2000	28764	3430	3211	6641
2001	42510	3109	3172	6281
2002	54877	3398	3770	7168
2003	59248	3289	3818	7107
2004	61202	2748	1080	5621
2005	65878	3187	2754	5941
2006	80305	3193	2409	5602
2007	121272	3749	3273	7022
2008	144419	3765	3284	7049
2009	145243	2958	2686	5644
2010	161178	2847	1803	4449
2011	172484	2467	1631	3858

Source: BRTA,2012.p.9

But the above figure does not show any clear trends of road traffic accidents with the growth of motor vehicles. In 2000 the number of registered vehicles was 28,764 and it has increased gradually which were 172,484 in 2011. On the other hand number of accident related deaths decreased according to the growth of vehicles. Though the number of registered vehicles increased every year, casualties were not increased accordingly. Highest numbers of casualties were in 2002 and lowest numbers of casualties were in 2011 when the number of registered vehicles was highest.

According to the latest report of the World Health Organization (WHO), at least 21,000 lives are lost and thousands of people are injured on the roads every year in Bangladesh though the experts estimates the number to be 10-15 times more than that of the deaths.. The information on an accurate number of injured and those disabled by road accidents is not available (The Daily Star, 08 December,2015).

According to Accident Research Institute (ARI) of BUET, during the previous 14 years total 49,777 numbers of accidents have taken place all over the country where 42,526 persons have been killed. From 2006-2012, total cycle accidents were 55, rickshaw accidents were 313, motorcycle accidents were 236, tempo accidents were 88, micro bus accidents were 178, mini bus accidents were 339, bus accidents were 1223, car accidents were 701, jeep accidents were 74, pickup accidents were 160, truck accidents were 49 etc. in total 42 districts of Bangladesh (<http://www.buet.ac.bd>).

According to the report of the National Committee to Protect Shipping, Roads and Railways (NCPSRR), a total of 3,412 people were killed and 8,572 others injured in 2,998 road accidents in 2016. Of the casualties, 470 were women and 453 were children.

On the other hand, 4,592 road accidents killed at least 6,823 people, including 781 women and 762 children, and wounded 14,026 others in 2015. The figures showed that the road accidents were decreased by 35% while deaths by 50% and injuries by 39% in the just-concluded year than 2015. The report was prepared based on reports published in 20 national newspapers, 10 regional newspapers and eight online news portals and news agencies (The Dhaka Tribune, January 02, 2017).

A report released by the Bangladesh Passengers Welfare Association (BPWA), and it was revealed that a total of 6,055 people were killed and 15,914 injured in 4,312 road traffic accidents in 2016. These figures are all improvements on the 8,642 people killed and 21,855 injured in the 6,581 road accidents recorded in 2015. The data of the BPWA

was collated from articles published in 10 national newspapers, six regional newspapers and six online news portals and news agencies and television channels. Of those people to lose their lives on the country's roads last year, the report said 843 were women and 697 were children. A total of 1,598 were pedestrians, while 803 were students and 233 were teachers. By other professions, the report recorded the deaths of 438 workers, 433 political personnel, 294 drivers, 235 law enforcement personnel, 75 engineers, 63 doctors, 61 journalists and 52 lawyers(The Dhaka Tribune, January 04, 2017).

The traffic accident situation in cities as well as Bangladesh is really alarming. This situation is very dangerous particularly in metropolitan cities. About 20 percent of road accident occurred in metropolitan cities viz. Dhaka, Chittagong, Khulna and Rajshahi (Hoque, 1991).

During 1999-2007 at different division and cities, it was shown that total recorded casualties including the fatalities, grievous and simple injuries were 3,744. Among them 823 were in cities and 2915 in divisions excluding cities. Highest number of casualties were in Dhaka division and Dhaka city that were 1066 and 593 respectively. Dhaka is the capital of Bangladesh and it is connected by roads with the other parts of country. As a result casualties rate of here is high than other divisions or cities.

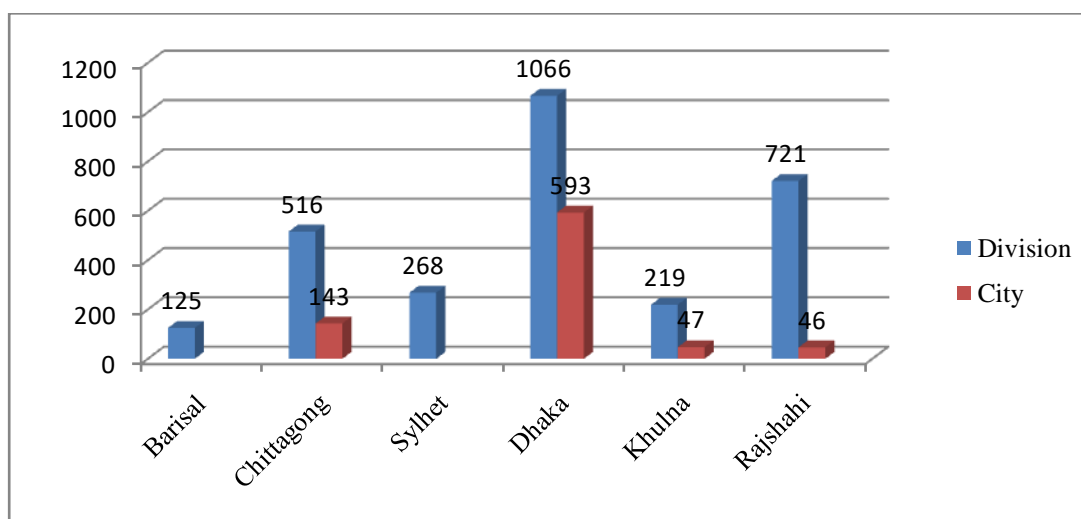
**Table-6.7: Recorded Casualty Accidents by Division and City**

Division /City	Number of accidents			
	Severity			Total
	Fatal	Grievous	Simple injury	
<b>Division(excluding cities)</b>				
Barisal	105	19	01	125
Chittagong	410	76	30	516
Sylhet	210	46	12	268
Dhaka	830	199	37	1066
Khulna	179	30	10	219
Rajshahi	562	124	35	721
<b>Total</b>	<b>2296</b>	<b>494</b>	<b>125</b>	<b>2915</b>
<b>Cities</b>				
Chittagong city	116	15	12	143
Dhaka city	417	151	25	593
Khulna city	31	8	8	47
Rajshahi city	33	11	2	46
<b>Total</b>	<b>597</b>	<b>185</b>	<b>47</b>	<b>829</b>
<b>Total</b>	<b>2893</b>	<b>679</b>	<b>172</b>	<b>3744</b>

Source: BRTA.(2008). *National Road Traffic Accident Report 2007*,P-4



**Figure-6.9: Recorded Casualty Accidents by Division and City**



In Bangladesh most of the road accidents occur on the national and regional highway. The districts through which the major national highways have been passed away the highest number of road traffic accidents occurred there. It was found that in some districts like Dhaka, Comilla, Tangail, Narayanganj and Chittagong had the highest number of accidents in 2016.

**Table-6.8: Districts with Highest Number of Accident in 2016**

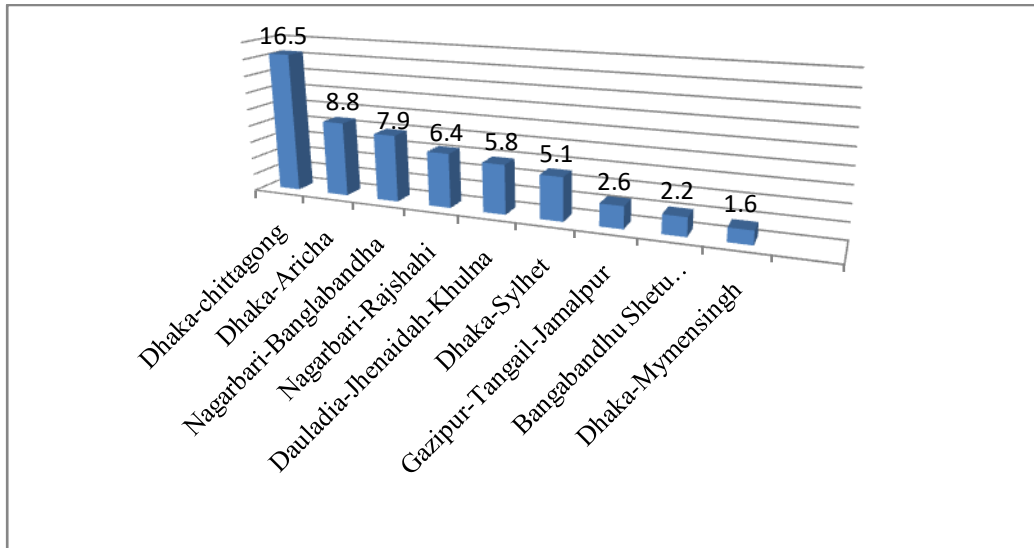
Districts	Number of accidents
Dhaka(including DMP)	(43+353)=396
Comilla	213
Chittagong	138
Tangail	117
Narayanganj	97

Source: BBS,2017. Statistical Year Book Bangladesh-2016, p-226

Over speeding, overloading and overtaking by motor vehicles are the causes of occurring traffic accident on highway. A large number of vehicles ply at a maximum speed limit per hour on the national highways which is one of the major causes of road accidents. Bangladesh Passengers' Welfare Association revealed in a report that 56 percent road accidents took place on the highways in 2015(The Daily Star, January 10,2016). On the other hand the Accident Research Institute (ARI) of BUET has identified that 35% of the deaths and 90% of the road accidents take place on the highways around the country, which accumulates a total of 3,580km (The Dhaka Tribune, 28 August,2014). But it is not

true that the entire length of the highway is accident prone. In a study conducted by PPRC, it was found that the accidents were concentrated within a total length of only 54.7 kilometers of the highway network.

**Figure-6.10: Accident Prone National Highway Length**



Source: PPRC,2014, p-17

In the accidents prone national highway, there are some spot where most of the accidents occur. The spots are called “black spot”. A total of 209 black spots have been identified along the national highways as accident-prone and these black spots scattered along the highway make up a total of 55km. It is a matter of great regret that even though the list of these black spots was provided to the Communications Ministry in 2009, only 11 spots along the Dhaka-Aricha highway from the National Mausoleum in Nabinagar to Patua have been fixed so far in last six years (The Dhaka Tribune, 28 August,2014). On the other hand, PPRC identified almost 208 accident spots in Bangladesh.

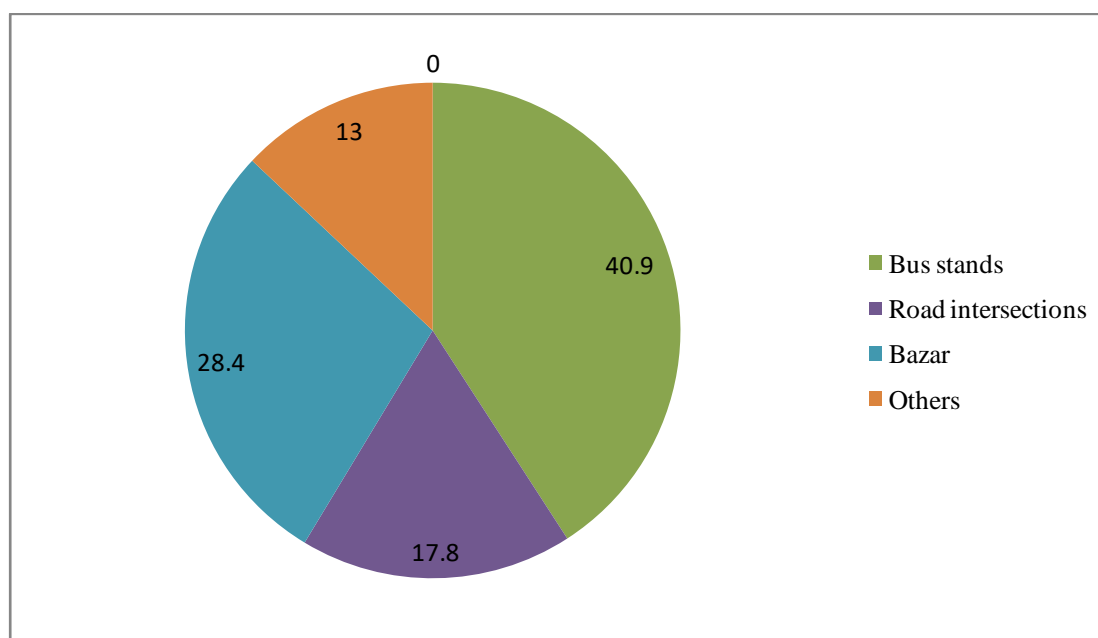
**Table-6.9: Road Accident Spots by Location**

Name of highway	Number of accident spots	Bus stand		Road intersection		Bazar		Other	
		no	%	no	%	no	%	no	%
Dhaka-chittagong	38	20	52.63	9	23.68	5	13.16	4	10.53
Dhaka- Sylhet	34	12	35.29	5	14.17	11	32.35	6	17.65
Dhaka-Mymensingh	10	0	0	3	30	5	50	2	20
Gazipur-Tangail-Jamalpur	14	2	14.28	3	21.43	7	50	2	14.29
Dhaka-Aricha	22	16	72.73	2	9.09	2	9.09	2	9.09
Nagarbari-Banglabandh	38	17	44.74	8	21.05	12	31.58	1	2.63
Nagarbari-Rajshahi	24	6	25	3	12.5	13	54.17	2	8.33
Daulatdia-Jhenaidah-khulna	16	4	25	4	25	3	18.75	5	31.25
Dhaka-Mawa-Barisal	4	3	75	0	0	1	25	0	0
Bangabandhu shetu approach road	8	5	62.5	0	0	0	0	3	37.5
Total=10 Roads	208	85	40.87	37	17.79	59	28.36	27	12.98

Source:PPRC,2014, p-18

Among the indentified accident spots by PPRC on the highways where the bulk of the accidents occur are bus stands (4.90%), road intersection (17.80%) and bazar (28.40%).

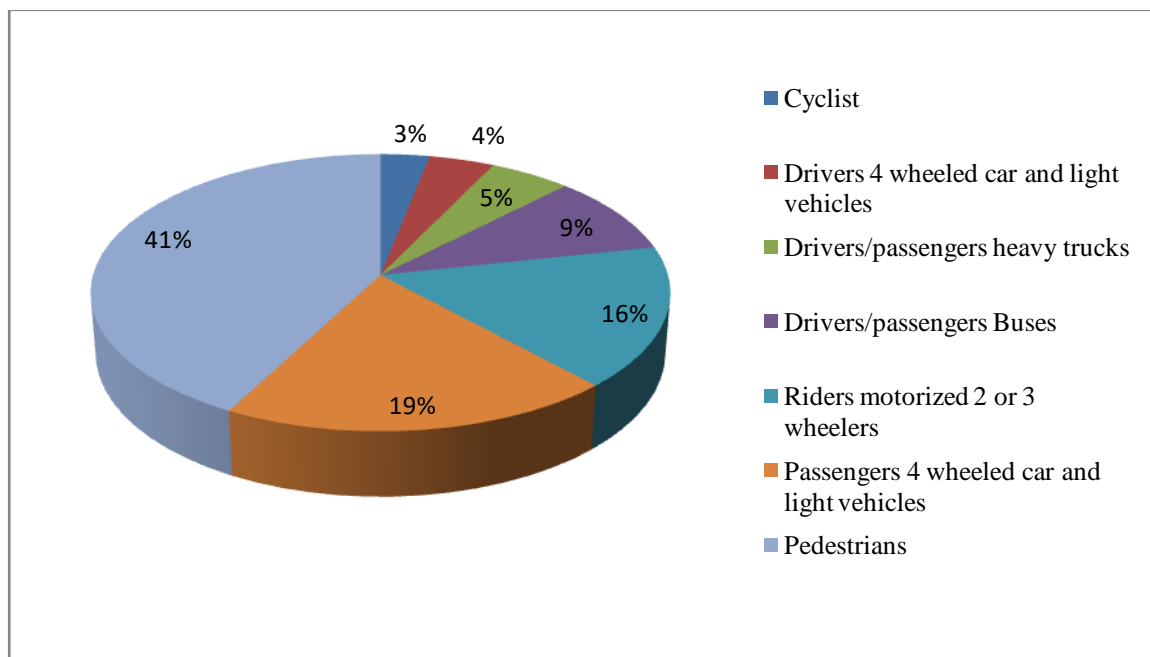
**Figure-6.11: Classification of Accident Spots**



Source:PPRC,2014,p-19

Globally it was revealed that among the vulnerable road users pedestrians, motorcyclist and cyclists-constitute more than half of road traffic deaths (WHO-2013). In developing countries where vulnerable road users also include non-motorized transport users as well as motorized two or three wheelers users this percentage is higher than developed countries. As Bangladesh is a developing country, the data related to vulnerable road users depict that the pedestrians are the most vulnerable road user group accounting for 49% of all reported accident fatalities. Bangladesh Passengers' Welfare Association revealed in a report that around 60 percent of the victims who were killed in road accidents in urban areas in 2015 were pedestrians (The Daily Star, January 10, 2016). On the other hand the police data of 2009 as quoted in the Global Status Report on Road Safety-2013 revealed that Pedestrians account for 41% of road accident followed by bus/car passengers (19%) and two/three- wheeler passengers (16%)(PPRC, 2014).

**Figure-6.12: Deaths in Bangladesh by Road Users Category**



Source:PPRC,2014, p-22

Road traffic accidents happen almost every day in Bangladesh but the types of accidents are not always same. It was found from the statistics of BRTA that 'hit pedestrian' is the most dominant accident type which is 1630 in number (56.36%). Among this type of accidents 1008 happened in rural area and 622 in urban area. Head on collision also very common in Bangladesh and it mainly take place on highways where the front ends of two vehicles such as bus, truck, private cars hit each other in opposite directions. Reckless

driving is most vital causes of head on collision. Among all the accidents 12.68 percent accidents are head-on collisions. Other common accident types are rear-end collision (9.19%), and overturning (6.77%). These four accident types account for nearly 85 percent of the total accidents.

**Table-6.10: Recorded Casualty Accidents by Type of Collision (Fatal Accident)**

Collision types	Number of accidents			Percentage
	Road environment			
	Urban	Rural	Total	
Head on	99	268	367	12.68
Rear end	122	144	266	9.19
Right angle	2	4	6	.21
Side swipe	43	89	132	4.56
Overturned vehicle	55	141	196	6.77
Hit object in road	10	19	29	01
Hit object off road	10	28	38	1.31
Hit parked vehicle	9	21	30	1.04
Hit pedestrians	622	1008	1630	56.34
Hit animals	1	4	5	.17
Other	39	72	111	3.83
Unknown	27	56	83	2.87
Total	1039	1856	2893	100

Source: BRTA.(2008). *National Road Traffic Accident Report 2007*, P-8

The incidence of road accident severity level does not remain same all over the year in Bangladesh. Weather conditions are considered to be a factor that affects the number of road accidents and casualties significantly. Besides, the road accident problems become worse in various national festivals and vacations. As a result the total casualty accidents can be varied month to month. From 1999 to 2007, the month-wise distribution of road accidents in Bangladesh has shown more accidents during the month of March (392) followed by the month of October (355) and April (331), while the least number of road accidents were reported in the month of June(239). Among these accidents 37 percent took place in urban area and rest of 63 percent in rural area.

**Table-6.11: Recorded Total Casualty Accidents by Month (1999-2007)**

Month	Number of fatal accidents		
	Urban	Rural	Total
January	77	201	278
February	97	163	260
March	106	286	392
April	123	208	331
May	108	185	293
June	123	116	239
July	132	187	319
August	117	169	286
September	120	163	283
October	132	223	355
November	109	192	301
December	123	187	310
Unknown	36	61	97
Total	1403	2341	3744
% of total	37%	63%	100%

Source: BRTA.(2008). *National Road Traffic Accident Report 2007*, P-14

In most countries a good number of accidents occur at junctions. Crossing a road junction without due care can cause road accidents. Moreover there are some improper traffic junctions which also responsible to occur accidents. In Bangladesh every year a significant number of road accidents took place at various junctions. Though the statistics of BRTA revealed that most accidents took place in no junction area in 1999 to 2007. The table illustrates that total 2,272 accidents occurred where there was no junctions. Then tee junction was in second position where total 244 accidents occurred in which 102 were in national roads. Another vulnerable type of junction is cross junction in where total 169 accidents took place. But the number of casualty accidents in railway crossing was the least, only 4(BRTA,2008).

**Table-6.12: Total Casualty Accidents by Type of Junction (1999-2007)**

Junction type	Number of accidents					Total
	National	Regional	Feeder	Rural road	City	
Not at junction	1074	260	438	124	374	2272
Cross junction	66	12	21	12	58	169
Tee junction	102	22	27	20	73	244
Off-set tee junction	17	14	12	5	5	53
Roundabout	6	1	2	1	5	15
Railway crossing	2	0	1	0	1	4
Other	319	172	169	100	67	827
Unknown	97	17	14	9	23	160
Total	1683	498	684	271	608	3744
% of total	45%	13%	18%	7%	16%	100%

Source: BRTA.(2008). *National Road Traffic Accident Report 2007*, P-20

But accidents on the railway tracks mainly at level crossings have become frequent in the country now-a-days, causing deaths and injuries to people as well as damages to properties due to illegal level crossings, lack of gatekeepers and public unawareness. According to a New Age report, in 2016 alone 213 people were killed from accidents at different level crossings of Narayanganj-Dhaka-Joydebpur rail-roads (The New Age, 10 January,2017).

Different types of traffic plying with various speed on the same route is one of the major causes of road accident. But buses with passengers, minibuses and trucks are frequently involved in crashes in many countries of the world. Like many other countries it was found that over involvement of truck and buses are particularly prevalent in Bangladesh. Road accidents occur here and take the lives of many people, mainly for the reckless behaviour of the drivers of buses and trucks. BRTA annual report 2007 revealed that in Bangladesh from 1999 to 2007. Of the total multi vehicle involvement in accidents, around 24.2% were bus and 25.7% trucks. Among all the fatal single accident involvement of buses was 30.0 percent and truck, heavy truck, oil tanker was 21.1 percent. On the other hand in fatal multiple accidents involvement of bus and truck was more than other vehicles.

**Table-6.13: Registered Motor Vehicle Types Involved in Fatal Accidents (1999-2007)**

Vehicle type	Vehicles involved in fatal single accidents		Vehicles involved in fatal multiple accidents	
	Number	% of total	Number	% of total
Motor cycle	89	4.3%	114	8.7%
Baby taxi, tempo	102	4.9%	120	9.2%
Micro bus, zip, pick-up	167	8.0%	86	6.6%
Mini bus	162	7.8%	104	8.0%
Bus	624	30.0%	316	24.2%
Car, taxi	37	1.8%	27	2.1%
Truck, heavy truck, oil tanker	439	21.1%	336	25.7%
Other	463	22.2%	202	15.5%
Total	2083		1305	

Source: BRTA.(2008). *National Road Traffic Accident Report 2007*, P-28

In another study conducted by BRAC in 2014, it was revealed that bus and truck are responsible of more than two third (68.41%) accidents of all road accidents in Bangladesh. Buses are involved in 38.1 percent accidents and trucks are in 30.04 percent road accidents (The Daily Prothom alo, 22February, 2017).

There are various national festivals and occasions observed in Bangladesh every year. Regarding number of holidays in each festival, Eid-ul-Fitr and Eid-ul-Azha –two major festivals for Muslim community- are the biggest festival in Bangladesh. But Eid comes every year with worsening statistics of road accidents. These two festivals generally consists at least three or four and even up to seven/eight days government holidays each. As a result, people of all religions hailing from different districts of the country who are engaged in different income-generating activities in the capital and other cities and towns goes to their ancestral homes to celebrate the Eid. But the journey home is not always safe, smooth and hassle-free. Ultimately, passenger and freights movements are raised up dramatically in these times which lead an increasing number of road accidents every year which is alarming. The detailed accident statistics during Eid vacations (Table:6.14) reveals by ARI, BUET and it was found that during Eid-ul-Fitr and Eid-ul-Azha in 2003-2006 the total number of accidents were 627 and total casualties were 5073. Among them fatalities were 704 and injuries were 4369.



**Table-6.14: Total Road Accidents and Casualties in Eid Vacations**

Year(Eid name)	Total			
	Accidents	Fatalities	Injuries	Casualties
2003 (Eid-ul-Fitr )	102	92	515	607
2004 (Eid-ul-Azha)	104	126	595	721
2004 (Eid-ul-Fitr )	96	104	590	694
2005 (Eid-ul-Azha)	94	96	757	853
2005 (Eid-ul-Fitr )	102	106	553	659
2006 (Eid-ul-Azha)	129	180	1359	1539
Total	627	704	4369	5073

Source: Hoque,et al.(n.d.)

Recent year the number of road accidents during Eid holidays has increased at alarming rate. The number of road crashes and deaths on highways during Eid holidays in 2016 was the highest in last three years. Bangladesh Passengers Welfare Association (BPWA), made public the report titled “Eid Journey Accident Report-2016” prepared on the basis of media report. In this report it was revealed that between September 7 and September 18 in 12 days including the Eid-ul-Azha holidays a total of 248 people were killed and 1056 others injured in 193 road traffic accidents across the country. On the other hand 186 people were killed and 746 suffered injuries in 121 road accidents during Eid-ul-Fitr holidays. In 2015 the number of road accidents during Eid-ul-Fitr holidays was 109 in which 122 people were killed. 87 accidents took place during Eid-ul Azha holidays in which 107 lives perished. 98 people lost their lives in 77 road accidents during Eid-ul-Fitr holidays in 2014, and 78 people died in 56 road crashes during the Eid-ul-Azha holidays the same year (The Daily Star, 22 September, 2016).

From the above discussion it is clear that at present road traffic accidents turned into a common incident of everyday in Bangladesh. Many people are being died and injured every year due to road accidents. Many lives are nipped in the bud. Many families lose the only earning members. Many people become disabled. Road accidents make many children orphans, wives become windows. So it can be said that road accident is like a curse in our life. But these types of accidents are preventable, and lives can be saved and injuries and suffering can be reduced by all out efforts. Firstly, the traffic police department has a crucial role to play in identifying and

controlling reckless driving, illegal, faulty or overloaded vehicles. The proper maintenance, repair and expansion of roads, setting up dividers on national highways, signals for hazardous locations, disseminating information on road safety to road users through mass media and exemplary punishment for violating traffic rules are some of the main areas that need to be worked urgently by the government. The pedestrians also have a role to play in ensuring road safety. While travelling in public transports, passengers should protest and stop reckless driving and talking over phone by drivers. Owners of motor vehicles should ensure that employed drivers are properly trained and have genuine licenses. Road safety education to all types of road users is also important to promote and ensure road safety in Bangladesh.

### **6.3 Causes of Road Traffic Accidents**

Road accident is a tragedy with its ever raising trend in Bangladesh. It cannot be imagined even a single day without occurring road accidents. Unless pre cautionary measures are not adopted to prevent, it can paralyze and minimize the life span of human life. So, immediate action is needed to prevent it.

To reduce road traffic accidents or to take any safety measures for prevention, it is needed to identify its causal factors. Though road accidents may occur due to a multitude of factors, the causal factors are clearly identifiable. WHO (2013) in “Global Report on Road Safety” identified five causal factors of road accidents. These are:

- i. excessive speed;
- ii. drunk driving;
- iii. non use of motorcycle helmets;
- iv. non-use of seat belts;
- v. non-use of child constraints.

Though WHO identified five causes, the factors causing accidents may vary from nation to nation, even from one place to another. In one location curve of roads might be the chief underlying reason, in another it may be reckless driving. Therefore, one common cause cannot be responsible for road accidents everywhere.

Risk factors for involvement in a traffic accident are often classified into three large groups: ‘driver dependent (or pedestrian dependent for accidents between a vehicle and a pedestrian), vehicle related, and environment dependent’( Oginni 2008: 226). Oginni

(2008: 226) further identified the specific risk factors such as uneducated and unlicensed drivers and riders, reckless driving, carelessness, drunkenness, lack of knowledge on road safety rules, driver's age, fatigue, unimplemented government policies, failure in law enforcement and corruption.

To identify the causes of road accidents there have been many studies conducted over the years in many countries. In a study conducted in 1985 by K. Rumar found that 57% of British and American crashes attributed to only driver factors, 27% to roadway and driver factors combined, 6% to vehicle and driver factors, 3% to only roadway factors, 3% to combined roadway, driver, and vehicle factors, 2% to vehicle factors, and 1% to combined roadway and vehicle factors (Lum and Reagan,1994).

In Bangladesh BRTA identified the following causes of road traffic accidents in its RTA Annual Report-2008. These causes are as follows:

1. Reckless driving;
2. Over- speeding;
3. Over- Loading;
4. Vehicular defects;
5. Lack of Knowledge and consciousness of the road users;
6. Hazardous roads & road environments;
7. Lack of Training to the drivers;
8. Lack of training of maintenance of vehicles;
9. Poor implementation of Traffic rules & regulations;
10. Driving under influence of alcohol, drugs etc.;
11. Unutilization of helmets, seat belts etc.;
12. To walk on the roads instead of using the footpath;
13. To cross the road without using the foot over bridge;
14. To drive the vehicles by helpers instead of Drivers;
15. Illegal competition to overtake the vehicle (BRTA, 2008:53).

Causative factors of road traffic accidents can be shown using the important influential variables for each factor in the following way.

**Table-6.15: Important Influential Variables for Each Factor of RTA.**

<b>Factors</b>	<b>Influential Variables</b>
Driver related factors	<ol style="list-style-type: none"> <li>1. Excessive and Inappropriate Speeding</li> <li>2. Lack of knowledge and experience of drivers</li> <li>3. Driver's Physical and Mental Condition</li> <li>4. Drivers incompetency</li> <li>5. Drunk Driving</li> <li>6. Drowsy Driving</li> <li>7. Wrong-Way Driving</li> <li>8. Improper Turns</li> <li>9. Disregarding of road signs and warning signs</li> <li>10. Interacting with passengers</li> <li>11. Use of Mobile phone</li> <li>12. Illegal competition to overtake the vehicle</li> <li>13. Age of drivers</li> </ol>
Pedestrian related factors	<ol style="list-style-type: none"> <li>1. Carelessness &amp; lack of knowledge regarding traffic rules</li> <li>2. Use of road instead of footpath</li> <li>3. Crossing attempts without looking around</li> <li>4. Miscalculation of approaching vehicle speed</li> <li>5. Use of mobile phone while crossing the road</li> </ol>
Passengers related factors	<ol style="list-style-type: none"> <li>1. Causing trouble to the driver</li> <li>2. Projecting their body outside the vehicle</li> <li>3. Getting down the vehicle from the wrong side</li> <li>4. Traveling on overloaded buses and their roof tops</li> </ol>
Road related factors	<ol style="list-style-type: none"> <li>1. Lack of Maintenance of Roadway</li> <li>2. Curve of the Road</li> <li>3. Risky Spots</li> <li>4. Slippery or skidding road surface</li> <li>5. Insufficient and/or unclear road signs</li> <li>6. Animal Crossings</li> </ol>
Vehicle related factors	<ol style="list-style-type: none"> <li>1. Heavy Vehicles</li> <li>2. Defective/ Unfit Vehicle</li> <li>3. Overloading</li> <li>4. Increased number of vehicles on the road</li> <li>5. Age Of Vehicle</li> <li>6. Three wheelers</li> </ol>
Institution related factors	<ol style="list-style-type: none"> <li>1. Poor implementation of Traffic rules &amp; regulations</li> <li>2. Negligence of the Traffic Police</li> <li>3. Corruption in issuing driving license</li> <li>4. Lack of training of drivers</li> <li>5. Lack of punishment of drivers</li> </ol>

The some above mentioned important factors are described below:

## **A. Driver Related Factors**

The driver is the human element who is in charge of machine while running the vehicle. He/she drives it, accelerates it, brakes it, steers it and stops it. It is said that a driver can make accident or save from accident. So, he/she should be very alert at the time of driving. Due to his carelessness an accident can occur within a second. Because during the course of his normal driving in the busy street he has to overtake many vehicles, and to be overtaken by some, performs numerous turning maneuvers, faces dangerous obstacles, a number of pedestrians or animals cross the streets and for that he has to take decision in a fraction of seconds. So if he/she fails to take right decision accident will occur. It depends on his behaviour, alertness and care. According to the records, almost 99.7% of the accidents were caused due to the fault of driver of motor vehicles (Pillai and Joseph,2011:89).

In another study it was found that 57% of British and American crashes attributed to only driver factors (Lum and Reagan, 1994). In 2011, the Department of Transport in Great Britain published a summary of contributing factors to road traffic accidents. These contributing factors were divided in nine specific categories, which are road environment contributed, vehicle defects, injudicious action, driver/rider error or reaction, impairment or distraction, behaviour or inexperience, vision affected by the external factors, pedestrian only factors (casualty or uninjured) and special codes. From 2005 to 2011, driver error was the category most reported, almost 72% of all accident reports (Rubayat & Sultana;2013) . So it can be said driver related factors are the most important causes of road accidents all over the world. Some important driver related factors can be explained in the following way-

### **i. Excessive and Inappropriate Speeding**

Excessive and inappropriate speed can contribute to both the frequency and severity of road traffic accidents in any country. Most of the country there are rules on speed limit of vehicles but in many cases drivers ignore the speed limit to reach their destination before time or to overtake other vehicles. A study conducted by ADB showed that speeding dramatically increases crash risk and crash severity. An increase of 1 kph in mean traffic speed results in a 3% increase in the incidence of injury crashes and a 4-5% increase in fatal crashes(Jabbar MA et al.2009:164).

In another it was found that in Saudi Arabia over 50% of accidents are caused by drivers speeding (Ansari et al., 2000).

Very recently in Bangladesh the government has fixed the speed limit of vehicles on highways across the country at 80 kilometers per hour. Here speed of the vehicles would be detected through a 'Speed Governor' machine to be installed in every vehicle and if any driver tries to violate the limit, his vehicle will get stopped automatically (The Daily Prothom alo, 10 Aug, 2015). It will be a good initiative to check the excessive and inappropriate speed of vehicles.

**ii. Lack of Knowledge and Experience of Drivers**

Most of the crashes occurred by the less experienced and non-professional drivers (Asogwa 1978). Drivers must have knowledge regarding road safety, traffic rules and regulations. Training also important for a driver to drive safely. But in Bangladesh transport drivers have no enough scope for formal training. Even many unqualified or unskilled drivers get licenses through unfair means. It is found that helper drives the vehicle in lieu of driver or even helpers try to learn driving in highway which causes road accidents.

**iii. Violation of Traffic Rules and Regulations**

A driver must follow the traffic rules and regulations when he/she drives a vehicle. But many drivers ignore the traffic rules that lead to occur road accidents.

**iv. Physical and Mental Condition of Driver**

Physical and mental fitness of a driver is very important for safe driving. Otherwise it hampers the concentration. In Bangladesh there are many teen aged and old aged drivers who are not capable for driving heavy vehicles. Besides driver fatigue due to long hours driving may cause accidents. There is evidence that drivers with diabetes, epilepsy, cardiovascular disease or mental illness experience higher crash and violation rates (Mishra et al., 2010) but there is an equal number of studies indicating that neither chronic medical conditions nor disabilities among automobile drivers put them at greater risk of RTAs (Mohan, 2007).

v. **Drivers Incompetency**

Incompetent drivers and driving appear to a major concern to safety on our roads. In Bangladesh there are many drivers who are not competent but have driving license. Many transport drivers have no formal training and they are excessively overworked. Unqualified drivers get licenses through unfair means. Sometimes, helpers drive with fake license and little or no training.

vi. **Drunk Driving**

Drug is very dangerous when operating a vehicle because it loses the ability to function properly. Many drivers drive under the influence of alcohol, intoxicated substances causing road accidents. According to Pludemmann et al. (2004), use of alcohol contributes to traffic injuries by impairing driving capabilities and thus increasing the risk of crash involvement.

vii. **Drowsy Driving**

Lack of sound sleep is the main cause of drowsiness. This condition is mostly found among commercial vehicle drivers and the fact that they can sleep usually less than what is required. In Bangladesh most of the drivers are excessively overworked. In many cases they have to drive both at day and night, particularly at the time of various festivals. As a result they feel tired and drowsy which contribute to occur road accidents.

viii. **Wrong-way Driving**

Sometimes drivers use wrong-way to reach their destination fastly. When a driver goes the wrong way, there is a possibility to face head to head collusion with other vehicles.

ix. **Improper Turns**

To prevent a road accident, the drivers should look for signs and obey the proper right-of-way before make a turn. But if a driver fails to turn the vehicle properly it can cause accident.

x. **Disregarding of Road Signs and Warning Signs**

Road signs and warning signs are used so that any driver can drive safely following these signs. But some drivers ignore or violate road signs that contribute to occur road accidents.

xi. **Interacting with Passengers**

At the time of driving the driver should be alert and concentrated to his/her duties. But sometimes it is found that drivers are more interested to interact even gossip with passengers than concentrate in driving. It hampers their concentration and as a result accident occurs.

xii. **Use of Mobile Phone**

Talking over the cell phone while driving is a common scene on the roads of many countries. Even sometimes drivers gossip over phone with others that divert his/her attention and as a result accident occurs. Bangladesh is not out of it. Here many serious road accidents happened only cause of driver's talking over the cell phone.

**B. Pedestrian Related Factors**

Pedestrian related factors are important responsible factors of road accidents. In a study of 2012, Kourtellis attempted to measure the unsafe pedestrian behaviour through observational research in South Florida. The risk behaviours considered in the study included the pedestrian crossing during traffic signal green time, not crossing in perpendicular direction to street, Jay-walking or crossing the road diagonally, not using the sidewalk and walking on the roadway, using cell phone or other electronic device during crossing among others(Kourtellis,2012). Contributory factors regarding pedestrian behavior are described in following titles:

i. **Pedestrian Carelessness & Lack of Knowledge Regarding Traffic Rules**

Pedestrians have responsibilities to avoid road accident and ensure road safety. But in Bangladesh most of the pedestrians have very little knowledge about traffic rules. In addition many pedestrian are very careless. They disregard traffic rules and cross the road carelessly that causes RTA.



ii. **Use of Road instead of Footpath**

A study was conducted in selected commercial sites of Dhaka and it was found that 47% pedestrians prefer road to walk along the road rather than walking on the footpath (Jasim and Ahmed, 2010). When a pedestrian walks along the busy road, it creates risk to be victim of RTA.

iii. **Crossing Attempts without Looking Around**

When a pedestrian attempt to cross the road he/she should look around to avoid road accident. There are many roads and highways which are very busy with moving vehicles. Some vehicles move with high speed and it is tough to control for drivers if any pedestrian suddenly comes before and as a result occurs accidents. In 2010, a survey was conducted in Delhi to evaluate risk perceptions by pedestrians while crossing the roads at intersections. It was found that among 250 pedestrians, only 17% considered the crossing to be safe (Rubayat & Sultana,2013:49).

iv. **Miscalculation of Approaching Vehicle Speed**

Sometimes pedestrians cross the road without proper calculation of vehicles speed and as a result accident occurs.

v. **Talking over Mobile Phone while Crossing the Road**

Talking over the cell phone while crossing the road is a common scene on the roads of Bangladesh. Sometimes it is found that the pedestrians gossip over phone with others that divert their attention and as a result accidents happen.

**C. Passengers Related Factors**

Passengers also have the responsibility to save themselves and ensure road safety of a country. Now a-days road transport becomes the important than other transport system and most of the people use this transport. But if the passengers do not be alert, accidents may occur. The important passengers related causes are-

i. **Causing Trouble to the Driver**

In Bangladesh most of the passengers travel by public transport and they are not conscious about road safety. When they take seat beside driver some of them try to talk to the driver or engaged in gossip which cause trouble and accidents occur.

ii. **Projecting the Body outside the Vehicle**

Sometimes passengers open the windows of vehicles and project their head or hand through it to watch the side scene or to get fresh air.

iii. **Getting down the Vehicle from the Wrong Side**

Passengers are not always conscious how or from which side to get on or down the vehicles. Very often they get down from wrong side. As a result they become the victim of road accidents.

iv. **Traveling on Overloaded Buses and their Roof Tops**

In Bangladesh the number of passengers is more than its demand. As a result the passengers have to travel on overloaded buses and their roof tops or as a passenger of trucks. In every festivals of Bangladesh many people, especially who are poor travel on roof tops or trucks and become the victim of RTA.

**D. Vehicle-Related Factors**

Rapid increase in the number of motor vehicles on the roads has been the major reason for the increasing number of road accidents. In Bangladesh the number of registered vehicles increased from 593077 in 2010 to 1079955 in February, 2017(BRTA). Important vehicle related factors are:

i. **Heavy Vehicles**

Involvement of heavy vehicles like trucks, lorry and buses in accidents and injuries is a serious concern in many countries. In Bangladesh, accident problems are predominantly characterized by the over involvement of trucks and buses including minibuses. Studies on road accidents revealed that heavy vehicles, such as trucks and buses including minibuses are major contributors to road accidents (bus/minibus 33%, trucks 27%) and in fatal accidents, their shares are 35% and, 29% respectively. This group of vehicles is particularly over involved in pedestrian accidents accounting for about 68% (bus/minibus 38%, trucks 30%). It may be noted that in the vehicle composition, the shares of buses and trucks are 5.2% and 8.3% (Hoque, 2006: 388).

ii. **Defective/ Unfit Vehicle**

Defects of vehicle can be causes of road accidents. But it is found running defective/ unfit vehicles on the roads ignoring traffic rules of a country. According to Bangladesh Road Transport Authority, more than 2.1 million vehicles of all modes are registered with the authority and 0.313 million became unfit now across the country. And nearly 0.09 million of the total unfit vehicles are in and around Dhaka city (The Financial Express,08 July,2015). In another Bangladesh Passengers' Welfare Association(BPWA) revealed that around 3 lakh unfit vehicles and 10 lakh locally made three-wheelers like Nasiman, Kariman, Bhatbhati and Easy-bikes, all illegal, are mainly responsible for occurring road accidents in Bangladesh (The daily star,10January,2016).

iii. **Overloading**

Overloading leads to loss of control of a vehicle and occur road accidents. A study done in Papua New Guinea revealed that vehicles are overloaded and improper vehicles are used to transport passengers thus increasing the risk of accidents (Nelson et al., 1991). In Bangladesh many drivers overload their vehicles to earn more. Even there are not enough weight machines to check overload.

iv. **Increased Number of Vehicles on the Road**

The growth in numbers of motor vehicles is a major contributing factor in the rising toll of fatalities and injuries from road traffic crashes in poor countries (Nantulya, 2002: 1139). The trend of rapid growth of vehicle population appears to be the major issue in the road accident scenario of Bangladesh. The number of vehicles on roads increased dramatically according to the length of highways. The present motor vehicle growth rate of around 8% is already causing considerable congestion and safety problems (Hoque, 2004).

**E. Road-Related Factors**

Road conditions in terms of road qualities have a role to ensure road safety. Black spot, road segments, lane width, junction layout, pot holes and other characteristics of the road have strong effects on road safety in any place (Oluwasanmi,1993). According to a World Bank report only about 40 percent of the main roads (the National and Regional highways

and the Zila roads) are in good condition, and the rural roads are in about the same state in Bangladesh (Bangladesh Transport Policy Note,2009). Road related important factors are:

i. **Dilapidated Road Condition**

Good condition of roads is one of the pre-condition for road safety. Poorly maintained roadways cause accidents in a variety of ways, mostly it creates an enormous hazard to drivers. In Bangladesh most of the 20,000 kilometer network of major roads in the country has become potholed and at least 60 % of the highways are in dilapidated condition due to lack of maintenance (The Daily Star, 16 August, 2011).

ii. **Curve of the Roads**

Curve of roads is important responsible factor of road traffic accidents. Improper curve of roads in most cases block the drivers from viewing the road clearly. In Bangladesh once there were many curves in Dhaka-Aricha highway and it was supposed that the curve of this road was one of the main contributory factors of road accidents.

iii. **Risky Spots/ Black Spots**

There are many accident prone points on highways in Bangladesh, where road accidents claim many lives every year. The Accident Research Institute (ARI) of Bangladesh University of Engineering and Technology (BUET) recently listed over 200 accidents prone points, termed as "black spots", on 10 major highways. The ARI listed 22 black spots on Dhaka-Aricha highway, where 311 people died in road crashes between 1998 and 2007.

iv. **Insufficient and/or Unclear Road Signs**

Road signs give the direction to drive on the road. Following the directions drivers can drive their vehicles safely. So, sufficient and clear road signs are very important for road safety. But in Bangladesh in most of the roads do not have road signs.

## **F. Institution Related Factors**

Institute related factors are also responsible factors of occurring road accidents. Important institution related factors for RTAs are:

### **i. Poor Implementation of Traffic Rules & Regulations**

In every country where there is traffic, there is traffic rules and regulation. If traffic rules and regulations can be implemented properly number of road traffic accidents can be reduced. But it is a matter of sorrow that it is being poorly implemented in Bangladesh. Most of the road users including drivers do not have enough idea regarding traffic rules and regulations. In addition those who are responsible to implement the rules are not performing their duties properly. As a result, due to violation of traffic rules and regulations accidents occur.

### **ii. Negligence of the Traffic Police**

Traffic polices are mainly responsible to ensure safe and smooth vehicle movement. But the traffic police are not always sincere to perform their duties. The government of Bangladesh set up the highway police unit to ensure a safer highway network and a smooth traffic management system. Even after 6 years in operation, the highway police remain almost inactive due to shortage of manpower and logistics (The Daily Star, 16 August,2011).

### **iii. Corruption in Issuing Driving License**

Driving license is one of the preconditions for driving. Without license nobody is allowed to drive on the roads. So, in every country the authority issues driving license after proper test. But in Bangladesh it is found huge corruption in issuing driving license. It was reported that some 1.98 lakh driving licenses are alleged to have issued without examination and renewal of the licenses are also being allowed in the same way. Bangladesh Road Transport Authority (BRTA) showed that 18.77 lakh drivers in the country do not have valid driving licenses(The Daily Sun, 02 August,2015).

**iv. Lack of Training of Drivers**

A skilled driver can drive safely and a driver can be skilled by proper training. But in Bangladesh there are limited institutions for the training of drivers and most of them are private.

**v. Lack of Punishment of Drivers**

In many studies it was revealed that drivers related factors are the main contributory causes of road accidents. Alertness, skillness and care of drivers can ensure road safety. But all the drivers do not drive their vehicles with care and following the traffic rules. As a result accidents occur. But most of them are not brought under trial even cases are not filed against them. Where someone brought under trial in most cases but not punished or very little punishment.

The existing Motor Vehicles Ordinance 1983 of Bangladesh is lacking adequate punishment for reckless and dangerous driving, possessing fake license and for having no helmet and seat belts. The Proposed Road Transport and Traffic Act, 2011, by Dhaka Transport Coordination Board (DTCB), has tried to address these drawbacks and suggested a revision of the existing acts. According to the Penal Code, 1860 (chapter xiv of offences affecting the public health, safety, convenience, decency and morals), the maximum punishment for causing death due to reckless driving was seven years' imprisonment. Recently, the impugned penal law was declared illegal and unconstitutional by the High Court which challenged the validity of the amendments brought during the said regime. The High Court suggested that to ensure people's right to life as guaranteed by the constitution, the retribution for reckless driving should be increased further (The New Age, 24 September, 2015).

**vi. Inadequacy in Police Inspection and Law Enforcement**

The current level of police inspection and traffic law enforcement is low in Bangladesh and efforts in this regards is not satisfactory which is the one of the hinders in ensuring road safety.

From the above discussion it is clear that road traffic accidents occur due to various causes. These casual factors can be identified clearly and remedial actions on each are possible. So, it is needed to take immediate action to reduce road accidents and improve road safety.

## 6.4 Impact of Road Traffic Accidents

Due to the advancement of road transportation system, most of the goods needed for everyday life are transported by roads and the present generation has far greater opportunities for motorized travel than their forefathers. But there is another black side of this advancement and that is nothing but road traffic accidents.

Road Traffic Accidents are a growing problem in all over the world and it has already turned into a matter of great concern, as it has developed as a major social, economic and health problem. It is unfortunate that despite the fact that only one person may be involved in a road accident, the entire household may be affected financially, socially and emotionally by the accidents. The vehicle owner loses the vehicle, public property is damaged. The cost of treatment and medicine, and the disabled man become burden to his family partially or permanently; some families lose their earning members who were physically active and breadwinner of families before the accidents. In a word, it can be said that road accidents badly affect on the individual, community, society, country as well as the world.

**Table-6.16: Types and Nature of Impact of RTA**

<b>Types</b>	<b>Impact</b>
<b>Physical</b>	Death Disability Permanent loss of mobility/functioning Fractures Bruising Brain and Head Injuries Neck Injuries Spinal Cord Injuries Back Injuries Facial Injuries Internal Injuries
<b>Psychological</b>	Feelings of guilt Post traumatic stress Depression Anxiety/fear Loss of trust
<b>Social</b>	Loss of family structure Family disorganization Deviant behaviour
<b>Economic</b>	Loss of earnings Medical bills Damage to property Loss of productivity

### **i. Health Sector/ Physical Impact of Road Traffic Accidents**

Now a days road traffic accidents (RTAs) have emerged as an important public health issue as it has serious physical impact as well as impact on health sector of a country. It has turned into one of the major causes of death and disability globally, with a disproportionate number occurring in developing countries where more than 85% of all deaths and 90% of disability-adjusted life years were lost from road traffic injuries (Nantulya, 2002).

Death of a person can be mentioned as main physical impact of road traffic accident. Every year a large number of people are died due to road accident in the world. Those who are physically or economically active engaged in business, services, studies or many other activities and most of them use road transport for their own purposes are the main victims of road accidents. It was found that economically active adults, aged 15–44 years, account for more than half of all the road traffic deaths of the world (WHO,2004).

As a developing country, Bangladesh is facing this problem. In every day anywhere of the country it happens road traffic accidents in which countless number of people are killed or injured. The victims are mostly people in their prime productive age and they are mostly pedestrians, motorcyclists, and passengers of buses and minibuses. A study, carried out by the Centre for Injury Prevention and Research Bangladesh in 2001, sheds light on the huge burden traffic accidents place on Bangladesh's healthcare system. It was found that one-fifth of injury patients in primary and secondary level hospitals across the country had been involved in a traffic accident. More than two-thirds of victims were males aged between 18 and 45(The Guardian,2012).

Instant direct physical impact of road traffic accidents on an individual can cause many different types of injuries. One of the most common injuries is an acquired brain injury caused by the head being hit or hitting an object seriously. Symptoms can be mild, moderate or severe, depending on the extent of damage to the brain and the area affected. Even when there is no visible sign of trauma, the brain may have been jostled inside the skull due to the force of impact causing bruising, bleeding and swelling of the brain.

Neck injury is another common form of injury from a road accident, which can occur in mild forms to serious injuries like cervical dislocation and disc injury. The damage to the spinal cord is also caused by road accidents. Sometimes it often results in a loss of function or feeling. The impact of a road accident can also cause internal injuries



including, injuries to bowels, kidneys, the spleen, liver, lungs, heart or aorta. Fractured ribs are also quite common, causing puncture lungs and other internal organs.

Physical disability is another adverse impact of road accidents. Those who become severely injured by road accidents a large number of them cannot be cured fully and most of them turned into persons with disabilities. The permanent disability of spinal cord damage, loss of mobility, loss of eyesight, and serious brain injury can profoundly limit a person's quality of life. Suffering from permanent disability can deprive an individual the ability to do anything and as a result he or she has to dependent on others for both physical and economic support or in some cases to perform daily basic tasks. So it is assumed that the disabled person will be taken care of until death and he/she turned into a burden of his/her family.

However, Physical pain experienced by accident victims is another dimension of road accidents. Serious injuries, can cause physical pain and limit a victim's physical activities for years after the accident. Experiencing pain, especially in the case of persistent pain over a long period of time is likely to impact on one's quality of life negatively. Severe and persistent experience of pain is also likely to reduce one's physical functioning. Besides even sometimes the victims suffer from headaches, sleeping problems, disturbing nightmares and general health problems which are not necessarily related to their injury.

## **ii. Psychological Impact of Road Accident**

Generally everybody has a tend to relate road traffic accidents with physical injury rather than psychological damage. But the road traffic accidents have a devastating psychological or emotional impact on the victims and families involved. When a road accident leads to death, the emotional damage is even more intense, affecting other family members, relatives and friends for years afterward and sometimes leading to the breakup of previously stable family units. So, it is considered a very painful experience for the family members and relatives. Even it can lead to a set of negative symptoms which involve functional impairment of the grieving persons.

Road traffic accidents place a heavy burden on the injured survivors who experience adverse psychological effects, in the short or long term. He/ She expresses anger and frustrations in terms of the difficulties that he/she faces in adjusting to the aftermaths of the accident such a disability resulting from the accident where victims lost either function of a body organ or loss of property. There are cases of accident victims who have lost a

significant amount of property (goods) due to road accident have to suffer enormously. They face difficulties in restarting new lives for the want of capital. In addition to the problems, accident victims also suffer from depression as a result of the accident and its aftermath. Suffering from depression may cause various difficulties for accident victims to lead a normal life. Sometimes it can push one to substance abuse as a mechanism of relieving the pain and sufferings.

The most common psychological/emotional reactions can include anger, sadness, despair, sleep difficulties, and difficulty in performing daily activities. A study conducted in Sweden showed that almost half the respondents still reported travel anxiety two years after the crash. Pain, fatigue and fear were also commonly found. Of those who were employed, 16% could not return to their ordinary jobs, while a third reported a reduction in leisure-time activities (WHO,2004:50).

Many studies showed psychiatric disorders resulted from road accidents. Some of these studies discuss the short and the long term consequences for the survivors. One study found that one- third of young survivors experience a psychological disorder in the early stages and about 25% manifest symptoms for up to 1 year later (Blanchard& Veazey, 2001:146). In other words, young children may suffer from mental problems after road traffic accidents. There are several different types of disorders those are common among survivors like Acute Stress Disorder (ASD), Post-Traumatic Stress Disorders (PTSD), anxiety disorders, depression and mood disorders (Blanchard& Veazey, 2001:143).

### **iii. Social Impact of Road Accidents**

Road traffic accidents have a negative impact on society. Death of a lone earner of a family in a road accident leads the whole family to a hardship condition which makes a vulnerable position in society. Sometimes it contributes to breakdown the family structure or family disorganization. Members of the family especially children can be deviated and involved in criminal activities. Sometimes it can push one to substance abuse and lose the position in the society. On the other hand, when a person becomes disabled due to road accident, he/she cannot perform his/her role in society like before. As a result, it limits his/her participation in society. Even one's income stops or reduces for disablement due to RTA which leads to a vulnerable position in society.

In Bangladesh a large number of poor households depend on daily wages and temporary jobs, do not have health insurance, or the assistance of social welfare schemes, a serious injury can result in permanent reduction of income. In cases of prolonged treatment or

death of the victim, the family may end up selling most of their assets and land and getting trapped into long-term indebtedness. Investment in treatment of a seriously ill family member stops only when all assets are sold. International Federation of Red Cross and Red Crescent observed that the road traffic burden is “a worsening global disaster destroying lives and livelihoods, hampering development and leaving millions in greater vulnerability.

#### **iv. Economic Impact of Road Accident**

The calamity of road traffic accidents is not only humanitarian but also economic. Road traffic accidents carry highly economic costs. Economic costs are just the tip of the iceberg. For everyone killed, injured, or disabled by a road traffic crashes there are countless others deeply affected (Peden and Sminkey, 2004:67).

Medical costs, long-term care and treatment, property damage, insurance administration expenses, legal costs, and rehabilitation costs - all are the economic cost of road traffic accidents. Medical costs are the most important economic burden experienced by the victims and their families. Medical costs range from at-scene to recovery or death. Expenses include hospital costs (food, bed, operations, x-rays, consultation, medicine among other services) and rehabilitation costs. In addition to catering for medical expenses, families also have to cater for transport costs when seeking for treatment. Depending on the type of injuries, sometimes accident victims required special equipments like wheel chairs, walking sticks, which meant an additional cost. Medical costs also include emergency medical, ambulance, prescription, physician, mental health treatment cost, funeral expenses, and related treatment costs and the administrative costs of processing medical payments to providers.

There are also significant costs when the victim dies prematurely or turned into a person with disability. In that case victim’s dependents suffer immediate economic hardship due to the loss of the victim’s income and other contributions.

In cases of prolonged treatment of the victim, the family may end up selling most of their assets and land and getting trapped into long-term indebtedness. Investment in treatment of a seriously injured victim, family member stops only when all assets get sold. As a result these types of families have to suffer a lot.

In many low-income and middle-income countries, and sometimes in high-income countries as well, the cost of prolonged care, the loss of the family breadwinner, funeral costs, and the loss of income due to disability push a family into poverty.

**Table-6.17: Classification of Accident Cost Components**

1. Victim Related Cost	<ul style="list-style-type: none"> <li>• Medical Cost</li> <li>• Funeral Cost</li> <li>• Lost Labor Output</li> <li>• Pain, Grief, and Suffering</li> </ul>
2. Property Damage	<ul style="list-style-type: none"> <li>• Vehicle Damage Repair</li> <li>• Lost Economic Output</li> </ul>
3. Administration Cost	<ul style="list-style-type: none"> <li>• Police Investigation</li> <li>• Legal Costs</li> <li>• Insurance Administration</li> </ul>

Source: Cal, 2005:3185

Road traffic accident is a global problem and it impacts on global economy. In 2009 WHO estimates that global losses due to road traffic injuries are probably close to US\$ 518 billion and are likely to cost governments between 1% and 3% of their GDP (WHO, 2009). In 2011 the economic consequences of motor vehicle crashes have been estimated by WHO and it is between 1% and 3% of the GNP of the world countries, reaching a total over \$500 billion (WHO, 2011). But economic cost of RTA is more in high income countries than other highly motorized countries. According to "World report on road traffic injury prevention in 2004" of WHO, the cost of road crash injuries is estimated at roughly 1% of gross national product (GNP) in low-income countries, 1.5% in middle-income countries and 2% in high-income countries. The direct economic costs of global road crashes have been estimated at US\$ 518 billion in 2004.

The total annual costs of road crashes to low-income and middle-income countries are estimated to be about US\$ 65 billion, exceeding the total annual amount received in development assistance (Grimm and Treibich , 2010: 2).

**Table-6.18: Road Crash Economic Costs by Region**

Region	GNP, 1997 (US\$ billion)	Estimated annual crash costs	
		As percentage of GNP	Costs(US\$ billion)
Africa	370	1	3.7
Asia	2454	1	24.5
Latin America and Caribbean	1890	1	18.9
Middle East	495	1.5	7.4
Central and Eastern Europe	659	1.5	9.9
Subtotal	5615		64.5
Highly-motorized countries	22665	2	453.3
Total			517.8

Source: WHO (2004), World Report On Road Traffic Injury Prevention, p-51

Several studies have estimated the cost of road traffic injuries in Europe and it was estimated to reach €180 billion per year in the countries of the European Union, twice the annual budget for all its activities, and to account for about 2% of the gross domestic product (European Transport Safety Council, 2003).

Eastern Europe does not fare much better. The estimated economic costs of motor vehicle traffic incidents in 1998 were in the range US\$ 66.6 – 80.6 million for Estonia, US\$ 162.7 – 194.7 million for Latvia, and US\$ 230.5 – 267.5 million for Lithuania. The majority of these costs are related to injury, in which the loss of market and household productivity and the cost of medical care predominate. Property damage represents around 16% of the total for Estonia and 17% for Latvia and Lithuania (WHO,2004:52). In the countries of central Europe, the cost of crashes has been estimated to be about 1.5% of the gross domestic product, or US\$ 9.9 billion (Jacobs, 2000 ).

A study carried out in the United States, using the human capital – or lost productivity – approach, estimated the national economic costs of road traffic crashes at US\$ 230.6 billion, or 2.3% of GDP (WHO,2004:51). Of this total, medical costs were responsible for \$32.6 billion, property damage losses for \$59 billion, lost productivity (both market and household) \$81 billion, and other related costs \$58 billion in USA (US Department of transportation,2002:5).

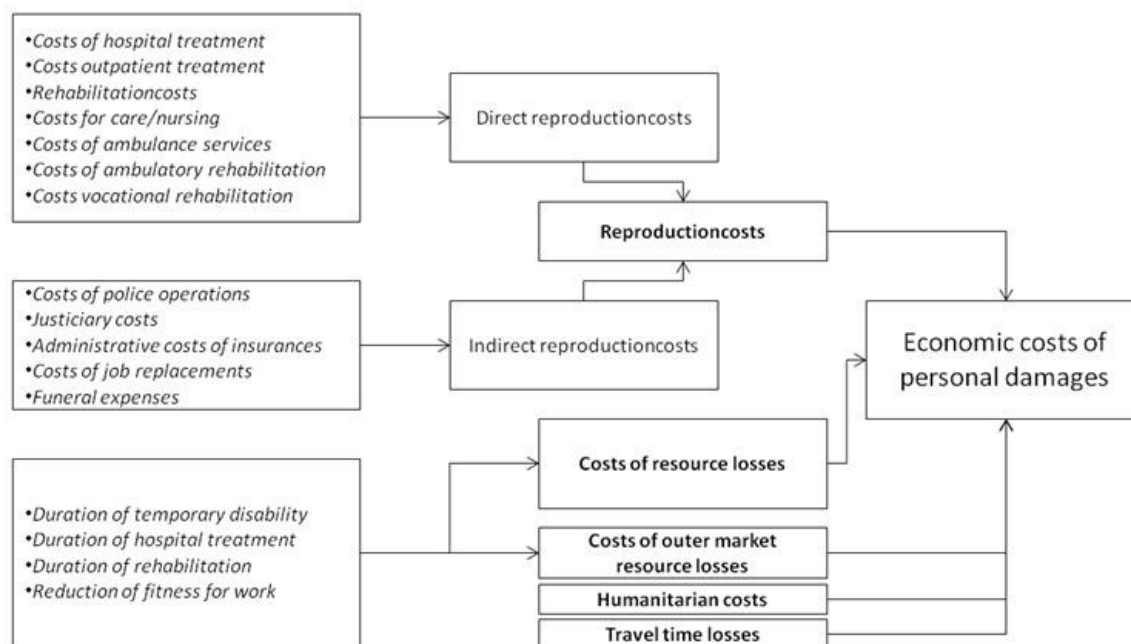
Research in Australia put that country's economic costs at 3.6% of GDP (Road crash costs in Australia. Canberra, Bureau of Transport Economics, 2000 (Report 102). The cost of traffic crashes as a proportion of GDP for other high-income countries, calculated using

the human capital approach, ranges from 0.5% for Great Britain (1990) and 0.9% for Sweden (1995) to 2.8% for Italy (1997). Averaging the cost of traffic crashes in the 1990s across 11 high-income countries, gives an average cost equivalent to 1.4% of GDP (Elvik, 2002).

The cost of road traffic collisions in South Africa for 2000 were estimated at approximately R13.8 billion (US\$ 2 billion). On the assumption that 80% of seriously-injured and 50% of slightly-injured road traffic collision victims would seek care at a state hospital, basic hospital costs alone for the first year of treatment were calculated to cost the government of the order of R321 million (US\$ 46.4 million).

Uganda has an annual road traffic fatality rate of 160 deaths per 10 000 vehicles, one of the highest in Africa. Based on average damage costs per vehicle of US\$ 2290, an average fatality cost of US\$ 8600 and average injury costs of US\$ 1933, road traffic collisions cost the Ugandan economy around US\$ 101 million per year, representing 2.3% of the country's GNP. In the mid-1990s, the cost of road traffic injuries in Côte d'Ivoire was estimated to be 1% of GNP (WHO,2004).

**Figure-6.13: Economical Costs of Personal Damages**



Source: Kranz,2010

Bangladesh is one of the developing countries of the world. There has been an alarming rise in road accidents, significantly highway accidents over the past few years. Road traffic accident has an adverse economic impact in this country. BRTA estimated that Road

accidents cost the nation around Taka 5,000 core per year and they mostly affect the rural poor more than any other demographic group ( BRTA,2014:03).

According to WHO, in Bangladesh, the annual economic cost of road traffic accidents is estimated to be around 2 percent of its Tk. 151 billion (\$1.95 billion) GDP (WHO). This is almost equal to the total foreign aid received in a fiscal year. The losses include direct and indirect expenses, such as medical costs, insurance loss, property damage, family income losses and traffic congestion.

A case study conducted in Bangladesh found that poor families were more likely than those better off to lose their head of household and thus suffer immediate economic effects as a result of road traffic injuries. The loss of earnings, together with medical bills, funeral costs and legal bills, can have a ruinous effect on a family's finances. Among the poor, 32% of the road deaths surveyed occurred to a head of household or that head's spouse, compared with 21% among those not defined as poor. Over 70% of households reported that their household income, food consumption and food production had decreased after a road death. Three quarters of all poor households affected by a road death reported a decrease in their living standard, compared with 58% of other households. In addition, 61% of poor families had to borrow money as a result of a death, compared with 34% of other families (Silcock,2003).

#### **v. Impact of RTAs on Family Income and Employment**

Impact of road accident on family income and employment can be included in economic impact. But here it is discussed separately as family level impact on income and employment is one of the most pertinent impacts of RTAs.

Employment and income are closely related with each other. If one lost one's employment, income will be reduced or closed that have negative impact on the families' livelihood. Families face difficulties in catering for their basic needs, inability to pay school fees for their children, pay bill for treatment and the fact that in some worse cases a number of families were forced to depend on handouts from friends and relatives for survival.

The impact of road accidents on family income and employment can be linked to some other factors namely as death of the family head or bread earner, permanent disability, loss of property or working capital and other family members having to stop working to care for the accident victim. A person who was economically active and contribute to

family, if he or she becomes disabled/injured due to road accident cannot contribute to his/her family like before. As a result his/her income reduces and another side is that for his treatment and caring family has to spend money. As a result the victim's dependents suffer immediate economic hardship in the loss of the victim's income and other contributions. Other costs of a family include police, legal, administrative, victim services cost, property damage and so on.

When someone in a poor family is injured the whole family gets involved; for the caring of the victim other members may spend less time for their own task. A study in Bangladesh found that 21 percent of road traffic deaths occurred to household heads among non-poor people versus 32 percent among poor people. Three quarters of all poor families who had lost a member to road traffic death reported a decrease in their standard of living, and 61 percent reported that they had to borrow money to cover expenses following their loss. Families who lose the earning capacity of members disabled by road traffic injuries and who are burdened with the added cost of caring for these members may end up selling most of their assets and getting trapped in long-term indebtedness (Anjuman, et al, 2007:30).

From the above discussion it can be said that the road accident has already turned into a matter of great concern in Bangladesh. It is unfortunate that only one person may be involved in a road accident, the entire household maybe affected financially, socially and emotionally. The cost of treatment and medicine, and the disabled man become burden to his family partially or permanently; some families lose their earning members who were physically active and breadwinner of family before accident and they have to suffer for long days. Besides the vehicle owner loses the vehicle, public property is damaged. In a word, it can be said road accident badly affects on the household, society, country as well as the world.

## **6.5 Major Road Safety Initiatives in Bangladesh**

Road Traffic Accident is a growing problem and road safety situation is deteriorating day by day in Bangladesh. The safety problem is now very severe here by international standards. In order to improve the road safety situation as well as to minimize the recurrent losses of valuable lives and properties, several initiatives have been taken by the government, non-government and donor agencies in Bangladesh. Some of the major initiatives are mentioned below:



## 1. Legal Initiatives

The Govt. of Bangladesh has already taken legal initiatives in order to promote road safety and for reducing and preventing accidents. The most important legal instrument guiding all matters relating to road traffic and road safety is the Motor Vehicle Ordinance, 1983 as modified up to 1990. Other relevant legal and administrative instruments include a) Motor Vehicle Rules 1940, b) Motor Vehicle Rules 1984, c) Motor Vehicle Tax Rules 1966, d) Metropolitan Acts and Ordinance such as:

- i. Dhaka Metropolitan Police Ordinance-1976
- ii. Chittagong Metropolitan Police Ordinance-1978
- iii. Khulna Metropolitan Police Ordinance-1985
- iv. Rajshahi Metropolitan Police Act-1992
- v. Barisal Metropolitan Police Act-2009
- vi. Sylhet Metropolitan Police Act-2009
- vii. Police Act-1861
- viii. Highway Police Rules-2009(PPRC, 2014:55)

Very recently (19 September,2018) Jatiya Sangsad of Bangladesh passed “Road Transport Bill, 2018” with provisions of maximum five years imprisonment or a fine of BDT five lakh or both for any death or injuries caused by reckless or negligent driving and death penalty for intentional murder by driving. The act would replace the existing Motor Vehicles Ordinance,1983.

### Key Features of Road Transport Act, 2018

- i. As per the act, if it is found that a driver has deliberately killed anyone or not averted a killing in a road accident, the matter would fall under either section 302 (murder) or 304 (culpable homicide) of the Penal Code.
- ii. Drivers must have an education not below the eighth grade, and nobody will be allowed to drive vehicles without license.
- iii. A person must be at least 18 to get a driving license and 21 to get a professional license.
- iv. The driver’s assistant must have an education of fifth-grade. Besides, it will be mandatory for all to have a license to be a conductor of a vehicle.

- v. A driver's license will be assigned a total of 12 points, and the driver will lose points for committing offences. When the points come down to zero, the driver's license will be cancelled.
- vi. A driver will lose points for nine types of offenses, including drunk driving, illegal overtaking, reckless and dangerous driving, and violation of traffic signals and speed limits.
- vii. No firm can recruit any driver without license and it must provide appointment letter.
- viii. No vehicle owner can hire a driver without driving license, and no one is allowed to drive public service vehicles without permission from the authorities concerned.
- ix. The government, through gazette notifications, can regulate the number of motor vehicles for a person, family, organisation and also for a certain area. It can also set working hours for drivers, conductors, helpers and other staffers in line with the labour law.
- x. Using mobile phones while driving will result to a month in jail or BDT 5,000 fine.
- xi. Driving under the influence of alcohol or narcotics will result in up to three months in jail or BDT 35,000 fine or both.
- xii. The new law will allow police to make arrests without warrants in offences which can cause a six-month jail sentence or BDT 50,000 fine.
- xiii. Penalties for unfit vehicles plying on the roads have been a year in jail or up to BDT 100,000 in fine.
- xiv. Passengers wrongly occupying seats reserved for women, children, elderly and handicapped people on public transports will face a month in jail or BDT 5,000 in fines.
- xv. Offences like driving on the wrong lane, obstructing traffic movement, transporting goods and passengers on the roof, carrying more than one pillion rider on motorcycles and riding without helmets as well as riding on the footpaths will cause up to three months in jail or BDT 35,000 fine or both.

- xvi. The government will raise a fund to provide compensation or medical treatment cost to the victims or victim families of road accidents. The funds will be overseen by a trustee board with representatives from different government agencies, highway police and organisations of transport owners and workers.

## **2. Adoption of National Land Transport Policy (NLTP)**

National Land Transport Policy (NLTP) has been adopted in 2004 by the Planning Commission of Bangladesh, which sets vision for "providing safer roads" and policies there-for, such as- road safety auditing at all phases of road projects, road construction & maintenance, speed restrictions on roads, and safety improvement of existing roads etc. which are needed to achieve the vision (RHD, 2005b).

## **3. Preparation of Safety Manual, Hand Book and Guidelines**

RHD has prepared different Manual, Hand Book and Guidelines for road safety such as the Guidelines for Road Safety Audit, Road Safety Improvement Works Manual, Road Safety Users Guide, Road Geometric Design Manual, Police Training Handbook, Road Safety Engineering Toolkit, Pavement Design Guide, Guidelines for Identification of Sites for Road Safety Improvement Works, A Guide to Safer Road Design, among others with the help of development partners under different projects. In addition, Traffic Sign Manual has been developed by Bangladesh Road Transport Authority (BRTA) in 2000 (BRTA, 2000).

## **4. Approval of Speed Limit Zoning and Speed Restriction Rules**

Excessive and inappropriate speed is one of the important contributory factors to the road accident problem in Bangladesh. Incognizance with these facts Speed Limit Zoning & speed restriction rules have been developed for different highways in Bangladesh. It has been approved by BRTA in 2005.

## **5. Development of Accident Database**

A standard format for accident information recording was designed in 1995 as an initiative under Institutional Development Component (IDC) program was adopted by Police Department and promulgated appropriate rules for mandatory use as part of "First Investigation Report" of accident cases by Police. Besides, MAPP5 software based

accident database system has been developed and data has been being stored in this software since 1998. In addition, Under Institutional Development Component (IDC), RHD has conducted road inventory survey and has prepared inventory book to identify the accident locations and find out Black spot on the road as well as to treat that location through different site-specific intervention. Computerized data base for recording registered motor vehicle and officially licensed driver's data have also been established at BRTA by the Dhaka Urban Transport Project (DUTP) funding under IDC program (RHD, 2005b).

#### **6. Establishment of National Road Safety Council (NRSC)**

The National Road Safety Council (NRSC) was established in 1995 under the auspices of the Ministry of Communications to acts as apex body for approving and driving forward the national policy and plans. The NRSC also formulated the National Road Safety Action Plan. Besides, the NRSC is responsible for holding periodic meetings to provide policy level guiding decisions and directives to road safety related stakeholder organizations.

#### **7. Establishment of Road Safety Cell and District Road Safety Committee**

Besides NRSC, District Road Safety Committees (DRSCs) at the district and metropolitan levels have been formed by the involvement of DC and SP along with BRTA, road authority and other transport / road user agencies. The committee undertakes local road safety programs according to local needs following programs and policies of NRSC. There is an Executive committee headed by the chairman BRTA to co-ordinate NGO regarding road safety issues (Hossain, 2002).

#### **8. Establishment of Accident Research Institute (ARI) at BUET**

The Accident Research Institute (ARI), formerly known as Accident Research Centre (ARC), is a Center of Excellence for the advancement of safety research in Bangladesh. After nearly six years of launching in January 2002, the Accident Research Institute (ARI) has started formally as an institute of BUET in 2008. The main objectives of the Institute are to carry out scientific research and investigation to ascertain the causes of accidents on roads, railways and waterways in Bangladesh. The institute has also given the mandated function to create awareness for safety issues at different stages of community across the country and share acquired knowledge with the professionals at different levels to ensure safer transportation system (<http://ari.buet.ac.bd/> accessed 08 August 2017).

## **9. Development of Road Safety Unit at RHD and LGED**

With the technical assistance of DFID, RHD has established road safety division in January 1999 with a view to deal with the safety aspects of national, regional and feeder roads. (Hossain, 2002). There are severe lacks in man-power, logistics and facilities, hence yet to become fully functional. Recently, MoC approved proposed upgrading of the Unit, its roles and functions and procedures for implementing roles and functions. LGED has planned to create Road Safety Unit within LGED; and undertaking activities in this regards (RHD, 2005b).

## **10. Establishment of Highway Police**

With the aim of ensuring road safety and improving traffic management on highways, the Government of Bangladesh established in 2005 a separate unit of police named Highway Police with a view to maintain and ensure discipline, traffic management, enforce traffic rules and regulation on the highway, prevent highway crime, collect and disseminate of intelligence, police patrolling as well as ensure safety on road etc.

## **11. Preparation of RTA Annual Report**

From 2001 the Bangladesh Road Transport Authority (BRTA) has been collecting and analyzing data on road traffic accident and preparing reports based on the National Road Traffic Accident (RTA) database. Since 2005, it has been continuing this process of data collection and analysis independently.

## **12. Training of Road Safety Professionals**

Efforts are underway for strengthening the capabilities of the key agencies through organizing different long and short term training program both local and overseas for the professionals and providing facility to participate different workshops, seminars and conferences on road safety.

## **13. Safety Awareness and Training**

Different safety awareness campaign and training programs have been taken at different levels in the country including professionals, transport owners & workers, students, cadet, BNCC, mass people by different government and non-government organizations under different projects and by individual initiative.

#### **14. Implementation of Road Safety Audit**

Road safety unit of RHD has started formal road safety audit on the different locations or spot of national highway from the past few years under different projects to ensure road safety.

#### **15. Geometric Improvement of Roads**

In the past decade with the support of Government of Bangladesh and donor agencies significant improvement works have taken place on the national highways as well as regional and feeder roads of all over the country by RHD and LGED. Construction of new and strategic road, widening of road, realignment of existing road, surface treatment, road and roadside improvement like shoulder improvement, providing loading, removal vision obstruction and unloading facilities were the major link improvement work among them. Besides, some of the hazardous road locations on the different national highways have been improved with the prime objective of safety improvement in Bangladesh.

#### **16. Procurement of Safety Equipments and Logistics**

Different types of road safety equipments have been procured by the concerned agencies including police, BRTA in different times under different projects to ensure road safety.

#### **17. NGO Initiatives towards Road Safety**

The Non-Government Organizations (NGOs) are playing active role in the area of road safety in Bangladesh. The activities of two leading NGOs such as BRAC and Center for Rehabilitation of the Paralyzed (CRP) are quite noticeable in this regard (Quazi, 2003). The major programs being undertaken by different non-government organizations(NGOs) include are Community Road Safety; Road Safety Training for Office Staffs; Training of Students; Publicity and Awareness; Research; Driver's Training; Treatment and Rehabilitation of Paralyzed People etc.

#### **18. Formation of Road Safety Voluntary & Advisory Group**

Many non-government voluntary or advisory groups have been formed at national, regional as well as local levels for road safety in Bangladesh. *Nirapad Sarak Chai* Work for Better Bangladesh (WBB), Safe Community Foundation, Passengers Welfare Association, Safe Road and Transport Alliance (SROTA), *Poribesh Bachao Andolon* etc. are pre-dominant at national level.

## **19. Establishment of International/Regional Cooperation Regarding Road Safety**

Various concern organizations of Bangladesh have developed effective linkages and professional exchange programs with different institutions, organizations, universities etc. at local, regional and international levels viz. GRSP, ESCAP, ADB, WB, REAAA, TRL, TRIPP and other international aid agencies and the specialized institutes in order to facilitate exchange of knowledge and technologies regarding road safety.

## **20. Community Participation**

In present time, community participation approach is being effectively used in many countries to reduce the fatalities of road traffic accidents. Following other countries, community road safety initiative has also been initiated in Bangladesh. Under the World Bank financed Rural Transport Improvement Project (RTIP) is being currently being executed by the LGED. An intensive road safety campaign involving the community was undertaken by the joint effort of Roads and Highways Department and BRAC. This awareness campaign helps to increase road safety knowledge among the rural people of Bangladesh.

The government of Bangladesh has already taken various initiatives to reduce the rate of road accidents. Some non-government organizations are also working to ensure road safety. But the initiatives are not sufficient and despite growing burden of road traffic accidents road safety issue has received little attention. As road traffic accidents are predictable and preventable, so the principal preventable factors need to be acted on include better road design and traffic management, enforcement of speed limits, improving maintenance of vehicles, and strictly dealing with offenders of traffic laws including severe punishment for the drivers. However despite various initiatives for averting road accidents and saving lives and disablement in case of accident, little can be achieved without political will and commitment and cooperation of people.

## **CHAPTER SEVEN**

### **Findings of the Study**

The purpose of this chapter is to provide a qualitative analysis of the findings which are mainly based on primary data collected through face-to-face semi-structured interview with open ended interview schedule, focus group discussions (FGDs) and observations made by the researcher. The chapter covers nineteen informants of road accident survivors who are now physically disabled due to road traffic accidents. It describes the socio-economic conditions of the case respondents, nature and causes of road accidents, the consequences of the accidents to their lives. It also examines the survival patterns, vulnerabilities and coping strategies of RTA survivors. For effective analysis the findings of this study have been categorized according to the following themes with the use of relevant quotations based on study objectives.

#### **7.1 Demographic and Socio-economic Condition of the Respondents**

##### **7.1.1 Age Structure**

More than half the people killed in road traffic accidents are young adults aged between 15 and 44 years – often the breadwinners in a family (WHO,2004). The age distribution of the respondents reveals that both of the male and female respondents were from different age group. The study was conducted on those who were physically active or/and involved in any type of income earning activities before accidents. For this reason no child or aged was included in this study. Furthermore, young aged are mostly engaged in different types of works and they have to travel many places every day. As a result they become the prime victims of road accidents. It has been reflected in this study. The age of the respondents was ranged from 20 to 55 years and average age was 36.79 years.

##### **7.1.2 Sex of the Respondents**

According to WHO(2015), from a young age, males are more likely to be involved in road traffic crashes than females. About three quarters (73%) of all road traffic deaths occur among young males under the age of 25 years who are almost 3 times as likely to be killed in a road traffic crash as young females. In the study it becomes clear that out of the total case-respondents interviewed, majority(16 respondents/84.21 %) of them were males and



the remaining 03 (15.79%)) were found to be females. It has here been stated that males are at higher risk of road accidents as compared with females. This is because males are the main breadwinners in maximum number of families and they have to travel almost every day for livelihood. On the other hand, females are involved in different indoor activities and stay at homes. As a result they are not at high risk of road accidents in Bangladesh.

### **7.1.3 Marital Status**

Marriage is one of the most important social institutions. As the age of the respondents in this study was ranged from 20 to 55 years, all were of marriageable age and it is found 63.16% case respondents were married and remaining (26.32%) were unmarried, where as 10.52 per cent of the respondents are found to be widows/widowers.

### **7.1.4 Household Size**

More than half of the households in Bangladesh are composed of two to four members. The overall average household size is 4.5 persons, as compared with 4.6 in 2011 (GoB, 2016). In order to obtain an idea about the household size of the study area information regarding the number of household member was collected. The study revealed that the family of respondents consisted of three to six members and average size was 4.16 persons. All households of the study were headed by males.

### **7.1.5 Occupation**

The selected respondents in this study were physically active and involved directly or indirectly in different types of occupation for their livelihood before being the victims of road accident. Out of all the respondents almost half (9 respondents) were transport worker like drivers and helpers. Three respondents were farmer and two respondents were found engaged in service/job. Two respondents did not relate with any paid work. They serve for the family and most of the time they spent in household works. The rest of the three respondents were gardener, cloth seller, and vegetable seller. But road traffic accidents changed everything and most of them lost or changed their previous occupation. A small number of respondents were found unemployed and leading their lives with the support of families. But most of the respondents adopted various occupations like small business, poultry farming, wage labour, running tea stall, household works, begging, street

vending, house renting, driving, small shop keeping, sewing, electronics repairing work etc. for their livelihood.

### **7.1.6 Educational Status**

In any society education plays a major role to determine one's status in family or society. It is considered as one of the important components of human capital. Education enhances knowledge, efficiency and human qualities. But the condition of the respondents in terms of educational qualification reflects the lower status. For many reasons many people in Bangladesh do not get the opportunity to complete their study. Regarding access to education it was found that most of the respondents had primary (grade 5) to secondary level (grade 10) of education. Some of the respondents only could sign their name and a small number of respondents were found illiterate. Only three respondents were found to pass Higher Secondary Certificate (HSC) examination (grade 12).

### **7.1.7 Possession of Land, Homestead, Ponds, Trees, Livestock and Poultry**

In this study operational holdings (land), homestead, ponds, trees, livestock and poultry were considered as issues to assess socio-economic conditions of respondents. These are called natural capital that refers to the natural resource base that yields products utilised by human population for their survival. In this study, it was found that many of the respondents are living in urban areas and do not have ponds, trees, livestock and poultry. Even some of them do not have homesteads of their own. As a result, they live on *khash* (government-owned) land or in rented house as is the case of one of the respondents, named Baten, who is living on a piece of government *khash* land with his family. He stated:

*“I live on a piece of government khash land in a kancha (non-concrete) house. I do not have any homestead of my own. Every day I pass my days amid fear of eviction from the government khash land.”*

**Box 01: Baten**

Baten is a 42-year-old man. He is married and lives with his wife and one daughter in Dhaka city. He used to work for a private company as a gardener before turning incapacitated by road accident. Now he cannot work properly, but continues to struggle for a livelihood as he sells *jhalmuri* sitting beside roads. He is a literate person. He lives at a shanty on government *khash* land with family. His monthly income is not more than BDT 15,000 wherein a big slice comes from the income of his wife who is a garments worker. But this amount is quite insufficient for his family. His only daughter goes to school and he has a dream centring the future of his daughter.

Most of the people in Dhaka city have no homestead of their own and they live in rented house. It is also applicable for Dhaka-based road traffic accident survivors. In general, they do not possess any natural capital and live in hardship. But some of them have land, homestead or any other natural capital in their village home. Respondent Shakhawat belongs to this category, who described:

*“Now I am staying alone in Dhaka in a small rented room. So there is nothing left to me here. At my village home I have no land except dwelling house of my own where my family members live. There are some trees and a pond in the back yard of the house.”*

If a person becomes disabled due to a road accident, s/he cannot contribute to his/her family as usual. In most of the cases, his/her income reduces, and the other aspect is that for his/her prolonged treatment and care, there needs extra expenditure which is not always possible to bear by the family. Most of the families do not have enough savings or capacity to manage the money. As a result, the victim or his/her family may end up selling most of their assets and getting trapped in long-term indebtedness. Respondent Jakir explained his case:

*“Once I had everything- land, pond, trees, etc. Now I remain stranded. I have no land of my own and the lands which I had were sold for the sake of my treatment. Not only my land, I had to sell almost everything. Now I am living with my wife in a small room on a rental basis.”*

Another respondent Abul was well off before his accident. He had a land for cultivation which was one of the important sources of his family income. But after his accident, he had to mortgage it to bear the expenses of his treatment. According to his statement:

*“There is a house in my village. I’ve some cultivable land also. But those lands are mortgaged to people. Although there are some trees in the homestead, there is no one to look after those.”*

Bangladesh as an agricultural country and most of the people living in villages depend largely on cultivation. So, the respondents who have been selected from village area have natural capital like cultivable land, homestead, ponds, trees etc. Respondent Al-Amin lives in a village and his family owns cultivable land with homestead. He said:

*“I have five kathas dwelling house land, fifteen kathas cultivable lands where I cultivate different types of vegetables and crops. It meets the yearly need of my family. I do not have ponds, but there are different trees in my homestead.”*

In another case respondent Sonia expressed:

*“We have dwelling house on 10 kathas of land, which is full of different types of trees. We also have cultivable lands where we cultivate crops and vegetables. But those can not fulfill the yearly need of my family. I rear some domestic animals too.”*

Yet another survivor Mamun has the same opinion. He told:

*“In Upazila sadar we have a house and some lands for cultivation. There are some trees, but no ponds in my house. Sometimes we rear domestic animals like hens and ducks.”*

In rural agrarian societies, the access to farm land and its ownership is important for livelihoods. These resources are also the economic capital because the access to land offers employment and income for the farmers. In Bangladesh, those who live in villages mostly have at least homestead and a piece of land for cultivation. Family members usually work as labourer in farmland and the female members rear domestic animals at home. Besides, they have natural capital like ponds, trees, etc. Respondent Hanif stated:

*“I have a dwelling house land some cultivable lands. There are also some trees beside my house. My mother also has some domestic animals. My*

*father and elder brother do cultivation. There is also a pond in the backyard of my house where we cultivate fish for ourselves.”*

In another case respondent Rofiqul who lives in a village said:

*“We have a dwelling house with pieces of cultivable land. There are some trees beside of my house. There is also a pond to cultivate fish for our own consumption and it’s not for sale. There are two cows that give us milk, but we do not have any hen or duck”.*

River erosion is one of the natural calamities in Bangladesh. It has an adverse impact on livelihood as homesteads are destroyed, cultivable lands are lost and employment opportunities are reduced. In most of the cases, homesteads in riverbank areas are located next to the agricultural field. Destroyed homesteads imply that the family or individual(s) have lost total assets. Such loss pushes them to a state of sheer displacement whereby little or no opportunity remains to survive. Another respondent Hafiz now lives on begging in Dhaka City as he has lost everything due to river erosion. He expressed his views as the following:

*“I do have everything of my own but river erosion has taken away everything from me. Once I had cultivable land, homestead... everything. I was a happy person then with my family. Now I am totally landless and I do not have any natural capital to say. Everything has been devoured by river...”*

But respondent Jamal has land, trees, livestock etc. and these resources contribute to his livelihood. He stated:

*“I have a dwelling house and some cultivable lands. I also cultivate land owned by others, which altogether contribute to arrange the annual food supply for me. I have two cows, some hens and ducks too. I also have a vegetable garden of my own.”*

By analysing the respondent’s ownership of land, homestead, ponds, trees, livestock and poultry, it has become clear that most of them do not have enough natural capital of these types. Most of those live in rural areas have the homestead to live, but do not have cultivable land. Very few respondents said they had cultivable land, but it was not enough or had to sell or use as mortgage for treatment after road accidents. Ownership of cultivable land is one of the important indicators of economic empowerment in rural areas.

So, it is clear that they are not economically well off. But those having at least homesteads in their village, have vegetable garden, pond, livestock and different types of trees. On the other hand, the respondents of urban areas or in Dhaka City do not own any natural capital. They do not have the homestead of their own and live in rented house or in government *khash* land in most cases.

### **7.1.8 Housing Facilities, Civic Amenities, Furniture, Electronics and Jewellery**

Any household is incomplete without access to civic amenities that include water, sanitation and electricity as we consider complete housing in conjunction with these facilities (Hussain *et al.* 2010:57). In this study housing facilities, civic amenities (toilet facilities, source of drinking/bathing water, electricity) household furniture, electronics and jewellery etc. were considered as important issues to assess socio-economic conditions of road accident survivors.

Shelter or housing facility is one of the basic needs for people as their livelihood component. Without healthy housing facility livelihood objectives cannot be achieved. But when a person lives on government's *khash* land of then, it becomes very clear that s/he is totally deprived of housing facilities. One of the respondents Baten is a such type of person who lives on *khash* land as he has no other alternatives because of his limited income. He stated his situation as saying:

*"I have been living on a khash land of government in a kancha house (shanty). There are no minimum housing facilities here. As I do not have the ability to rent a house in Dhaka city, I am staying here anyway. There are many problems but problems of toilet and drinking/bathing water are the acute ones. But I have cell phone, television, cot in my shanty."*

Once electronic commodities were used to be the symbol of social status. But nowadays it is used as necessary commodities. Therefore, electronic goods are the important items of physical capital. But all types of important electronic items are not used by every respondent due to their poverty. Television and refrigerator are common almost in every family, but another respondent Borhan had his version when he was asked about television:

*"...television?... I have. There is a television at my residence which I received from my father- in-law's house. But it is dysfunctional much like*

*me. The condition of fridge is also like the TV. I bought the fridge on installment.”*

Another respondent Ranu has most of the housing facilities as she is staying in Dhaka City. She lives in a rented house with her family wherein she avails electricity, gas, water and sanitation facilities. But she does not have any gold jewellery as a woman. According to her expression:

*“We three live in a small rented house. Not much furniture is there. I had meager gold ornament which I was given at the time of my marriage. But I had to sell it for my treatment. We have a small TV, which my daughter received thanks to a lottery.”*

### **Box 02: Ranu**

Ranu is a 45-year-old woman who lives with her family in Dhaka City. She did never go to school, but learnt how to read and write from her daughter. Due to road accident, she became physically disabled and stays at home. But she used to work as a vegetable vendor before the accident and could somehow support her family. Her husband is a rickshaw-puller and one daughter works at a garment factory. With small income, they try to keep up their family.

The respondents who belong to urban or suburb areas, live in *pakka* house wherein they usually get the facilities of electricity, sanitation and even cooking gas. But there is no gas for cooking at the house of a respondent named Al-Amin. He said:

*“In my house there are three rooms- one is half pakka while the other two are kancha. There is electricity available, but no gas. That’s why, we have to cook using wood. I could not buy TV or fridge because the accident made me disabled - economically and physically.”*

Another respondent Tazul described:

*“Due to soaring house rent in Dhaka City, I manage to live somehow in two small rooms. It is not exactly living, it is just continuing life. In my rooms, there are electricity connection, gas and other facilities. There are also table, chair, fan, beds and some other furniture in those rooms.”*

In Bangladesh all the people are not facilitated by electricity. Accessing electricity is a far-reaching dream for many families in the rural area, about 80% of the population are living in the rural and remote areas wherein a paltry 25% people avail electricity (Taheruzzaman and Janik, 2016).

Another respondent Salim is a type of people who lives in rural area and is still out of the reach of electricity. Neither he has electricity connection, nor tube well facility for pure drinking water. But accessibility to safe drinking water is fundamental for lowering the risk of water –borne-diseases (Kabir and Ahmed, 2012:53). Salim stated:

*“...gas ,electricity, sanitary latrine... these are not for us. There is a tube well owned by my neighbour from where we fetch drinking water. As we are living in village, we can not think of natural gas. Even electricity is yet to reach our house.”*

Respondents Sonia said:

*“I have only one room, in which my parents and I live by dividing it into two parts using boards. In my part, there are almost all useful furniture items like cot, dressing table, reading table etc... I use a mobile phone which was in fact bought by my brother. But as a woman, I do not have gold ornament in abundance. I just use a nose pin and a gold-made ring.”*

Types of household furniture owned by a person are one of the important issues of his/her physical capital. Most of the respondents in this study have basic furniture in their houses. But those who are well off have better and luxurious furniture along with other facilities in their houses. Besides, they have electronic commodities like TV, fridge, cell phone etc. But some religious/conservative families think that watching TV is a sin. Respondent Mamun is of such opinion:

*“...we have ability to buy television, but there is a kind of religious restriction in my family. That’s why, we didn’t buy TV. But we do have other furniture like table, fridge, fan and mobile phone in our house.”*



Respondent Hafiz described:

*“We lived in a Kutcha house wherein there are almost no housing facilities and civic amenities. We have electricity access by means of which we can run a TV...mobile? yes...it is the age of mobile phone. Now a beggar can use mobile phone. But there is no furniture in the house except for table and tiny almirah...jewellery?...we just cannot imagine. ”*

By analysing the housing facilities, civic amenities, furniture, electronic and jewellery items possessed by the case respondents, it becomes clear that the housing facilities and civic amenities are not available to all the respondents. Some of them are living in *kutcha* house while one of them is living on *khash* land in a shanty. Most of the respondents living in urban area live in rented house where there are electricity, gas and sanitation facilities. But in rural areas, many people are deprived of electricity, gas and pure drinking water. In this study, a few number of the respondents from the rural area are out of such facilities. Nowadays, some common furniture items like cot, chair, table etc. are used almost in every family. Besides, there are some other furniture items a few of the respondents use. In case of electronic items, it was found that almost all respondents use cellphone and most of them have TV and fridge. One of the respondents does not have TV as his family thinks that it is prohibited in religion. On the other hand, only one female respondent was found to have gold ornament.

#### **7.1.9 Physical Condition and Treatment**

Physical condition is the condition or state of the body or bodily functions. Good health is one of the significant components contributing towards productivity and economic growth of a country (Hussain et. al, 2010:15). Good health or physical condition enables the people to pursue different livelihood strategies efficiently and helps to achieve livelihood objectives. But in this study, the health condition of the respondents is not good at all. All of these respondents became physically disabled due to road accidents that stand in the way of pursuing one's livelihood strategy effectively. Pain, fatigue, obesity and depression can occur as a result of having such a crippling condition. Moreover, these people are suffering from various diseases while some of the health problems are directly contributed by road accidents.

RTAs cause many types of injuries -- ranging from minor to catastrophic. But some of the most devastating ones are spinal cord injuries. A severe form of such injuries can lead a road accident victim to a paralysed condition and result in his/her suffering permanent

impairments depending on the location of the injury on the spinal cord that has a serious effect on one's ability to perform everyday functions. Respondent Mamun is a victim of this type of road accident and he cannot move without wheelchair due to his spinal cord bruise. He told:

*"I can not stand up properly as I have some problems in my spinal cord. I spend mostly sitting on the wheel chair. Although I am physically fit, I can not walk. I do not have any other sickness. Now I am taking physiotherapy due to which my condition is improving gradually...only the Almighty Allah knows when I will be able to stand up properly."*

In this study, all the road accident survivors became injured by road accidents. But most of them got bruised in legs or waist and some of them continue to suffer from the pain. One of the respondents Ranu, who explained her experience about health condition, said:

*"...my physical condition is not well. The accident has taken away one of my legs. Still, I sometimes feel pain in my leg. I was hit in my waist, which is causing sufferings too."*

Another respondent Al-Amin is also suffering from pain in his head and chest, which is the outcome of his accident. He talked about his health condition:

*"My head and chest was also hit beside my leg during the accident. Still, I feel pain there on and off. Following the pain, I'm taking medicine round the year. At times, the pain goes beyond its tolerable limit. In such case, I find no alternative other than crying like a baby."*

Some of the cases lead to sufferings from serious health complexities like heart disease along with physical disability. But they cannot go to specialist doctors for better treatment due to their financial inability. They spend huge money for treatment immediate after the accident. In the meantime, their physical inability get translated into reducing their earnings that hinder them further to bear expenses for better treatment. Like respondent Salim stated:

*"My physical condition is not good at all. I also have heart blocks which gives me pain on and off. I feel the need to go to doctors, but find no way. Sometimes I starve... how can I afford the cost of my prolonged treatment. Road accident not only made me physically crippled, but also turned me helpless."*

Another respondent Jahangir, who is suffering from heart diseases that made him paralysed, said:

*“I had one mild attack already. One of my hands is now paralysed. It is, therefore, very tough on my part to do work using a single hand. I am always afraid of further cardiac arrest.”*

The health condition of respondent Shakila is miserably bad. She cannot move alone following her disability. In addition, she is suffering from heart diseases. She has nobody close to look after her or seek doctor’s help for her. Also, she is undone by her affordability to receive required healthcare services. She stated:

*“... now my physical condition is really bad. I can not afford my treatment cost. I suffered stroke two times, and have diabetes too. The bone in my waist have got broken down. There is nobody who can take me to the doctor and also, there is no money left in hand... I am waiting for my death.”*

In spite of physical problems and ailments, most of the survivor respondents are not financially capable of affording their treatment cost. It is true not only for the road accident survivors, but also for most of the Bangladeshi people. According to the Bangladesh Bureau of Statistics in 2010, 15% of sick people were not treated due to their inability to pay for the (relatively) high cost of healthcare (BBS, 2014). One of the case respondents Baten said:

*“Due to the accident, I lost one of my legs. Now I move on crutches. Sometimes, the place of my leg from where it's partially cut off causes pain. But I can not take treatment for it due to my inability to afford the treatment cost.”*

In Bangladesh, health facilities such as private clinics, hospitals and specialist doctors have substantially marked an improvement in the urban areas. But the availability of registered or qualified physicians, however, is scarce in the rural areas. Rural people thus have to depend on the pharmacy salespersons, quacks and *kabiraj* or spiritual healers. Unless seriously ill, they do not want to go to the specialist doctors. Expenses of treatment are not affordable for most of them and it is one of the main reasons for them to go to local doctors rather than going to the specialist doctors. Respondent Bashar, who is apparently in good health but often goes to nearby local doctors whenever falls sick, said:

*“I do not have any bigger physical problem rather than my physical disability. But it is tough to say how long I will be able to stay without further illness...whenever I fall sick, I go to the local doctors. As the fees of an MBBS doctor is quite high, that option is not viable for me.”*

It is said that the healthcare system of rural Bangladesh is not satisfactory till now. Although the majority of the country’s population live in rural areas, the majority of health professionals work at centres located in urban areas. As a result, many people are remaining out of proper treatment. Moreover, some people due to their ignorance stay confused about their illness and take help from *kabiraj* or *imam* and do not seek treatment unless their conditions turn serious. Respondent Tazul, who was motivated by a local *kabiraj* to use medicine which is often harmful, described his experience:

*“One of my legs has broken due to the accident. I move on crutches. I also got hurt in my hand and backbone that too give me severe pain. Even sometimes, it continues for day after day. I use medicated oil from a local kabiraj to get relieved of the pain, but the situation is yet to get improved. Sometimes, the pain goes beyond its tolerable limit. I do not know whether I will be able to get well or not.”*

### **Box 03: Shakhawat**

Shakhawat is a 32-year-old young man. He is married and once he had a happy family consisting of five members in a Munshiganj village. He was a service holder prior to the accident and able enough to support his family properly. But now he is unemployed and leads his life depending on his family's support. He studied up to class eight. For the need of his family, he had to engage in a job giving up study. At present, there is no specific source of income for his family, but he fortunately gets help from his two elder brothers who are in services now.

Though all the respondents are physically disabled, some of them are still in good health. They do not have any other physical illness. But if they fall sick, a small number of them can afford to go to specialist doctors for taking treatment. This is what case respondent Jakir mentioned:

*“By the grace of Almighty Allah, I do not have any acute disease. My physical strength is not that bad despite losing a leg. Whenever I fall sick, I usually go to the specialist doctors as I do not have faith in anything else.”*

Respondent Shakhawat is suffering from physical health problem following his disability. But he stopped taking treatment as his doctor could not give him any hope for improvement of his health condition. Besides, he has no ability to bear the expenses for better treatment. He informed:

*“I do not have the ability to take treatment. Besides, I think treatment can not change my fortune. Doctors have already informed me about my condition. It's my fate that I have recovered up to the current level.”*

The road accident victims who could not receive proper treatment in due course of time for various reasons have been suffering a lot. One of the respondents suffering from similar problem is Solaiman whose leg is in such a condition that neither he can bear its pain nor can he treat it. His leg has turned into such condition due to the lack of proper treatment. He explained his health condition saying:

*“Neither can I continue with my paralysed leg, nor can I cut it off. I am going through an awkward condition. My leg swelled too much when it got hurt. I walked with the help of a stick. I want go to doctor for treatment, but I have no financial capacity. I do not know actually whether I'll have to bear the rest of my life living in this condition.”*

Upon analysing the statements of the respondents, it is evident that all of the case respondents are physically disabled due to the road accidents. In addition to their disability, some of them are suffering from various diseases like diabetes, heart disease, chest pain, waist pain etc. But almost every respondent has a common issue -- they do not have financial capacity to bear the expenses for better treatment. As a result, most of them go to local doctor or *kabiraj* for treatment whenever suffer from ailment.

#### **7.1.10 Monthly Return, Savings, and Microcredit**

Income, savings, microcredit etc. describe the financial capital that people use to achieve their livelihood objectives. In this study, it was revealed that maximum number of respondents do not have enough financial capital to lead a standard level of living. In Bangladesh, the road accident survivors who became physically disabled remain

financially excluded over the course of time. Post-accident medical cost pushes many families to poverty. Besides, most of them due to their disability have very limited or almost no income of their own. But in some cases family members are engaged in income generating schemes, which, in turn, is supportive for them to manage their family.

According to respondent Baten:

*“My economic condition is so bad that I used to live in a roadside slum. I do not have the ability to rent in a house for my family. Now I sell jhalmuri sitting beside the walking street and whatever I earn from the scheme is not enough for me. To support our family, my wife recently started a job in a garment factory and now with her income we somehow try to manage our family. Our monthly income would not be over BDT 15,000. ...we do not have any savings for our future. ”*

When a person becomes disabled, he is not treated equally in our society. As a result, s/he is often deprived of rights whatever s/he deserves. Even if anyone intends to work defying his/her disability, s/he is not given enough scope. Sometimes, s/he does not get equal wage even after putting in equal efforts in work that results in less income and de-motivation. One of the respondents (Abul) said:

*“I can drive, but it can not help me alleviate the poverty of our family. One of my legs is damaged. This is why, CNG auto-rickshaw owners at times do not let me drive their vehicle. It creates disturbance in my flow of income. My earnings are not the same every month, but on an average it would be BDT 12,000 to 15,000.”*

In many low-income and middle-income countries and sometimes in high-income countries as well, the cost of prolonged care, the loss of the family breadwinner, funeral costs and the loss of income due to disability pushes a family into poverty. In this study, all the case respondents are physically disabled and a small number of them are out of employment still now. They have no income, no savings. Furthermore, they had to take treatment-purpose loan which is yet to be paid. Like respondent Shakhawat said:

*“As I am now fully unemployed, I do not have any income. My wife works as domestic help in other houses. Sometimes, I have to take microcredit from local NGOs. If I had income or savings, I would not have taken microcredit.”*

He further added:

*"I used to eat rice without curry and even starve at times. I use clothes used by others as I can not buy new clothes for me."*

In another case, respondent Borhan informed:

*"I have a small shop of betel leaf-bidi-cigarette from which I earn very little that is BDT 12,000 to 14,000...there is no other source of income for me. ...I can not fulfill all my demands or that of my family. The costs are continuously on the increase day by day, but there is no way to increase my income."*

Most of the people who became physically disabled due to road accidents cannot work. As a result, they have to either find out the alternative source of income or depend on family help. Such has been the case of respondent Zakir who cannot work due to his disability, but he managed to earn money by renting out a room of his house and a battery-run auto-rickshaw. He tries to maintain his family with whatever he earns. He stated:

*"My family is doing well with the money I earn. I get BDT 15,000 to 20,000 on an average every month from the rent of a room and battery-run auto-rickshaws. I do not know how many days I will be able to do so. I do not need to pay any rent, instead I get rent that helps me bear my family expenses; but I cannot save anything for future."*

**Box 04: Zakir**

Zakir Hossain is a road traffic accident victim who is 45 years old. He lost one leg in accident and now walks using a crutch. He has a family of five members consisting of wife, two daughters and one son at Savar, Dhaka. He could not study, but somehow can put his signature. He is the only earning member of his family. Driving was the main source of his income before the accident. But he became physically disabled after the accident and hence cannot drive now. He has rented out a room of his residence as a shop and five battery-run auto-rickshaws for his livelihood.

Women's participation in labour force is a widely accepted factor for their sound economic status. In Bangladesh's male dominant society, women are in a disadvantageous position. Most of the women do not have easy access to credit and other income

generating opportunities. Furthermore, if any woman suffers from physical disability due to road accident, she faces double trouble in her life: one for being a woman, and another for her disability. Like most of the disabled women in Bangladesh case respondent Ranu stays at home and depends on her family income. She described:

*“...zero, my income... I had my earning opportunity before my accident and I used to sell vegetables at that time...now I cannot go outside my living room due to the disability. My husband is a rickshaw-puller and my daughter is a garment worker...I live on their earnings. I do not have clear idea about their income, but what I know is that we have no savings. It is even beyond our imagination.”*

Another female respondent Sonia said:

*“I am unemployed, but I try to help family with my sewing work. All of my elder brothers are engaged in different income generating activities and they manage our family. Besides, we have cultivable land. My mother rears duck and hen at home. ...monthly income? ...I do not know. It may be BDT 15,000 to 20,000. ...no, no...we do not have any credit.”*

In Bangladesh, a large number of disabled road accident survivors do not have access to employment. On the other hand, those in employment have very limited income, which is not enough for running his/her family. As a result, they have to lead a very miserable life and some of them think that it is better to die than living on. Respondent Jahangir had such an expression:

*“...how much a disabled person can earn? It is so tough to run the family by this little income. I think it will be good for me if I die. I can not bear this pain anymore. The man who is disabled physically is disabled economically too.”*

Most of the victims of road accidents are from poor families. They do not have enough annual income and savings. In addition when a person becomes disabled after accident, s/he cannot work as before. So, his/her income takes a downturn or reaches a level of total halt. In this situation, s/he cannot think about savings for future. One of the respondents Salim expressed:



*‘Though I have become disabled due to road accident, I run a small tea stall now. I do not have any other source of income. From the tea stall, I earn BDT 12,000 to 14,000 per month. But the income from it is too small to arrange good food for my family and educate the children. Even I had any scope for savings, I could have used it for the education of my children.’*

Sometimes, the financial capital of the family of a disabled road accident survivor helps him/her have a normal life. Though s/he is unable to be engaged in income generating activities, the annual return from the service of other family members, remittance or agriculture play important role. This was evident in respondent Rafiqul’s version:

*“My economic condition is not so bad. One of my brothers who stays abroad sends me money every month. Another brother is police officer who also gives me some money per month. Besides, we have some cultivable lands from which we earn. Monthly expendable total may be BDT 20,000 to 25,000...We have neither any savings nor any credit.”*

Bangladesh is an agricultural country and most of the people are dependent on agriculture. It is also a major source of rural occupation. So, those living in rural area are directly involved in agriculture, which is their main source of income. Respondent Al-Amin lives in a rural area with his family and he was basically a farmer before his accident. Due to his disability, he cannot farm properly by himself; but he looks after it. He stated:

*“I have five bighas of cultivable land where I cultivate different types of seasonal crops. But now farming is not profitable...It is due to high cost of fertiliser, seeds and low price of crops...my monthly return from farming is not fixed and it depends on the season of harvest...but it can be said that whatever I get is not enough to run my family. One of my sons is in a job and he tries to send every month BDT 5,000 to 7,000, which helps me manage the family expenses...I have taken a small amount of loan from one of my relatives and I could not repay that as yet.”*

Financial capital is the vital indicator that is crucially responsible to measure the socio-economic status of anybody and any family. But people in begging are not sound by their own financial capital due to poverty and less income opportunity. They often have no

earning member in family. These factors push them to indulge in beggary for long. Respondent Hafiz argued:

*“You need to understand the economic condition of a beggar. I do not need to explain it to you. No one does beg unless s/he is so helpless...how much I earn every day?...no, it cannot be discussed.”*

It has become clear by analysing the statements of the respondents that the financial capital or condition of the respondents is not so good. Most of them have lost their income, or their income has got reduced or they are even suffering from no income due to their physical disability. The income level of most of the respondents ranges from BDT 20,000 to 25,000 per month, which is not enough to maintain a family well in terms of present market value. As almost all of them have limited income, it is tough for them to save for future. Nobody in this study was found to have savings. On the contrary, some of them had to take microcredit from local NGOs or relatives. One of the respondents gets remittance support from abroad. Another does begging. Some others live on the income of their family members.

## **7.2 Causes, Nature, and Consequences of Road Traffic Accidents**

### **7.2.1 Causes of Road Accidents**

Road accident is an unfortunate incident that takes place unexpectedly and unintentionally often resulting in damage(s) or injury. There are many factors that contribute to occurrence of road accidents. Among various causes, competition between drivers of two speeding vehicles to overtake each other is one of the common ones, which is usually found on roads in Bangladesh. But on many occasions the result of such competition ends up in tears. Baten is one of the victims of such kind of unhealthy competition. He said:

*“Mainly the competition between two buses was the reason behind my accident. I was working on the divider of roads and I think I was not at fault. But due to their injurious competition I am now physically disabled and suffering a lot.”*

Reckless driving can contribute to both the frequency and severity of road accidents. Such driving is one of the important causes of road accidents in Bangladesh and it mainly depends on the driver. In most of the countries, there are rules on speed limit of vehicles. But in many cases, drivers ignore the speed limit to reach their destination faster or to

overtake other vehicles. Accidents occur as a result. The government in Bangladesh recently fixed the speed limit of vehicles on highways across the country at 80 kilometres per hour. Speed of the vehicles would be detected through a 'Speed Governor' machine to be installed in every vehicle and if any driver tries to violate the limit, his vehicle will get stopped automatically (Daily Prothom Alo, August 10, 2015). It is a good initiative to check excessive and inappropriate speed of vehicles. But as it is yet to be properly implemented, many people are becoming the victims of road accidents. Respondent Shakhawat postulated:

*“The main reason behind accident on that day was reckless driving by the driver. We, the passengers of the bus, felt scared seeing the driver’s movement and his reckless driving. We sensed that an accident may take place any time and it turned out to be a sad reality...Later, we came to know that the driver was driving too fast to run away after having committed yet another accident earlier.”*

Defective vehicle can also be a threat to road safety. According to Bangladesh Road Transport Authority, more than 2.1 million vehicles of all modes are registered with the authority and 0.313 million have become unfit now across the country. Nearly 0.09 million of the total unfit vehicles are in and around Dhaka city (The Financial Express, July08, 2015). Respondent Abul became the victim of road accident due to defective vehicle. He said:

*“...Neither me, nor the driver was at fault. It was in my fate. The brake was not well checked before driving. As a result, the vehicle suffered from brake failure, which led to the accident. If the vehicle was not defective, there wouldn't have any accident. My life wouldn't be like this.”*

Another respondent, Mamun, had the same experience. He narrated:

*“...reason behind the accident on that day was brake failure of the vehicle that I was travelling with. That's why, the driver failed to control the vehicle even after putting in all his frantic efforts that eventually resulted in the accident.”*

Pedestrians, too, have responsibilities for road safety as well as to avoid road accident. But most of the pedestrians in Bangladesh have very little knowledge of or ignorance about traffic rules. Moreover, it is found that pedestrians prefer crossing the road rather than

using foot over bridge. Some of the vehicles move on with high speed and it is tough on part of the drivers to control if any pedestrian suddenly appears before the vehicle and accidents occur as a result. In 2010, a survey was conducted in Delhi to evaluate risk perceptions by pedestrians while crossing the roads through intersections. It was found that among 250 pedestrians, only 17% considered the crossing to be safe (Rubayat & Sultana, 2013:49). One of our respondents Ranu is now a victim of road accident and she thinks that it was not wise for her to cross the road by walking rather than using over bridge. She described her accident as saying:

*“I know the reason behind the accident on that day. It was my fault that I crossed the road by walking instead of using the foot over bridge. This accident wouldn’t have taken place had I used the foot over bridge.”*

Sometimes drivers use the wrong side of the road to reach their destination rapidly. When a driver goes the wrong way, there is a possibility to face head-on collision with any other vehicle. The rate of such type of accident is not so low in this country. Respondent Jakir faced such an accident that occurred due to driving the wrong way. He explained:

*“The vehicle from the opposite was on the wrong side and the accident occurred when it had collision with my vehicle. But it may be the result of my offence. Otherwise, why should such an accident take place?...”*

Bad weather, including heavy fog in winter season, also causes major traffic accidents in Bangladesh. Fog reduces visibility, limits contrast, distorts perception and causes many accidents each year. Respondent Selim stated:

*“I was in a hurry on that day to return home finishing my work. Moreover, I wasn’t able to see the road clearly because of fog. For that reason, when I tried to turn over my vehicle, it fell into the trench beside the road.”*

### **Box 05: Selim**

Selim was born in a poor family. He is 45 years old and the eldest of two sons of his parents. He is illiterate and due to his father's death he had to take the responsibility of his family at an early age. He learnt driving for his livelihood. Before the accident, driving was the main source of his income and what he earned by way of driving was not insufficient to bear his family expenses. He is now married and lives in a rented house with wife and two children at Fatullah, Narayanganj. As road accident has made him disabled, he cannot drive now. He is running a small tea stall at a local bazaar while his wife works as domestic help to earn their livelihood.

A common reason for road accidents in Bangladesh is talking over the cellphone while crossing the road. Even the pedestrians at times gossip with others over cellphone, which divert their attention and accidents occur as a result. Many serious road accidents occur only because of talking over the cellphone while crossing the roads. Respondent Sonia is now a victim of road accident only due to a similar reason. She talked about her accident:

*"I was talking over mobile phone with one of my relatives while I was crossing the road. That's why, I could not pay attention to anywhere else and it resulted in the accident. It was my fault and I am paying for the fault still now"*

The driver is the human element who is in charge of the machine while running any vehicle. He drives it, accelerates it, brakes it, steers it and stops it. It is said that a driver can invite accident, he can also stave off accident. So s/he should be very alert while driving. Due to his carelessness, an accident can occur within a second. Respondent Hanif became the victim of road accident only due to the carelessness of a private car driver. He stated:

*"Carelessness of a private car's driver was the main reason of my accident on that particular day. After taking gas from the filling station, I was standing beside my car when the driver of another car unnecessarily and just carelessly moved his car back. As a result, my leg was hit badly and broken. But it was not necessary to take back the car as the front road was totally free."*

Another respondent explained the same causes of his accident as Hanif. It was not the carelessness of a driver, but he himself as a passenger of a public bus was responsible for the accident. Jamal described:

*“...my carelessness was the main reason behind the accident on that day. If I hadn't slept keeping my hand outside through the window, the accident wouldn't have occurred. But the driver could also avoid the accident keeping a safe distance between the two vehicles at the time of driving.”*

Training can make a person skilled. Training is very much important for a driver. But in Bangladesh, transport drivers do not have enough scope for receiving formal training. It was found that the disqualified drivers were given licenses through unfair means. Most of the road crashes occurred by the unskilled, non-professional and teenage drivers. Rafiqul explained his reason behind accident:

*“The style of driving by that driver seemed to us that he was not experienced enough. Even he looked to be under-aged. Due to his lack of experience, he could not handle the vehicle properly that contributed to the accident. So, it can be said that the unskilled driving by a teenage driver was the cause of my accident.”*

The driver is the human element who is in charge of machine while running the vehicle. It is said that a driver can make accident or save from accident. So he/she should be very alert at the time of driving. According to the records, almost 99.7% of the accidents were caused due to the fault of driver of motor vehicles (Pillai and Joseph,2011:89). In this study, we found a number of drivers as the survivors of road accidents. Sometimes, they themselves were responsible for the accidents due to their own faults. Respondent Hafiz blamed himself for the current state of sufferings:

*“My lack of experience was the main reason of the accident on that day. I had no experience in long drive. My **ostad** gave me a scope for driving only on my request. But now I think that I shouldn't have tried to go on long drive before learning it well.”*

There are various reasons behind road traffic accidents in Bangladesh. Every road user more or less knows about these reasons behind road accidents. But usually a victim of accident knows better than others. In this study, respondent Bashar did not want to

mention the reason of accident he was faced with. He thought that it was nothing but in his fate to suffer this way. He blamed himself and postulated:

*“...no... no...nobody is responsible for my road accident. The cause of my accident was nothing. It was written in my fate.”*

### **Insights from FGDs**

To know the casual factors behind road traffic accidents, three focus group discussions (FGDs) were held with transport workers like drivers, contractors, helpers, owners or staff (FGD-2 and FGD-3) and commuters (FGD-1). The FGDs revealed more information related to causes of RTAs based on experiences and perceptions. One of the participants during the 2<sup>nd</sup> FGD said:

*“Drivers never want to invite any accident. They always want to drive carefully. But if a driver drives carefully and slowly, passengers often rebuke him or make bad comments like 'are you driving a bullock cart'?”*

During FGD -1, one of the participants said:

*“Drivers are very greedy. They never consider the safety of passengers. They compete with each other for their own sake to overtake and drive recklessly, which is responsible for road accidents.”*

Insights from these FGDs are summarised in the following below table -

	<b>FGD-1(Commuters)</b>	<b>FGD-2(transport workers)</b>	<b>FGD-3(transport workers)</b>
Causes of RTA	<ol style="list-style-type: none"> <li>1. Overtaking and reckless driving</li> <li>2. Driving by helpers</li> <li>3. Talking over phone while crossing roads</li> <li>4. Unskilled or fake licensed drivers</li> <li>5. Poor knowledge of traffic rules</li> <li>6. Excessive greed of drivers or owners</li> <li>7. Tendency to ignore traffic signals by bike or motor car drivers</li> <li>8. Drunk driving by truck drivers</li> <li>9. Less interest of pedestrians to use foot over bridge.</li> <li>10. Teenage drivers</li> </ol>	<ol style="list-style-type: none"> <li>1. Defective/unfit vehicles</li> <li>2. Dangerous curves of roads</li> <li>3. Unnecessary island/dividers on the road,</li> <li>4. Sudden crossing of pedestrians</li> <li>5. Talking over mobile phone</li> <li>6. Ignorance of using foot over bridge.</li> <li>7. Passengers' instigation to drive rapidly</li> <li>8. Unlicensed or fake licensed drivers</li> <li>9. Police harassment leading to mental pressure on drivers</li> <li>10. Mental pressure by owner</li> </ol>	<ol style="list-style-type: none"> <li>1. Unconscious and Careless road users</li> <li>2. Huge number of vehicles on the road</li> <li>3. Less number of skilled drivers in accordance with the vehicles.</li> <li>4. Bad condition of roads</li> <li>5. Lack of training of drivers</li> <li>6. Driving license with bribe</li> <li>7. Overtaking and speeding</li> <li>8. Reckless driving for more earning</li> <li>9. Mental annoyance of drivers by passengers</li> <li>10. Plying multiple types of vehicles on same roads.</li> </ol>

By analysing all the statements of the case respondents and participants in FGDs, it is clear that there are various reasons behind the road accidents in Bangladesh. This study has even revealed that the causes of accidents faced by the case respondents were not the same for everybody. It varied from one respondent to another although there were some common cases. Reckless/careless driving and defective vehicles were found to be the important causes of road accidents. Some respondents identified unskilled driving, wrong side driving, night time driving, foggy weather for accidents. One respondent blamed using cellphone while crossing road for accident while another blamed nothing but his own fate. On the other hand, most of the FGD participants identified many causes of road accidents here. Participants of FGD-1 mainly blamed the drivers for their overtaking



tendency and careless driving. Participants of FGD-2 and FGD-3 blamed pedestrians and passengers for road accidents.

### 7.2.2 Nature of Road Accidents

In this study, a road traffic accident has been defined as an accident that takes place on the road between two or more objects, one of which must be any kind of a moving vehicle. A road accident is a common phenomenon in Bangladesh and a good number of people have turned out to be the victims of such kind of accidents in recent years. But the road accidents that occur in this country are not same in nature. Different types of RTAs take place in different locations. Nature of road accidents can vary on the basis of time, place, type of collision, vehicle involvement, weather, injury type and so on.

Time is one of the important factors of RTAs. In this study, it has been found that some road accidents occur in the morning. Actually roads in the morning remain a bit free and easy for driving. Due to the reason, some of the drivers go on reckless driving in the morning. As a result, accidents take place in such situation. In this regard respondent Baten described:

*“One early in the morning, I was nursing the trees planted on the road island, also known as road divider. It was about 8:00am. I was focused on my duties. At that time, two buses were competing with each other. All of a sudden, I spotted one of the buses on the divider when its wheel broke my leg and left the place immediately.”*

Another respondent Ranu became the victim of RTAs that too occurred in the morning. She expressed her view:

*“In was 5<sup>th</sup> January 2002. I was going to Karwanbazar in Dhaka for my business. It was early in the morning. I was crossing the road after buying some vegetables. Suddenly a pick-up van hit me, I fall down on the road and the wheels of the van ran over my legs... And my legs were broke badly.”*

Road accidents on highway are common phenomenon in this country. Over-speeding, overloading and overtaking by motor vehicles are the causes of accidents on highways. A large number of vehicles ply on the national highways at a maximum speed limit per hour which is one of the major causes of road accidents and majority of them are fatal in nature.

BPWA in a report revealed that 56 percent road accidents took place in 2015 on the highways (The Daily Star, January 10,2016). On the other hand, the Accident Research Institute (ARI) of BUET has identified that 35% of the deaths and 90% of the road accidents take place on the highways across the country, which accumulates a total of 3,580 kilometres (The Dhaka Tribune, August 28,2014). The roads are so busy and loaded that drivers always cannot cautiously overtake their vehicles that also lead to road accident. Respondent Tajul was a victim of road accident that occurred on highways. He described:

*“I was going to Chittagong from Sayedabad bus terminal back in 1996. When the bus was crossing Comilla highway, a truck attempted to overtake our bus. While overtaking the bus, the truck hit another bus from the opposite direction. Our bus too hit that bus. The driver of our bus died at that time. But I was alive for the sake of my fate...”*

Head-on collision is a very dangerous type of road accident that has marked a rise. This type of accident occurs when the front end of two vehicles hit each other from opposite directions. In Bangladesh many people become victims of head-on collision on roads which is often fatal in nature. Respondent Jakir had his version in this regard:

*“In 1996, I was going to Manikganj one day. I was alone and my helper was not with me. When I reached at Bank Town, suddenly my truck stopped. I was examining the engine of the truck standing at the front side of my truck. Then a bus suddenly hit my truck. My leg got stuck and the glasses injured the upper part of my body. I also got hit in the head.”*

Single vehicle accident is also common in Bangladesh. It is such a kind of road traffic accident in which only one vehicle is involved. This type of accident also occurs when mainly drivers fail to control vehicle speed due to drowsiness, brake malfunction etc. These accidents are about run-off-road collisions, collisions with fallen debris, rollovers and collisions with objects. Respondent Mamun became severely injured in such a kind of fatal road accident in which seven passengers were killed on the spot. He explained:

*“After finishing my H.S.C exam in 2013, I was returning home with my friends by a bus. The bus lost its control and hit a big roadside tree. The accident caused deaths to at least seven persons. I was alive by the grace of Almighty Allah...but the accident made me disabled.”*

Bad weather can be one of the contributory factors of road accidents. In Bangladesh, many road accidents occur in rainy season. When the road gets wet by rainwater, it creates road surface slippery. If the driver cannot control his vehicle in time, then accidents take place. During rain storms, it can be often difficult for drivers to see other vehicles or obstacles very far ahead. A similar type of road accident happened in case of respondent Abul. He stated:

*“In 2000, I went to Dhaka to make my fortune. At that time, I used to live in Mirpur and was a helper of scooter/tempo. One day, I stood on the backside of a tempo. It was a heavy rainy day and hard to see anything from a distance. Suddenly a pick-up van hit my leg from the backside. I received a heavy knock on my leg. My leg was injured so terribly that the bone broke down and even come outside.”*

**Box 06: Abul**

Abul is a man of 28 years old. His family lives in a Munshiganj village. He is married and has a wife, one son and one daughter. He is literate. He was a driver before the accident and now drives CNG-run auto-rickshaw of others. But as he suffered physically disability of mild nature, he has to face many problems in time of driving, which affects his monthly income. He has no other income source. The amount of his income is not same every month, but on an average it would be BDT 14,000 to 15,000.

Involvement of trucks in RTAs is a more severe case than collisions involving other types of vehicles in Bangladesh and its percentage is also higher. Trucks often weigh more than a passenger vehicle, so the passengers of smaller vehicles are more likely to die in an accident involving trucks. Besides, the truck drivers are almost always found on over duty and they do not have virtually any time limit with regard to driving hours. This is the cause of their fatigue as they do not get scope for adequate sleep or rest they naturally require. Sometimes, the heavy truck drivers do not care the small vehicles like CNG auto-rickshaw plying on the highways. As a result, accident occurs. Respondent Al-Amin faced this type of road accident when he was a CNG-run auto-rickshaw passenger. He spoke about the nature of accident:

*“In 2009, I was returning home by CNG auto-rickshaw with some people of our locality. Suddenly a truck hit our vehicle within seconds. The CNG turned over and I fall on the road. Then one of the wheels of the truck ran over my leg and broke it.”*

Another respondent Solaiman used to work as a truck helper. He explained his accident:

*“I used to work as a truck labour. I usually load and unload trucks. Basically, I worked at night that time. One day while we were going to somewhere to deliver sand, the driver lost the control of the truck and we fall down in a pit. I got stuck under the sand.”*

In Bangladesh, CNG-run auto-rickshaws on highways have become a new source of road accidents. Here auto-rickshaws ply on the highways randomly and get involved in accidents quite frequently. The most of the drivers of these auto-rickshaws are teen aged and they do not have driving licenses. They have been involved in many accidents on various national highways. Respondent Rafiqul explained his accident of this kind:

*“...before two years ago, I was returning home by CNG auto-rickshaw. The CNG driver was too young and he was driving very firstly. While turning the road the CNG got turned over... My leg got stuck under the CNG, which broke my leg badly.”*

Pedestrians are one of the worst victims of road accidents in Bangladesh. This may be happened due to the fault of the vehicle and sometimes the fault of the pedestrians. One of the most common causes of pedestrian accidents is the driver’s inattentiveness and negligence. Besides, many people do not consider the potential danger before they decide to walk alongside a street or ignore the “walk” signal at an intersection or choose not to use the designated crosswalk areas to cross the road or intersection. Sometimes, it is found that the pedestrians cross the road carelessly while also talking on cellphone. Respondent Sonia became a victim of such type of road accident. She said:

*“On an ill-fated day in 2013, I was returning home from my relative’s house. I was crossing the road talking to the mobile phone. I was not alert. Then a car suddenly hit me, following which I was grounded on the road and my leg was broken.”*

In general, whenever any road accident happens, drivers are blamed for this. Drivers are treated as perpetrators and other road users are victims. But it is not always true.

Sometimes, drivers also become the victim and suffer a lot. In Bangladesh, there are a good number of road accident victims who were drivers or transport workers. No driver wants to invite any road accident, but s/he does not know what to anticipate when s/he can not see what's up ahead and s/he ends up driving towards it. According to Jahangir:

*“I was the driver of GQ (Econo) Group in the year of 2002 when I was returning from Chittagong with goods. It was the winter season with densely fog. Nearby Kanchpor one truck was stuck by accident and it was standing on the middle of the road. But for densely fog I did not see the truck and hit it. My legs have got severely hurt.”*

Another respondent Selim, who was a driver, had to face the same type of road accident. He explained:

*“In 1995, I was returning through my pickup van loaded with goods. It was the winter season and it was about 2:00am. There was densely fog everywhere and for this reason I did not see the road clearly. While turning my van I fall down in a pit and it hurt me a lot.”*

#### **Box 07: Rafiqul**

Rafiqul is a 28-year-old man who became disabled in a road accident. He is the younger of his three brothers and two sisters. His father is in a bedridden condition due to paralysed and mother is a housewife. One of the brothers lives in Qatar and another one is a police constable. Two sisters have already got married and live in their in-law's houses. He studied up to HSC and could not continue his studies due to his father's illness. Absence of his two brothers, who left home for jobs, was also responsible for discontinuation of his study. At that time, he had to hold the helm of his family. So, he started to look after agricultural activities that were done by his father before. But a road accident changed his life. Now he is unmarried and lives with his parents in Belabo of Narsingdi district. Two brothers sent money almost every month to maintain his family. Besides, he gets something from agriculture. Recently, he has taken computer training and now trying to run a shop.

It can be said that Bangladesh has one of the highest fatality rate in RTAs. According to a report released by the Bangladesh Passengers Welfare Association (BPWA), a total of 6,055 people were killed and 15,914 more injured in 4,312 RTAs in 2016 (Dhaka Tribune, January 04, 2017). So it is clear that the number of injured victims is more than the victims

who died in road accident. There are numerous kinds of bodily injuries that can occur due to a bad traffic accident. The different injuries resulting from road accidents can be as varied as the individual circumstances of each collision, but there are some types of injuries that are more common than others. In this study most of the respondents got hurt in their legs and badly broken. For someone type of injury in their legs was so severe that it could not but cut off and as a result they are leading their lives as physically disabled persons. Like respondent Borhan described:

*“It is the story of the year 1995, and then I had a dream to become a driver beside my study. Thus I used to spend time with a truck of my village. That day I was returning to Dhaka. It was dusk, closed to Nobinagar, Savar. Suddenly the truck lost its break and hit a big tree. I got hurt in my leg as it was cut and broken. It was bleeding a lot”.*

Another respondent Shakhawat also got hurt in his leg. He said:

*“In the year of 2000, I was very new in Dhaka City. One day I was crossing the road at Motijhil Shapla Chattar. All of a sudden, a private car hit my legs and I splash up on the road that broke one of my legs.”*

Respondent Bashar also had to accept the same fate. For this he blamed himself and said:

*“In 2009, I was returning from the factory. It was 12:30am and I was close to my house. While crossing the road a Covered Van hit me from the back end. It was my fault that I realised later. I splashed up and got hurt severely. My leg was cut off from my body.”*

Hand injuries are normally caused by various happenings. But sometimes RTAs can be a cause of hand injuries. If a passenger travels keeping hand outside the window of a speeding vehicle and if another vehicle overtakes it keeping little space between the two, then this type of accident may take place. In Bangladesh, where most of the passengers and drivers are not conscious and the roads are always busy plying vehicles, many people sustain injuries in hands due to road accidents. Respondent Jamal lost hand in such an accident. He described:

*“...I was returning home from Dhaka that day. After reaching Hemayetpur, I felt a bit tiredness. I can not remember when I had drowsiness during the time of driving and my hand went outside through the window. A bus was crossing my truck at that time and it took a brake terribly... I also got hurt in my head.”*

Dhaka is called a city of rickshaws, which are the main mode of transportation here. But there is no clear statistics about the number of rickshaws moving in this city. It is said that the number of unregistered rickshaws are more than registered. Nowadays, rickshaws are blamed for traffic jams on the streets. In addition, rickshaws have become one of the causes of road accidents in Dhaka city. Most of the rickshaw-pullers are illiterate, new and they do not have good idea about traffic rules. Sometimes this big number of rickshaws create chaotic situation which hinder smooth traffic movement and occur accident. In this study, respondent Shakila fell on the street when a car hit her rickshaw from behind. She got hurt in different parts of her body, including leg and head. However, she was the only whose accident took place in this study as a rickshaw passenger. She described:

*“In 2008, I was returning home from market by rickshaw. I was alone boarding the rickshaw and was absent-minded. The rickshaw-puller also seemed new to me. When my rickshaw was crossing the road at Adabor, a private car knocked down my rickshaw and I splashed up on the road from the rickshaw....in this accident, I got hurt badly in my leg and head.”*

The differences in nature of RTAs are revealed through the analysis of road accident data. It is revealed that accidents occur in different time. It occurs in the morning, day and at night. But in most cases, the RTAs took place at night and in the morning. The accidents occur at different places of the country. But majority of them occurred on the highways. This can be explained through the fact that the national highways are the busiest roads with vehicles travelling at high speeds. Type of collision was not same. Most of the accidents were head-on collisions and single vehicle collision. Out of all the respondents, a good number of victims were drivers or helpers. Besides, there were pedestrians and passengers. In most of the cases, accidents were serious in nature. There was a higher rate of leg injuries in the present study.

### **7.2.3 Consequences of Road Accidents**

Road traffic accidents (RTAs) have devastating consequences in the lives of road accident survivors. In most cases, those who are active and engaged in income generating activities have to move from one place to another by using road transport for their livelihoods. As a result, they become the prime victims of road accidents. Though accidents happen in a fraction of a second but their consequences may last for a lifetime and it radically change the life of a survivor. It not only changes his/her personal life but also everything of life.

The consequences of road traffic accidents primarily affect the direct participants of road traffic accidents. Accident divides his/her life into two, before accident and after accident. The situation of these two parts of life is totally different. After accident occurs the life of a survivor becomes change in a wide range. It pushes him/her to a world which is small and full of problems. But it is unfortunate that despite the fact that only one person may be involved in a road accident, the entire household also may be affected financially, socially and emotionally by the accident.

The direct participants of RTAs suffer particularly from health problems. A good number of road users involved in traffic crashes recover from their injuries, but some of them never recover fully and suffer from some kind of permanent disability. The permanent disability of spinal cord damage, loss of mobility, loss of eyesight, and serious brain injury can profoundly limit a person's quality of life. Suffering from permanent disability can deprive an individual the ability to do anything and as a result he or she has to dependent on others for both physical and economic support or in some cases to perform daily basic tasks. So, it is assumed that the disabled person will be taken care of until death and he/she turned into a burden of his/her family.

Physical disability limits one's ability to perform daily activities. So, if one becomes disabled due to road traffic accident his/her livelihood patten does not remain the same. Life of this type of survivor totally changes after being disabled and disability is the main physical consequences of road accidents. All of the respondents of this study are now physically disabled due to road traffic accidents and they said disability brings adverse impact on their lives and livelihoods. Before accident none of them were physically disabled. Respondent Baten argued:

*“Physical disability is the big consequences of the road accident in my life. Before accident I was able to go anywhere, able to do any type of work according to my wish. But after accident everything has been changed. Today I can not go anywhere and can not do any work. And I can not find suitable job which I want to do.”*

Actually, the suffering of a disabled person cannot be realised by others not disabled. In this regard, respondent Sonia stated:



*“Life has got changed. Now I have lost one leg. Only the person who has lost one leg would understand that. No any other person is able to understand the pain of leading crippled life.”*

Physical pain experienced by the accident victims is another dimension of road accidents. Serious injuries, can cause physical pain and limit a victim's physical activities for years after the accident. Experiencing pain, especially in the case of persistent pain over a long period of time is likely to impact on one's quality of life negatively. Severe and persistent experience of pain is also likely to reduce one's physical functioning. A respondent Ranu, who explained:

*“...The accident has led to the loss of one of my legs. Still now sometimes I feel pain in my leg. I also got hurt in my waist which is causing suffering to me too.”*

Another respondent Al-Amin is also suffering from pain in head and chest, which is the result of his accident. He stated:

*“During the accident except leg I also got hurt in my head and chest too. I feel pain there off and on. For the pain I have to take medicine all the year round. Sometimes the pain goes out of my bear. Then I could not but cry as a child.”*

Road accident has economic consequences too. In 2011, the economic consequences of motor vehicle crashes were estimated by the World Health Organisation (WHO) and it was between 1% and 3% of the gross national product (GNP) of the countries, reaching a total over \$500 billion (WHO, 2011). But economic cost of RTA is more in high income countries than other highly motorized countries. According to "World report on road traffic injury prevention in 2004" of WHO, the cost of road crash injuries is estimated at roughly 1% of GNP in low-income countries, 1.5% in middle-income countries and 2% in high-income countries. The direct economic costs of global road crashes have been estimated at US\$ 518 billion in 2004.

There are significant costs when the victim turned into a person with disability. In that case victim's dependents suffer immediate economic hardship due to the loss of the victim's income and other contributions. A disabled person always cannot perform his/her duties as a normal person. As a result this type of people lost the job in which s/he was

engaged. Moreover sometimes the employers do not keep them in their jobs or not interested to give them new jobs. As respondent Shakhawat mentioned:

*“Today I’m disabled because of the road accident. Before accident, I had a job which I have lost after being disabled...now I am doubt whether I will get a job or not in my present condition.... nobody is willing to give job to a disabled person in our society.”*

Respondent Shakila is having a torrid time as things now are not like before. Her livelihood pattern has got changed totally. She is not capable of doing anything these days. As a result, she depends on others. She explained her trauma:

*“Before the accident I used to do clothing business. So, I was self-dependent. I was able to earn my expenses, which isn’t possible now. Now I’m unable to do even my own chores.”*

Another respondent Ranu also said that due to her disability she is not getting any job although she is capable of doing. According to her statement:

*“At present, I’m trying to look for a job. But nobody is interested to give me work seeing stick in my hand. They keep saying whether I would work or walk with my stick.”*

A person who was economically active and contribute to family, if he or she becomes disabled/injured due to road accident cannot contribute to his/her family like before. As a result his/her income reduces and another side is that for his treatment and caring family has to spend money. As a result the victim’s dependents suffer immediate economic hardship in the loss or reduce of the victim’s income and other contributions. If the head of household or breadwinner is severely injured, the impact to that household can be devastating. According to Jahangir:

*“At present my income has been decreased. My family was running well with the income which I used to earn every day when I was fit. I was able to bear educational expenses of my brothers and sisters at home. At present I have to maintain my family with difficulties with the income from this small shop.”*

In another case, respondent Al-Amin expressed:

*“I used to do agricultural work and my family was running well with my income. After my accident I cannot work like before. ...my elder son is working in garments and stopped studying. ...Now I have to hire labourers to do agricultural work which has created burden to my family...”*

Road traffic accident can limit anyone’s ability to perform work. As a result, a person always cannot be engaged in previous income earning activities. He/she has to change his occupation according to his/her capabilities. In most cases it was found that an employed person lost or changed his/her job after being disabled which brought negative consequences. Respondent Borhan explained:

*“My occupation/income has got changed after the accident. When I was physically well I could earn more as a truck helper and I did not need to think about my family. Now I move with an artificial leg and cannot work and earn like before. ... I live mainly on the income which I get from renting two rooms of my house.”*

Disability due to road accident not only decreases one’s capability but also the capacity of family. Family has to face difficulties for the disabled one. Respondent Mamun expressed:

*“Now I’m unable to move without wheel chair. My world has been smallest. ...quality of life style has been decreased. Now I can not maintain life style like before. Because the capacity of my family has been decreased and the reason behind it is me.”*

The consequence of road traffic accident on one’s life is so severe that s/he can become stranded. A person can be disabled by accident, which may result in his inability to do all types of works. As a result, s/he has to choose comparatively flexible and at times disgraceful occupation like begging for his/her survival. Respondent Hafiz stated:

*“Now I live on begging. The main reason behind it is disability caused by the accident. I could do anything good; could run my family well if I would be fit. Then I should not choose this haltered profession of begging.”*

Even who are engaged in income generating activities in spite of their disability resulted from road accidents, are not treated well in workplace. Sometimes, they are not paid equal wages after doing equal work. They get lower wages than their counterparts even when in

the same role. It is one of the consequences of road accident survivors. Like respondent Solaiman described:

*“Road accident has made me a disabled person ...because of my disability, my earning has reduced. Now I work in a rice mill with my disability for my life and livelihood. No one can work in my present position. But I have nothing to do. It is very pathetic that despite of my hard labour I am not paid fully and regularly. I get lower wages than my counterparts. It is only for my disability.”*

The costs and consequences of road accidents are significant. Three-quarters of all poor families of the world who lost a member to road traffic death reported a decrease in their standard of living (Silcock, 2003). There are also significant costs when the victim turned into a person with disability. In that case victim’s dependents suffer immediate economic hardship due to the loss of the victim’s income and other contributions. In cases of prolonged treatment of the victim, the family may end up selling most of their assets and land and getting trapped into long-term indebtedness. As a result these types of families maintain previous standard of living. Like respondent Zakir stated:

*“Accident has destroyed my personal and family life. My world has been shrunken; level of living has been deceased. Now I can not see good food, well clothes.”*

In this regard respondent Selim said:

*“now I have to manage with 2 taka where I used to spend 10 taka before without hesitation. There is no option to judge whether it is good or bad. I have to eat such a food that I do not like to eat...I have to wear a piece of cloth that I did not like before...”*

The RTAs have devastating psychological or emotional consequences on part of the victims and families involved. When a road accident leads to death, the emotional damage is even more intense, affecting other family members, relatives and friends for years afterward and sometimes leading to the breakup of previously stable family units. So, it is considered a very painful experience for the family members and relatives. Even it can lead to a set of negative symptoms which involve functional impairment of the grieving persons.

Road accidents place a heavy burden on the injured survivors who experience adverse psychological effects, in the short or long term. S/he expresses anger and frustrations in terms of the difficulties that s/he faces in adjusting to the aftermaths of the accident such a disability resulting from the accident where victims lost either function of a body organ. According to Abul:

*“I am suffering from mental restlessness. It is difficult to drive after having disability. I have a tension that if the owner of the car will refuse to rent me what will happen to me.”*

Respondent Shakila stated:

*“It is painful to live a burdensome life. Due to the accident, I am disabled now and I am widow too. My son is also dead. I haven’t got relieved of that pain. The only daughter of mine is married now. But the son-in-law tortures my daughter cruelly. I feel totally exhausted.”*

Road accident victims also suffer from depression as a result of the accident and its aftermath. Sufferings from depression may cause various difficulties such as anger, sadness, despair, sleep difficulties, and difficulty in performing daily activities for accident victims to lead a normal life. One of the respondents Tazul asserted:

*“I do not feel well mentally. Sometimes, I think that I am going to be a mental patient. I cannot forget the incident of my accident in which three passengers died on spot. I cannot sound sleep still now remembering that accident. As I lost my leg, I have to pass my life as a disabled person. I will never be able to live like the normal people do.”*

In any society, physically-disabled persons face problems in getting married. Nobody wants to make a disabled person his/her life partner. It has psychological effect on the disabled persons. In this study who were unmarried and became disabled by road accidents, they are very much worried about their married. Like Mamun told:

*“Before the accident, I could move properly but now can not. It gives me pain. How can I pass the rest time of my life on a wheel chair as I am only 29 years old? My parents were dreaming of mine that I will do something good by getting educated. But the dream has been dashed. Now how can I do something for them? And I am also unmarried. Who will marry a disabled person like me?”*

Another respondent Hanif had a same type of anxiety:

*“I am not so sad, but suffering from the loss of my leg. I have to pass the rest of my life as a disabled person. I am also not married and I have lost a leg and it will create a problem in case of my marriage. Who will marry a disabled person like me?”*

If any woman becomes disabled due to road accidents, her trouble gets doubled: one for being woman and another for being disabled. She faces more problems than a male in getting married. Like respondent Sonia said:

*“I am worried enough. I am not only unmarried, but also disabled. It is difficult to get a girl married nowadays, so it will be completely impossible to get a disabled girl like me married and neither can I stay with my parents for the entire life.”*

When a person loses physical ability as well as livelihood assets due to road accident, s/he becomes frustrated about future. Respondent Abul is totally frustrated about his present life and livelihood. He stated:

*“...if the accident wouldn't happen in my life I could be well; could be able to do any job; could earn enough; could maintain my family well. Today I'm unable to do any work. ...my income has been decreased a lot. Somehow I'm alive now. My food habit, life style nothing is like before...”*

Another respondent (Shakila) said:

*“Now I'm passing my day somehow and waiting for death. I do not think that happy moment will ever come to my life.”*

Confidence is the main force for the living of disabled persons. Without confidence, it is tough to bear the life beset with multifarious problems. But every person cannot keep confidence after becoming disabled when s/he faces various problems. But the respondent Borhan did not lose his confidence. He said in this regard:

*“...no no... I haven't lost confidence, trying to find out good source of income. I hope that one day I will be able to reap success with confidence and consecutive efforts. I will fight hard to survive as the Almighty Allah helped me survive accident...”*

Respondent Busher also did not lose his confidence and he is capable of struggling for his survival. As he said:

*“My confidence level is still 100% I’m able to go far if I get little support.”*

RTAs have a negative consequence on one’s family life. Sometimes, it contributes to breakdown of the family structure or family disorganisation. When a person becomes disabled due to road accident, s/he cannot perform his/her role in family as was the case before. According to respondent Jahangir:

*“I am worried about my future. Because of my disability after the accident, my first wife and Child have left me. My second wife is also sick. I feel totally exhausted.”*

RTAs have a negative impact on one’s social life. It can push one to lose the position in the society. When a person becomes disabled due to road accident, s/he cannot perform his/her role in the society the previous way. As a result, it limits his/her participation in the social sphere. Even one’s income gets stopped or reduced for disability following RTA that leads to a vulnerable position in the society. In this regard respondent Hafiz said:

*“I had a good position in my society as I had everything. Now I am a beggar who has no social position. I think how was I before and how am I now? It is more painful to me. I do not like begging. Everyone taunts me. I cannot show my face in society.”*

Few participants of FGDs say that there are road accident victims in their locality and road accidents adversely affected their lives and families. They explained that when a person becomes physically disabled or challenged due to an accident, then the person can not do any productive work like a normal person. Actually, they do not have the capacity of doing productive work as they did before the accident. Thus, the productive role of a person get decreased or totally abolished through an accident. For example, when a family is run on one’s income and if s/he dies accidentally, the whole family falls in an economic crisis. The family also becomes disorganised and study of the children comes to a halt. Besides, if one gets injured, the family has to bear the expenses of treatment and for this, many families have to sell their properties or take loan. Sometimes, one may be disabled and cannot work as in the past. As a result, s/he can lose his/her job with possibility for a stop to income. In that case, s/he has to live on family's support. One of the participants of FGD said:

*“There is a victim in my locality who was well off. One day I saw him begging in a bazaar. He cannot walk without stick. I came to know that road accident made him a disabled and he lost everything for treatment purpose.”*

*Another FGD participant said:*

*“We were drivers of buses of same owner. For this reason we have good understanding. One day he falls in an accident and becomes injured severely. His family did everything for his treatment. We also helped according to our capabilities. But he is not fully recovered. Now he is bedridden and cannot move without the help of others. As he is incapable, he lost his occupation. His family is in hardship.”*

By analysing the statement of the case respondents and FGD participants, it becomes clear that RTAs have devastating consequences on the survivors and their families. In this study, most of the road accident survivors have been economically active and contributing to the household income before their accidents. When they became disabled following their accidents, their income stopped or reduced. Some lost or changed their previous occupation. Those who lost their jobs, could not manage again only because of their disability. It brings negative consequences on their family income. Some of them had to engage in petty work or small business or even in indecent work like begging. Rest of them had to live on their family's assistance. As family income has got reduced, they cannot maintain standard level of their living as in the past before the accident. They cannot meet their basic needs properly as human beings. Some of them are suffering from various physical problems, which originated from injuries due to their accidents. Most of the accident survivors are also suffering from depression as a result of the road accident and its aftermath. They are worried about their future. Some of them have lost their confidence while some others sounded very much confident and said that they would be able to survive. Confidence is their power of leading lives. After all, it can be said that the road accidents bring destructive change in their lives.



## 7.3 Rescue and Treatment Situation of the Survivors

### 7.3.1 Endeavour to Rescue

Timely and proper rescue of road accident victims is essential for reducing the severity of injury to the crash victims. But it is true that there is no strong and coordinated rescue system in Bangladesh. As a result, when a road accident occurs, local people or pedestrians come forward very swiftly on humanitarian ground to rescue the victims of the accidents. In this regard, it can be said that most of the people of this country are helpful and humane. They usually come forward to help anybody whoever is in danger or accident. When the accidents occur on the highways and where movement of pedestrians is not common or available, local people who hear the noise or sense the accident usually move immediately to rescue the victims. In this regard respondent Selim said:

*“The accident happened at late night and there were not so many people nearby. But some madrassah students were studying late night beside the accident spot. They heard the noise of falling vehicle into trench and came forward to help. After rescue, they send me to a local hospital...”*

Another respondent had the same experience. Respondent Hafiz described:

*“...I could not keep control over my truck while giving side to a vehicle coming from the opposite direction and hit it to a tree beside the road. As a result, the front side of my truck became contused and my leg shucked... the local people pulled me out from the vehicle listening my screaming and they admitted me to the local hospital after rescuing.”*

Some participants of the FGDs also opined the same way regarding their post-accident experiences. They also echoed the same view that after an accident occurs, usually the general public around the spot come to rescue the victims. As highway police are not available, they are not found in rescue operation at times. They come after a long time. There are many people who are very kind and they spend money/time in rescue operation or send the victims to hospital. One of the participants shared his experience:

*“One day on the way to my office I saw a woman and her husband lying in a pool of blood after their motorcycle was hit by a bus. Some people came immediately to assist the victims. I also helped them to rescue and send to local hospital.”*

But some people come with ill-motive and they find scope to steal money or valuable goods of the victims rather than helping them. In this regard, one FGD participant said:

*“I heard from a victim of road accident that she lost his wrist watch and money in an accident that took place on a highway near to Dhaka. He was not severely injured like others but lying as a dead man. Suddenly he noticed a man entering his hind in his pocket. When he was rescued he did not find his watch also.”*

Several participants of FGD-2 and FGD-3 said that as the transport workers we always try to help the victims of other vehicles getting involved in rescue or treatment. But no driver/staff steps up to help the victims of his/her own vehicles rather than escaping in fear of mob attack whenever an accident takes place. In such case, people do not consider the role of a driver whether he was at fault or not.

In city area, where movement of passers-by is noticed almost all the time except for late at night, if any road accident occurs before their eyes, passers-by usually join the rescue mission. Sometimes, they manage to send the victims to hospital for treatment. Like Respondent Baten stated:

*“Immediately after the accident one of the pedestrians of this place took me to the hospital and admitted at Pongu Hospital (NITOR). At Pongu Hospital there was no improvement of my condition so then I went to a clinic and got admitted.”*

Sometimes pedestrians not only help to sent the injured road accident victims to hospital for treatment, but also s/he him/herself goes to the hospital with the victim and manage everything for treatment. Respondent Bashar described:

*“At night when I was crossing the road near to my residence, a cavard van hit me from behind. After the accident the cavard van ran away quickly. As soon as possible one of the passers-by took me to the Pongu Hospital by a CNG auto-rickshaw and admitted me there... I am grateful to him”*

Respondent Jakir had a different opinion. In his case, people even from nearby place did not come in rescue. But it was not because of any bad motive. Getting afraid after seeing bloodshed, they did not come forward. He described:

*“Immediately after the accident nobody came forward from nearby to rescue me seeing so much blood... Later, one of my well-known drivers rescue and admitted me into a local clinic...I cannot forget still now.”*

Many people come forward to help or rescue the road accident victims in Dhaka city although they are not bound to help. But they try to help on humanitarian ground. Sometimes, even a van or rickshaw puller, who belong to the lower class in our society, also try to help bringing the victims to any nearby hospital for emergency treatment. But for this, they do not expect any reward. Respondent Shakhawat was rescued by a van driver. He said:

*“I was new in Dhaka then and I did not have idea about traffic rules. One day when I was crossing the road at Motijheel area my accident occurred. After the accident many of passers-by came forward to help. Specially, a van driver helped me by taking me to the hospital by his van at free of cost.”*

Another respondent Ranu was also rescued and shifted to hospital by a van driver. She explained:

*“My accident happened when a pick-up van hit me at the time of crossing road. Immediately after the accident I was unconscious. Later I came to know that one of the van drivers took me to the Pongu Hospital by his van. I could not see his face but still now I pray for him.”*

Drivers can realise well the situation of road accident than others. So whenever accident takes place before their eyes, some of the drivers stop their vehicles and join rescue operation. But sometimes when some of their own vehicles are caught in accidents, the drivers run away leaving behind the vehicles and passengers to get them saved from public anger. But when the victim is a colleague/assistant/helper, then the driver cannot ignore. Respondent Abul was a *tempu* helper. When the accident occurred, only he became injured. So, the driver of this *tempu* in which he worked, helped him. According to Abul:

*“My driver immediately stopped his tempu beside the road and took me inside of the tempu. Then he drove with me to a hospital and admitted me to there.”*

In another case, the experience of respondent Borhan was almost that of Abul. Borhan said:

*“Immediately after the accident, my truck driver admitted me to a local clinic. Later I was transferred to Pongu Hospital at Dhaka because my condition wasn’t improved after 3days there.”*

Road accident can take place at any time at any place. There is no specific rescue team in Bangladesh to immediately rescue the accident victims. As a result, local people or pedestrians in most of the cases come forward to rescue. But whenever any accident takes place close to one’s residence, known persons even relatives can come forward to rescue in that case and make arrangement for treatment. The accident of respondent Sonia took place beside her house and she was firstly rescued by one of her known persons and then her family members. She expressed:

*“I was spotted by a known person of mine at the place where the accident was happened. He informed to my home and admitted me in a local clinic. Later my family rushed to the clinic after getting news and transferred me to the city hospital according to the advice of doctors.”*

#### **Box 08: Sonia**

Sonia is one of the 20-year-old survivors of road traffic accident. She got admitted at a local college after passing HSC, but could not continue due to her disability, which occurred in a road accident. She is unmarried and lives with her family of four members in a village of Manikganj district. Her father is an aged person and cannot work and the mother a housewife. She has three brothers and one sister. Brothers are married and involved in different types of income generating activities. Although her brothers live separately, they try to help her depending on their capacities. At present, she is taking training from the CRP and has also started sewing work at home by which she earns her pocket money.

Respondent Solaiman was also rescued by his family members. It was possible because of the place of accident, which was near his house. He stated:

*“I worked as a helper of truck which was used to carry sand in my locality. When the accident occurred one of my known persons gave the news to my family... My family members rushed to the accident spot getting the news and they rescued me and admitted me to the local hospital.”*

Rescue is an act of saving or being saved from danger or distress situation. By analysing the statements of the respondents and FGD participants, it is clear that the accident survivors are rescued by local general people or passers-by of the spot where accident took place. The people of Bangladesh are very helpful and kind in nature. Besides, some where the injured victims are rescued by drivers, even van drivers. Family members also had the scope to rescue the survivors in some cases when it happened near to their residence. With the help of these types of people some accident survivors got their lives back by getting the treatment facilities at the right time. But those who are responsible specially traffic or highway police was not found to rescue or help to send any victims to hospital or clinic for emergency treatment.

### **7.3.2 Situation and Cooperation During Treatment**

Health care is a fundamental human right and ensuring healthcare service is a constitutional obligation of the government. In Bangladesh, basically healthcare service is provided either through government-run hospitals or through privately-run clinics though health care services is still lagging for the all class of people. Road traffic accidents have become common phenomenon in Bangladesh. The victims those who become seriously injured by accidents must should get treatment immediately. It can reduce the rate of the death of accidents victims. But health care system of Bangladesh is not so modern and accessible for every segments of the society. Basically there are two types of medical centre here. One is operated by govt. and another is by privately.

Co-operation and support are important for a victim of road accident when he/she gets admitted in any hospital. Without proper co-operation and support from family, relatives, doctors and other parties it would be very tough to continue treatment. But most of the respondents mentioned the co-operation of their families. Actually, in Bangladesh family is the best resort for a person at the time of any distress. Family members can not reject or avoid a victim when he/she is in a hospital for treatment. Most of the respondents mention the cooperation of their families at the time of treatment. Like Respondent Shakhawat stated:

*“At first I was admitted in Khilgaon Khidma Hospital. Later was admitted at Pongu hospital for 3/4 month. My family members, especially my own brothers helped me during treatment period. Without their support it was totally impossible for me to be treated anywhere as no government or non-government organization helped me.”*

Another respondent Ranu had the same opinion. She is satisfied with the cooperation of her family. She thinks that her family tried to do everything with their limited capabilities for her treatment. She explained her view as saying:

*“I have got adequate co-operation from my family during treatment. My family took me to various places for the purpose of treatment. But family have to try within their limit, they can not go beyond their limit...”*

In developed countries for the treatment of road accident victims some organizations come forward to help. But in Bangladesh there is no specific organization that support road accident victims at the time of treatment. Department of Social Services (DSS) of Bangladesh run Hospital Social Services for the welfare of poor patients in some big hospitals from where sometimes poor road accident victims also can get support like medicine, blood etc. free of cost with others. Respondent Abul got service form DSS though he could not mention the name. He informed:

*“I was admitted at Pongu Hospital for about 2 months. During the treatment period one organization helped me with some money, medicine, blood etc...but I can not say the name of that organization.”*

Every doctor has professional, legal and moral duty towards his patients. It is the duty of the doctors to extend medical assistances to save the life of patients. A doctor must always maintain the highest standards of professional conduct and must bear in mind the obligation of preserving human life. In Bangladesh, both public and private sector are facing serious allegations of wrong treatment and negligence of doctors. This situation is deteriorating day by day as they give much time in their personal clinics or chambers for high income and have a little time in hand while treating a patient. Many of the respondents of this study had bitter experience when they went for treatment after road accidents. Like respondent Ranu expressed:

*“At first I was admitted at Pongu Hospital. Later my family members admitted me in a clinic at Shawrapara. Doctors again bandaged my broken leg there. But doctors didn’t straighten my leg totally there. It was totally negligence of doctors. As a result my leg is still now bent. Now when I went to another doctors they told that they can not straighten my bent leg. After accident if leg was bandaged straightens it could be cured. As it didn’t happen now again operation is complex. And BDT 50,000 will be needed for that which I can not manage.”*

Another respondent Jahangir became a victim of the doctor's maltreatment and negligence. Now, he is a person with physical disability. He described:

*“Firstly I was admitted in local hospital with severe leg pain. There doctors told that my leg wasn't broken. But my leg pain wasn't healed and leg inflammation wasn't cured. So, latter I was admitted at Pongu Hospital. But the doctors of Pongu Hospital told that it was late after diagnosis. Because of maltreatment my good leg has been damaged. Now they have nothing to do. My leg has got septic, now there is no other option without cutting it. Finally I have to cut off my leg. Now I used to move by wheel chair with one leg... Now I think that doctor's mal-treatment and negligence is the reason behind my present situation”.*

Co-operation and well-behaviour of doctors and nurses are also important for better treatment. But in Bangladesh's perspective, especially in the government hospitals, many doctors and nurses are not cordial with their patients. Sometimes, their behaviour also disheartens the patients or relatives. In this study, it was reflected by the statement of some of the respondents. But he was not satisfied with the behaviour and cooperation of doctors and nurses. In this regard, respondent Baten expressed:

*“I acquired new experience at the time of my treatment when I was admitted at Pongu Hospital. Before coming here I thought doctors and nurses are not like others. They are always very kind to their patients. But my conception was wrong. Some doctors and nurses are like butchers and their behavior hurt me.”*

Respondent Jakir had bitter experience. He was a driver. As a driver, he expected that he would get support from the owner of the vehicle. But the owner did not financially support him for treatment, even did not come to see him at hospital, which disheartened him. According to him:

*“My vehicle owner made a settlement with the vehicle owner which was liable for the accident by taking BDT 2 lakh. But I wasn't given a single paisa. My vehicle owners spend that money to repair his vehicle. And he did not come to hospital to see me. There was nothing painful than that.”*

On the contrary, some got financial support from their employers at the time of treatment, which was very helpful. According to Bashar:

*“The owner of my industry in which I used to work bore the expense of my treatment. Though my owner helped me during treatment, I did not get back my old job when I became well.”*

Another respondent Borhan, who was a truck driver and he got little financial support at the time of his treatment. He stated:

*“About BDT 1 lakh was spend during my treatment. It was impossible to manage that money without co-operation of others. In this regard I need to mention the name of my vehicle’s owner. From the owner we received financial help during the starting of my treatment.”*

### **Box 09: Borhan**

Borhan is a 40-year-old man, who became physically disabled after a road accident. But from outside, he seems to be a very normal person although he moves with an artificial leg. He lives at Hemayetpur, Savar of Dhaka district with his family. He is married and he has wife and one daughter. He studied up to class eight. Before the accident, he used to work as a truck helper alongside his study. Now he lives mainly on the income that he gets by way of renting out two rooms of his house.

In most cases, taking long time treatment staying at hospital is needed for the recovery of severe road accident victims. But long time healthcare costs place a heavy burden on the accident victims and their families’ finances. At this stage, financial support from anywhere can reduce the burden of family. But it is very tough to get this type of support. Even nobody wants to give loan as it may not be repaid due to the inability of the victim’s family. In this regard, respondent Jamal told:

*“I had to get treatment from hospital for about 1 month. My mother was with me this 1 month. My relatives didn’t help me economically. Because they thought that I wouldn’t be able to repay their loan, I have lost my hand and so I have no future.”*

Family support is important for any road accident victim. Every family leaves no stone unturned for the recovery of road accident victims. They rush everywhere possible to get better treatment and for this, if they had to be stranded. Many families had to spend everything for long time treatment and this sacrifice could not be measured. Respondent Al-Amin described:



*“At first I was admitted to local clinic. Then I was transferred to Pongu Hospital because of doctor’s advice. Mainly my family bore my treatment expenses for about 2 months after my accident. My family has sacrificed a lot to make me well though their economic condition wasn’t good enough.”*

Dhaka medical college hospital is one of the biggest government hospitals. Many poor patients, especially those who need to take long term treatment, go to the hospital for low cost of service. Respondent Selim was a patient of this kind. He said:

*“I am from poor family. I do not have enough money for treatment taking admission in a private hospital. For this reason, I got treatment staying at Dhaka Medical College hospital for about two months.”*

For a woman, it is said to be equal to death when a doctor asks her to cut off her leg that was damaged because of road accident. Respondent Sonia had to face this cruel reality. In addition, her family had to bear the expenses of her treatment although some relatives also came forward to help her. Respondent Sonia stated:

*“At first I was admitted to local clinic. Later, I was transferred to Sadar Hospital according to the advice of doctors. After three days of treatment there, doctors told that my leg has been damaged. It had to be cut off. When doctors told me that my leg had to be cut off, all on a sudden my whole world became dark. During treatment period some of my relatives along with family members helped me economically.”*

Some of the respondents have to get treated or admitted to more than one clinic or hospital to get cured. Families leave no stone unturned for the victims' better treatment. But during vacation, many specialised doctors leave their workplace and it is one of the reasons for not getting better treatment in due time. One of the respondents Mamun had very painful experience in this regard. He explained about his treatment:

*“Though I was admitted to a local clinic at first, duty doctors expressed their incapability and referred me to CRP. Then it was Eid vacation. Maximum specialized doctors were in leave. So, they again referred me to Pongu Hospital from CRP. Same condition was there also. But they admitted me and told me to wait. Finally, doctors came after Eid vacation. After different tests they told me that I won’t be benefitted by operation. But they will do operation if we want. My father thought that if I become fine. So, finally the operation was done. But the doctor’s prediction came true.”*

The National Institute of Traumatology, Orthopaedics and Rehabilitation (NITOR), popularly known as Pongu Hospital, is the largest government-run hospital for orthopaedic patients in the country. In this study, it was revealed that most of the road accident victims get admitted to NITOR at any of the stages of their treatment. Like respondent Hafiz stated:

*“At first I was admitted to a local hospital. After necessary treatment I came back home. After some days I was again admitted to that hospital because of complication. But the doctors told that they are unable to fix it and referred me to Pongu Hospital. I got treatment for about 1 month at Pongu Hospital. They implant a rod into my leg. Now I can walk crippled with the help of crutch.”*

But there is a negative image of the hospital as sometimes *dalals* (brokers) motivate patients not to get admitted there and instead take them to clinics with whom they have understanding with. In this regard, respondent Hanif had a painful experience. He was trapped by one such *dalal* at Pongu hospital. He shed some light on his treatment process afterwards:

*“...after I was admitted to Pongu Hospital, doctors suggested me to get admitted into Cardiac Institute after doing my X-ray. Then I was confused about what to do, why I should get admitted in Cardiac Institute. In the meantime an agent influenced us and took us to a clinic nearby. After we went to the clinic, doctors ensured that they will fix my leg. We made a deal with them for that which cost about BDT 50,000. Then my treatment was started. They have done operation then. But the next day they suddenly told that my leg had to be cut off. My family tried to convince them in many ways that they (my family) will give money as much as they (doctors) want to keep my leg. But the doctors keep saying that it's not possible because my leg has been totally damaged. Finally, they had cut off my leg.”*

Another respondent Rafiqul, who had also bitter experience about Pongu hospital, could not get admitted there for treatment in a proper way. As a result, he had to go back without treatment that eventually led him to become disabled. He explained:

*“I was admitted to a local hospital after accident. After one day they referred me to Pongu Hospital. But I failed to get admitted there. So, I was admitted to district Sadar Hospital. Though they have plastered my leg, it got infected. Later the infection was cured but my leg became twisted gradually and numb at all.”*

When a person becomes seriously injured by road traffic accident, s/he needs emergency treatment. Timely treatment can save the very life of an accident victim. But the treatment facilities are not available near the spot of accident. As a result, it takes time to take the injured victims to a hospital/clinic. Furthermore, admission procedure at some hospitals is complex that consumes further time and results in the death of patient. Respondent Hanif had such type of experience that made him physically disabled. He stated:

*“At first I went to Dhaka Medical College hospital after the accident but to finish the admission process wasted a huge time. Later, doctors referred me to Pongu Hospital (NITOR) after examining me. At Pongu Hospital, it also took a huge time to finish the admission process. I do not know whether I was able to get well if I could get proper treatment within 6/7 hours of the accident.”*

In most of the cases, the victims of road accidents in Bangladesh are found to be poor. Their relatives, friends are also poor. As a result, they cannot come forward to financially help the victims during the course of treatment. One such victim Solaiman had his version of the story:

*“During my treatment period many of my relatives came to see me. But none of them helped me economically. My most of relatives aren't solvent. So, they were not capable to help me if they wished so.”*

Another respondent Selim had almost same opinion as he was also from a poor family. He stated:

*“I was admitted at hospital about 6 months. My mother was with me all time during my treatment period. My relatives and friends have come to see me. But they were not able to help me because of their bad economic condition.”*

By analysing the comments and explanations of the respondents of this study, it is revealed that most of the road accident victims are used to taking treatment from *Pongu*

hospital. But some of them had bitter experience about the hospital facilities. One of the respondents talked about the influence of *dalals* at the hospital. Besides, lengthy procedure to get admitted there hinders taking timely treatment by the accident victims. Some mentioned the non-cooperation and misbehaviour of doctors towards them in time of treatment. But everybody recalled the contribution and cooperation of their families during treatment. Asked whether there is any specific government or non-government organisation to help the road accident victims for treatment, everybody had a negative answer in this regard. Only one respondent admitted to have received little help from a hospital's social service office. A few respondents got financial helps from the vehicle employers or owners. But the financial help was not sufficient compared to the total cost of their treatment. Some of the respondents got themselves treated by selling their own properties as they are not economically that much sufficient. Sometimes, a few of the victims had to be transferred to the other hospitals for treatment as long as they needed it.

### **7.3.3 Sources and Amount of Treatment Cost**

Bangladesh is one of the least developed countries with a per capita income of US\$ 1602 (GoB, 2017). Majority people of the country live below the poverty line. The healthcare facilities are not yet well-developed and the cost is not affordable for all classes of people. In the developing countries, governments often subsidise services at public healthcare facilities and provide services free of cost to the users. The government of Bangladesh with its limited capacity also has taken some initiatives to provide the public hospitals with healthcare facilities at a low cost. But access to this service is limited for the patients, especially the poor victims. As a result, the households face difficulty in payment for healthcare expenses. Sometimes, they have to sell valuable property or spend savings to bear the expenses.

It was revealed in this study that most of the victims of RTAs were not economically solvent. So they had to arrange the expenses for treatment in different ways. They had to bear the expenditure from current asset, savings, provident fund, fixed deposit, losing capital asset, curtailing the essential family budget and so on. Respondent Baten was an employee of a private company. He got the help for treatment from his company in addition to taking from his own savings and losing asset for treatment after the accident. He stated:

*“The company in which I used to work gave me BDT 10,000 for my treatment purpose. But it was too little for my treatment. ...Perhaps I have to spend my and my wife’s savings and have to sell my assets in my village to bear the treatment expenses.”*

Most of the patients had to arrange their expenditure by themselves or by the family members. They did not get any help from any other organisation. Shakhawat was a respondent belonging to this category. In this regard, he expressed:

*“During my treatment my family and especially my brothers helped me economically. Some of my relatives also helped me according to their ability. But no government or non-government organization helped me during my treatment.”*

Another respondent Ranu, who did not get any financial help from anywhere with her family being an exception. Her family had to bear all her treatment expenses and for this, she remains grateful to her family members. She expressed:

*“My family bore the treatment expenses according to their ability. ...who would like to help a poor woman like me?...the world is very cruel. My family is only resort of my hope.”*

When a road traffic accident takes place, sometimes the owner of the responsible vehicle is made to pay the fine, which is later used for treatment. But it is not always enough in line with the expenses of treatment. As a result, other sources also need to extend cooperation for bearing the expenditures. One such respondents Abul said:

*“The owner of the responsible vehicle gave BDT 10,000/- as fine which I spend for the treatment purpose. My mother and sisters who work in the garments also paid for my treatment...and I have to sell some of trees in my village home to bear treatment expenditure.”*

Respondent Borhan also received money as fine from the owner of a vehicle that was deemed responsible for his accident. He said:

*“At the beginning of the treatment the owner of the truck which was responsible for my accident helped me. But for my treatment expenses that was really inadequate. For that reason my father had to sell some of his lands...we had no other way”*

When a person becomes injured due to road traffic accident, s/he cannot but arrange for treatment. Everybody wants to get cured although it is needed to sacrifice something for this. Respondent Shakila had to manage the expenses of treatment cost by losing her fixed asset. For treatment, she even had to sell the land of her ancestral home. She mentioned:

*“My treatment cost was nearly BDT 1 lakh. I did not get any help from anywhere. As a result this money was managed by selling the land from my village which was possessed by my husband.”*

**Box 10: Shakila**

Shakila is now a 50-year-old woman lives in Gazipur. She studied up to class eight. She is a widow and suffering from multiple diseases. Her husband was a schoolteacher. After the death of her husband, she started selling clothes from door to door finding no other alternative and thus used to maintain her family expenses with her small income. But a road accident changed everything. She has one daughter who lives with husband elsewhere. Now Shakila is fully disabled and lives with one of her relatives. She is trying to survive somehow with the help of her daughter and some other relatives.

Savings was found to be the main source of meeting the treatment cost for some of the respondents. One such respondent Jakir stated:

*“Before my accident I saved some money by driving. I have to spend all of that money for my treatment purpose. Perhaps, I have made some loan to bear the treatment expenses which I could not repay fully.”*

Sometimes, road accident victims need long time treatment, which is even costlier. In such case, it becomes very tough to bear the expenses. Respondent Jahangir received help from the owner of vehicle which he was a driver for quite some time, but the amount was not enough. He said:

*“I had to stay at hospital for about 2 months and it cost nearly BDT 1.5-2 lakh. Vehicle owner gave BDT 50,000 which I have spent for treatment purpose ... My family had to sell their assets to manage the rest of the money.”*

**Box 11: Mamun**

Mamun is a smart man of 23 years old. When he was going ahead with a beautiful dream of life, a road accident ruined everything. He is unmarried and the only son of his parents. He has two sisters, one has got married and the remaining one reads in class eight. As the only son of his parents, their expectation was high of him. He was a good student and had a good result in HSC despite appearing the exam with wheel chair. But he could not continue his study later on. Now he is a wheel chair user and lives with his family at Kapasia, Gazipur. His father is a school teacher and mother a housewife. His father's teaching is the main source of their family income. Besides, they have some agricultural land from which they earn something. Prior to his accident, he could help his parents in different work. But now he cannot help them sitting on the wheel chair. At present, he is going through training from the CRP and dreaming of setting up an electric repair shop that can contribute to his living.

Another respondent Jamal also had to take long term treatment. For this, he had to take loan. He said:

*“I was admitted in a hospital for about 1 month for treatment purpose which cost nearly BDT 1 lakh. My family bore the whole expenditure. That's why they had to take loan on high interest.”*

Respondent Bashir used all his possible sources to manage the treatment costs. He was helped by his employer at the time of receiving treatment, which reduced his burden in bearing the treatment cost. He stated:

*“The owner of the industry in which I used to work bore some of my treatment expenses ... I had some savings; I had to spend them all for my treatment purpose. ...Moreover, my wife had some ornaments which she had to sell to manage my treatment cost.”*

Respondent Tazul also got help from his vehicle owner, which he was a driver of. But the amount was too little to bear the expenses of treatment. Therefore, he had to manage the expenses from other sources. He described:

*“During my treatment my vehicle owner helped me at first economically by giving BDT 20,000. I had to sell my agricultural land of my village. ...moreover, I had made some loans which I could not pay still now.”*

Like Tazul, another respondent Hanif had almost the same sort of experience. He also got help from his employer. He stated:

*“Nearly BDT 1.5 lakh had been spent for my treatment purpose. My family managed this money by selling our lands. And my boss helped me with BDT 25,000.”*

For treatment, many victims of RTAs had to lose their arable land. Respondent Selim was a victim of this type although he received a tiny help from the Patient Welfare Fund of Hospital Social Service Office, which is run by the Department of Social Service under the Ministry of Social Welfare. He explained:

*“...Except homestead I belonged to 6 katha agricultural land which I had to sell for my treatment purpose. There was no other way but sell this land ... During treatment in Dhaka Medical College Hospital Social Welfare Office helped me with small amount of medicine, blood and money.”*

In most of the cases, families of the victims had to bear the treatment cost and each of the families tried in all possible ways to arrange the expenses. As some families were poor and they did not have ability to bear the expenses fully, they had to borrow loan from others finding no other way. Respondent Sonia was lucky enough to get help from her relatives. She said:

*“Mainly my family bore the expenses during my treatment. But some of my relatives helped me economically. And my family had to make some loans. No government or non-government organization helped me.”*

There are many evidences in Bangladesh that many families became penniless while bearing the expenses for treatment. They had to lose their assets and finish all their savings. Even some had to take loan that could not be repaid and in turn, it further increased the burden. Respondent Mamun described:



*“...still now about BDT 5 lakh had been spent for my treatment purpose. My father had saved some money by teaching. He had to spend all that money and even sell our agricultural lands. My father also took loan to meet my treatment expenses which could not be paid till today.”*

Only one respondent named Hafiz did not face any difficulty to arrange the expenses for treatment. His family was solvent and could bear the cost easily. He stated:

*“By this time I was solvent enough. I had lands and houses, brothers and relatives and savings (money). So, I didn't face so many problems to bear my treatment expenses.”*

The analysis of the statements of the respondents reveals that most of them had to bear their expenditure either by themselves or their family members. A good number of them managed the expenses by losing their properties during the treatment process. Victims who were drivers or employee got help from the owner of vehicles or employers, but the amount was too little to bear the expenses. As a result, some of them had to finish their savings. Some of the poor and distressed respondents had to take loan against high interest rates. Only one respondent got a little help from the Patient Welfare Fund of Hospital Social Service Office, run by Department of Social Service under the Ministry of Social Welfare. However, the amount of treatment costs ranged from BDT 20,000 to 500,000.

## **7.4 Survival Patterns in the Family as well as in the Society**

### **7.4.1 Dependency on Others**

Survival patterns refer to the process or ways a person follows to continue living. The lives of the road accident survivors sometimes become miserable if they become disabled physically. Disability makes them vulnerable in terms of income and dependency. Most of them have to survive depending on the family members or others. Respondent Baten had to depend on his wife. He said:

*“As I am incapable, I have to depend on others to fulfill my needs. Specifically I have to rely on my wife. We are leading a miserable life with the income of my wife which she earns as a garments worker.”*

When an accident makes a person disabled, s/he may not be able to work like before. Employers are very much reluctant to keep such worker in jobs or to provide them with any job opportunity. As a result, many lost their jobs after accident. When they lost jobs,

their income also stopped. Then they had to depend on others to survive. Respondent Shakhawat said:

*“After road accident I have lost my job. Now nobody is interested to give me job because of my disability. ...now I have to depend on others totally ... Without the help of my brothers it won't be possible for me to survive.”*

In Bangladesh, women with disabilities are facing double trouble in the society: one for being women and another for their disability. So when a woman becomes disabled and cannot move for work, she has to lead a miserable life. Respondent Ranu explained:

*“I am confined at home because of my disability. Now my home has become my world. There is no other option ...if I can not go outside of home and aren't able to do any work. I do not have any means without depending on my husband and my daughter.”*

Another female respondent Shakila had the same sort of experience. She said:

*“Now I am totally incapable... have to face difficulties in every movement... I have to depend on others like an undesirable burden. Daughter of my brother-in-law and her husband are taking care of me now. But I do not know him long I have to depend on them to survive.”*

Female respondent Sonia also said:

*“As I am not fully capable to earn, my parents and siblings fulfill my daily needs. I have no other ways but to depend on others.”*

All the respondents during this study are not leading their lives totally depending on their family income. Some are trying to earn as per their capacity and also supporting their families although their post-accident income have got decreased for being disabled. Respondent Abul mentioned:

*“In spite of decreasing my income, I'm not totally incapable. So, I'm trying my level best to earn some money every month. With that I'm nearly able to fulfill my basic needs ... it can not be said that I'm depended on others.”*

**Box 12: Jahangir**

Jahangir is a wheel chair user aged 46 years. Road traffic accident has made him a person with disability. He is married and has two wives. But his 1<sup>st</sup> wife has left him following his disability. Now he lives with his 2<sup>nd</sup> wife and two children in a small rented room beside the bus stand of Savar, Dhaka. As he is literate, he is trying to make his children literate too. He is running a small tea stall with other products like betel leaf, cigarette etc. at the bus stand sitting on a wheel chair. He thus earns something and tries to maintain his family with hardship.

Those who had other source of income excepting the job, they could narrowly manage their basic needs. They were not totally dependent on their families. Respondent Borhan stated:

*“Somehow I am leading my life with the rent of my own house. ... I do not have so many problems in walking with the help of artificial limb. As I am physically fit, trying to do some income generating activities. I am not totally depended on others.”*

Another respondent Jakir also has other sources of income. So, he is self-dependent despite being physically disabled and incapable of working. He expressed:

*“In spite of being physically incapable at present it is possible to survive on with the monthly income from the rent of shop and battery driven rickshaw. In this sense, it can be said, I am not totally depended on others economically and physically.”*

Every human being, irrespective of being capable or disabled, has some inherent worth. But s/he cannot use it for lack of opportunities. A disabled person also tries to use his/her capacities for livelihood and wants to live as a self-dependent individual. Respondent Bashir explained his condition:

*“In spite of losing one leg, I am trying heart and soul to survive with what I have. And I do not consider myself as a dependent person.”*

**Box 13: Basher**

One of the victims of road traffic accident, Basher (32) looks to be quite normal from outside. But he lost one of his legs in a road accident in Dhaka back in 2009. Now he walks with the help of crutch. He studied up to class ten. Before the accident, he used to work at an Aluminium factory and whatever he earned was enough to run his six-member family. But road accident changed his life and livelihood. Now he lives in his village home in Gazipur and runs a small tea stall at a bazaar beside his residence. Tea stall is the main source of his income, which is not satisfactory as per his admission.

Another respondent Tajul also considers himself as self-dependent. He stated his condition:

*“I do not consider myself as a dependent. I try to walk with crutch though it's difficult. Besides, my income has been increased a little bit, I am getting disable allowance.”*

In another case, respondent Al-amin stated:

*“Partially I am depended on my family member's income, specifically on my elder son's income. I cannot work as before. But, I try to maintain our cultivable lands with difficulty.”*

A person who becomes severely disabled due to road traffic accident, s/he has to depend on others firstly physically, then economically. As s/he cannot work, s/he cannot earn. And when s/he cannot earn, s/he must have to try to survive depending on the family. Respondent Mamun was a victim of this type. He said:

*“Now, I am unable to move without wheel chair. It is impossible for me to do any work and any type of income generating activities. Even can not help in any chores. Rather, I am spending my life by completely depending on my family.”*

For survival in life, one needs to fulfill the basic human needs. Without economic support, it becomes impossible to meet such needs. If one cannot meet such needs with his/her capabilities, s/he has to depend on others for survival. Respondent Hanif stated:

*“Now I am wholly depended on my family. Because my entire savings or income has finished through the treatment process after my accident. As I am destitute, there is no other path without depending on my family...what can I do?...”*

Respondent Solaiman is not fully capable of working. Hence, he has to work in a rice mill for his survival with poor wages. He said with a smile on his face:

*“I am doing a small work now. But I do not get wages according to my labor because of my disability. As, I failed to fulfill my basic needs with that, I have to depend on my family.”*

Respondent Rafiqul is trying to survive with the financial help of one of his brothers who stays abroad. As he is not engaged in any income generating activities, he has no other way to depend on this money. He said:

*“I am physically disable and have no source of income. In that case, one of my brothers who live in abroad sends some money to me every month. I am passing my life depending on that money ... I am living on depending on my family.”*

Begging is one of the survival strategies for a section of people in Bangladesh. Among them, a large portion are disabled. Because, disability can easily draw sympathy of others. So, those who are disabled and do not have any other way of survival, they choose begging as occupation. Respondent Hafiz is begging for survival and he stated:

*“...because of disability, I am incapable to do any work. So, I have to ask for help or beg for livelihood which is one type of dependency. But I am not depended on my family. Now I am earning my livelihood by begging.”*

One of the respondents Jamal's explanation was different than others:

*“I do not consider myself as a dependent. Men can live with one hand, so as I am. ....Moreover, I am economically self-reliant now by the grace of Allah.”*

By analysing the above statement of the case respondents, it becomes clear that most of them depend on their family members for the sake of survival. Those became physically disabled due to road traffic accidents were selected as respondents for this study. In Bangladesh, it is true that persons with disabilities are surviving with hardship. As most of

them are out of income generating activities, they have to depend on their families for survival. Here, most of the respondents were found to be depending on their family for survival. Main cause of their dependency is inability to earn as a result of disability. But it has also been found that some of them are engaged in income generating activities and they have full confidence in them and in spite of their disability, they are trying to become self-reliant. Whereas, only one of the respondents became beggar in order to survive.

#### **7.4.2 Burden on Family**

When a person cannot contribute to his/her family, usually s/he is considered as burden to the family. In Bangladesh, most of the women are out of income generating activities although they have contribution to household management. But it is not acknowledged by other family members of a family. Respondent Ranu explained her condition:

*“Sometimes my husband says that he is fade up with me, asks me to go to my parental home. Even sometimes he says that why do not I die?.... He behaves with me like that because I’m burden to my family.”*

Respondent Shakila had the same type of experience like Ranu. She stated her condition:

*“My own children are not willing to take care of me; I am burden to them because of my incapability... Where my own blood does not look after me, it is natural to considering me as burden by my brother-in-law’s daughter and her husband.”*

Another respondent Jahangir also stated almost the same:

*“When a person becomes disable because of losing an organ, naturally he has to depend on others totally or partially to survive. ... there is no man who likes to be a dependent. But what can they do?...in this sense it can be said that I am a burden.”*

All disabled persons are not capable of working. As a result, they cannot get involved in income generating activities. For survival, they have to depend on their families. When a person totally depends on his/her family, s/he considers himself/herself as burden. Respondent Al-Amin said in this regard:

*“Before the accident, I was able to move alone, was capable to work and earn money. But now I am unable to do all types of works. I have to take help from my family to live. So I consider myself as a burden.”*

But it is not true for everybody. Respondent Baten described:

*“...though she (my wife) does not consider me as a burden, sometimes she says that I am passing my life without doing any work. But this does not last long because my wife does not have anyone. And I do not have anyone too except her. So, both we are for each other.”*

In most of the cases in Bangladesh, persons with disabilities are considered as burden by their family members. But there are some cases where families try to support and stand beside a disabled member. Though the family does not consider him/her a burden, the disabled person considers himself/herself as a burden to the family. Respondent Shakhawat has this kind of feeling. He stated:

*“My family does not treat me like a burden but I consider myself as a burden. Now I am a burden because of my disability after the accident and can not work and earn...”*

Tazul, one of the respondents had the same sort of feeling. His family does not consider him a burden, but he considers himself as a burden to the family. He thinks this way because of his inability to earn. He said:

*“I have no job and income. I have to depend on my family to survive. Considering these I am burden to my family ... my family loves me a lot. I do not think they consider me as a burden by their behavior.”*

#### **Box 14: Tajul**

Tajul is a person with disability due to road traffic accident, but he can move on with crutch. At present, his age is 55 years and he is an illiterate man. He is a father of three children and lives with his five-member family in a rented house in Narayanganj town. He was a driver since the age of 20 and would drive bus on Dhaka-Chittagong route. But he cannot drive after the accident due to his disability. Now his only son earns working in an iron rolling mill and helps run the family. Furthermore, he himself assists one of his friends by looking after his business of rent-a-car and earns a little.

Another respondent Jamal is also getting support from his family and for this he does not consider himself as a burden. He stated:

*“My family, wife and son never consider me as a burden. They consider it as their fate. ... they consider me as their means of security and it does not matter whether I am disabled or not.”*

Every human being wants to live with dignity whether s/he is disabled or not. Nobody wants to live as a burden. For this, everybody tries to engage in income generating activities according to his/her capacity and make himself/herself self-dependent. Also, every disabled person wants to avoid leading a burden-like life. Respondent Abul said with confidence:

*“I do not consider myself as a burden in my family. I am supporting my family with my limited income. Except me there is no other source of income of my family. They have to starve if I do not bring food.”*

Respondent Jakir finds living a burden-like life comparable with death. He expressed his views:

*“I never think me as a burden. ...even I do not want to live like a burden, rather than I die.”*

Respondent Bashar is trying to support his family according to his physical capacities. As a disabled person, he does not lead his life as a burden. He said:

*“Through I do not have one leg, I am supporting my family my level best. Basically, my family is running on my income. For this reason, I think my family never considers me as a burden.”*

Respondent Hanif is also very much confident about his life and future. He expressed:

*“Alone with my family I do not think I’m a burden because now I can move with the artificial limb. Though I am having trouble now, I think I will find out a way to earn...”*

There are some respondents who have become disabled due to RTAs, cannot earn due to their disabilities. But they have some other sources of income that help them manage household expenditures. As a result, they do not consider themselves as burden to their families. According to Borhan:

*“I am the owner of a house from which I get rent every month...from rent what I get I try to support my family according to my ability. Though I have to walk with artificial limb, I am physically fit. ... I never consider myself as a burden.”*



When a person is physically and economically incapable, s/he doesn't find any other way other than depending on others. When s/he has to lead his/her life depending on others, s/he usually considers himself/herself as a burden. Respondent Sonia has such type of experience. She explained with sorrow:

*"...yes, I consider myself as a burden. I am unable to do any work. My brothers are very much co-operating. But their wives have doubt that nobody will marry me because of my disability as they are from different houses."*

Begging is a disgraceful occupation. It can be said that begging is a last option for a person when there is no other way to survive. So, a beggar always considers him/herself as burden to his/her family as well as the society. Respondent Hafiz's explanation was like the following:

*"I consider myself as a burden because I am unable to do any good job. And begging to survive which is disgraceful."*

Respondent Mamun had bitter experience. As the only son of his parents, he had a dream to support his family. But all his dreams got ruined after the accident. Though his parents love him very much, he considers himself as a burden. He explained his situation with water rolling down from his eyes:

*"I consider myself as a burden on my family. But my family doesn't think this because I am the only descendant of my parents. They are satisfied as I'm alive. But it is tough to be said how longer situation will remain like this..."*

The family of respondent Solaiman also does not consider him as a burden although he considers himself as a burden. He stated:

*My family does not consider me as a burden. If they consider that they would not carry this burden. But sometimes I consider myself as a burden. Because I would have a conjugal life after marriage, would have a good job to support my family. But I am unable to do all these because I am disabled and burden."*

The survival patterns of the accident survivors have got changed after accidents in their lives. All the respondents in this study have become physically disabled after the RTAs.

As they are disabled, most of them are out of income generating activities. Almost all of them are leading lives depending on others. Some others have other source of income and are trying to support families. They are trying to become self-dependent doing some activities with a view to earning livelihood. One of them also started begging for survival. So, they do not consider themselves as burden. But those who depend on their families consider themselves as burdens to their families, although their families do not treat them as burdens.

### **7.4.3 Discrimination, Torture and Negligence**

Every year, a large number of people die and get seriously injured or permanently disabled with significant losses of resources and properties due to RTAs that creates enormous burden on not only the society, but also the economy. So, RTA is one of the main causes of disability in Bangladesh. But it is true that socio-economic condition of the persons with disabilities is not good at all. All individuals have the right to be treated equally, regardless of race, ethnicity, nationality, class, caste, religion, belief, sex, language, sexual orientation, gender identity, age, health or other status. But most of the road accident survivors have turned into persons with disabilities and hence they are not being treated equally. They are leading miserable lives with various problems. They are not getting equal opportunities. They are not being treated well by others and even the family members. People have a notion that some of them at times suffer from torture -verbally or physically. But most of the respondents in this study had different opinion as was stated by Baten:

*“I personally do not feel any kind of discrimination from my family members. They said that I do not need to do any work. They console me that it is enough for us that I am alive rather than dead. And that is our consolation.”*

Another respondent had almost the same experience. Shakawat said:

*“My family...no..., do not show any kind of negligence or discrimination because of my physical disability. My family thought that it was in my fate. Anyone can be in the same situation like me.”*

Those who are a little bit capable and playing role as the only earning member of the family are being treated well. Respondent Abul is now a person with disability, but with

his disability he is trying to support his family according to his capacity that makes his family members happy. He described:

*“My family does not show any kind of negligence and discrimination towards me... I support my family financially by doing labour or job still now. If I do not exist perhaps there is no earning source. My wife and children are now in a good situation. If I provide food to them they eat and if I do not provide they have to starve.”*

Respondent Ranu had different experience. Generally in Bangladesh, women are one of the vulnerable and disadvantaged segments in the society. Furthermore, when she becomes disabled and lead her life depending on family, she had to be the subject of discrimination, negligence and even torture. Respondent Ranu explained her condition as following:

*“I need medicine around BDT 400/500 in every 15days interval. It’s very pathetic that sometimes my husband asks me - why I do not die. If I die it is better for me as I need not to bare burden anymore. ... that’s why sometimes I really feel that I should commit suicide by taking poison.”*

Shakila, one of the respondents is staying with one of her relatives. She had only one daughter who is married and does not look after her. She stated:

*“Where own family members even daughter do not look after a disable people or treat as a burden, there how much the other people care for you?...”*

Attitude towards the persons with physically disability due to road accident is changing gradually in Bangladesh. In many cases, they are being treated well rather than facing any discrimination and negligence. Respondent Jakir said:

*“I do not have to face any kind of discrimination because of my disability in my family...rather they give me much more importance as a head of the family... if I am getting late to return home then they take information through phone call.”*

Respondent Tazul also had a good position in his family. His disability did not make him a neglected person. He is getting support from his family. He stated:

*“I do not have any types of work to do. But for that reason my family doesn't neglect or discriminate me. My family members including my son, daughter and grandson love me a lot. They are always by my side and try their level best to co-operate me.”*

Another respondent Rafiqul said:

*“My family members love me now as much as they do use before of my accident. Perhaps they love me much in many situations... They do not show any kind of negligence to me.”*

Disability of a family member places a set of extra demands or challenges on the family. The day-to-day strain of providing care and assistance leads to exhaustion and fatigue of the family members. Disability can consume a disproportionate share of a family's resources of time, energy, and money and as such other individual and family needs go unmet. A family's dreams and plans for the future centering a person may get jolted after road accident. In that case, the behaviour towards that person may also get changed which may hurt him/her. Respondent Mamun in this regard stated:

*“I do not have to face any kind of discrimination. But in all time my mind does not go good. They (family members) always concern about me and they are in this situation because of me...but sometimes I have to face some tough talk from them which indicate their negligence and that is natural at this situation.”*

Respondent Sonia also faces some negligence from her family members. She thought that it was only due to her disability. She expressed her views:

*“Sometimes I feel that my sisters-in-law neglect me because they consider me as a disable woman. I do not know whether I will get married or not. They think if I do not get married I will be a burden to them.”*

From the above discussion, it becomes clear that some of the respondents, out of a total 19 respondents in this study, said that they are facing negligence and discrimination after getting disabled by the road accidents. As they are out of employment and leading their lives depending on others, they are considered as curse or burden to a family or the society. In many families, they are subject to regular discrimination, negligence and even torture. But the situation is changing because of awareness among people about the rights

of persons with disabilities. In some families, they are being treated very well and supported by the family members. It is a good sign for them.

#### **7.4.4 Family Co-operation**

Family cooperation has always been a strong mechanism for combating the problems of road accident survivors. As of now, a family is working as the best and the last resort for a person. It is very much applicable for the victims of RTAs. The road accident survivors in every stage need cooperation from the family. In addition, those who turned into persons with disabilities due to road accidents have no other way to live without family cooperation -- it does not matter whether they are capable of earning or not. No matter what kind of attitude they are being faced with, but the members of their families in this study tried to support them both physically and economically. Respondent Baten stated in this regard:

*“I am alive only because of my family assistance. I am not fully capable to earn. My wife works as a garments worker. My family considers my living as a best part of their life. If I do not get help from them maybe it would be tough to live and lead my life.”*

Respondent Shakhawat lost his job after being physically disabled due to road accident. Now he is trying to get a job, but he thinks that he is not getting it only because of his disability. As a result, he has to depend on the cooperation from his family. He mentioned:

*“I am unemployed and cannot contribute to my family financially...if my family would not help me I could not able to lead my life. My family tries their level best to do everything for me.”*

Importance of a person in a family depends on his/her contribution to the family causes. In general, it is seen that s/he is cooperated by the family members who supports his/her family. It has become a reality for respondent Abul. He stated:

*“I have lost my one leg in the accident but somehow I managed to earn for my family... my family members give me much importance. My family considers my accident as a written fate ordained by Allah. They love me and try their level best to stay in my side. They give much importance of my opinion.”*

Jakir, one of the respondents also had same sort of experience. His family members cooperate in every aspect of life. He said:

*“As the head of my family they give me much importance especially regarding decision making process. My wife tries to stay by my side all the time; my brothers are also come forward when I am in trouble.”*

Respondent Borhan also can support his family with his artificial limb. As he can support his family he is also being supported by his family members. He told:

*“I lost my one leg in the accident but with the help of artificial limb I somehow managed to earn and run my family. I am earning and supporting my wife and children and fulfilling their needs so that they give me much importance and dignity... as I have only leg my family helps me a lot so that I do not have to face difficulty.”*

Respondent Bashar further informed:

*“Because of my earning, my family gives proper priority to me still now. But I do not know how long situation will remain unchanged...”*

Women with disabilities due to road accidents in Bangladesh look to be a disadvantaged section and in many families they are being victim of abuse by their family members. In most cases, they cannot support the family, which results in non-cooperation by others. According to respondent Ranu:

*“My family failed to take my accident as a natural incident. They think that the accident was due to my fault. I am not satisfied with the care of my husband and his attitude is not always cooperative which hurt me...”*

Another female respondent Shakila, who does not have family of her own, lives with one of her relatives. When one has to live on the mercy of others, it becomes tough for her to get cooperation as was said by Shakila:

*“There is no one in my family whom I can consider as my closed one. With whom I am staying now however they look after me but sometimes they neglect me. I do not get their cooperation as my needs but what can I do?...it is my lot.”*

Support of the family, especially the spouse, is very essential for the road accident survivors who are married. Sometimes, it is seen that the spouse abandons following the

disability due to road accidents. S/he doesn't want to make life complex by way of staying together. But one of the respondents had different experience. He expressed:

*“My wife went back forever to her parental house along with our only child after my accident. They are not willing to keep any kind of communication with me further... However my present wife loves me a lot.”*

In another case, respondent Al-Amin stated:

*“The attitude of my family towards me is quite positive. In needy circumstances, my family is much more sympathetic to me rather than others. However they think that as I am a disable person, I need much more assistance from them.”*

Respondent Salim expressed his views:

*“...So far I am alive only because of my family especially from my wife's help. My wife works others home to contribute financially to my family and tries to lessen my burden.”*

Another female respondent Sonia is supported by her parents and siblings. Their cooperation helps her lead a normal life. But other members are not so cooperative to her. Her statement was like:

*“My family helps me enough. My family members especially my parents and siblings try their level best to keep smile in my face. But sometimes the behavior of my sister-in-laws hurts me a lot.”*

Every member of a family tries to stand beside the victim's needs according his/her capability. It is the nature of a family. But when the capability decreases, then cooperation also decreases. Respondent Mamun stated:

*“My family's assistance is the only things that I have now. But that is not enough... But what to do?... I have nothing to accept the situation. My family's ability decreases because of me. Still now my father has lots of debt.”*

When a person becomes disabled after road traffic accident and has no other way but to depend on the support of family, then s/he does not want to say anything against the family. Respondent Hanif said:

*“I do not have any complaint towards my family. I have to be satisfied with the assistance from my family more or less they support...”*

### **Box 15: Hanif**

Hanif is a young man aged 27 years and he has become physically disabled in a road accident that took place in 2014. He lives in a village of Narsingdi. He studied up to class eight and did not get married till now. He used to be a driver before disability following a road accident. He lives with his family consisting of four members, including father, mother and one brother. His father and elder brother are involved in agriculture that is the main source of their family income. At present, he has started a shop of repairing electronic products after taking training from the CRP that is now deemed contributory to his life and livelihood.

Road traffic accident may take place in the life of any person any time. So when a person becomes the victim of accident, s/he should not be blamed for the accident. The family should support and cooperate in every stage of his/her life to survive. But it does not turn out to be a truth for every victim in context of Bangladesh. Respondent Rafiqul was also blamed in early stage, but now he is treated well by his family members. He said:

*“From the very beginning my family used to blame me for that situation. They said that the accident was occurred because of me. They do not tell me anything now; it was in my fate, they try their level best to help me.”*

Respondent Hafiz is a beggar and stays in Dhaka without his family. So, about his family cooperation, he could not answer clearly. He stated:

*“As a form of beggar I stay on the footpath. Presently I do not have any family in the Dhaka city. But my children love me a lot when I go to my village home.”*

All the family members of a road accident survivor do not cooperate equally. Respondent Jaman also does not get cooperation from his parents, but he is very pleased with the cooperation of his wife. He opined:

*“I did not get any kind of help from my parents after my marriage. But my wife helps me enough. In another sense I can say that my wife is my helping hand. For that reason sometimes I forget that I have not my hand. My wife helps me even doing my toilet.”*



There are some families that are too poor to support the road accident victims financially. Furthermore, it creates extra pressure if the victim is disabled and depends on the family. As a result, disabled survivors have to live with cooperation from the family members. Whoever gets such cooperation can be deemed lucky enough. Respondent Solaiman belongs to a very poor family, but happy with the family members' cooperation. He described:

*“My family is ultra-poor. But after all that they are very positive to me. Though they do not have enough food but they feed me sufficiently. For that reason I try to keep smile on my face during the tough situation and try to find out the essence of life.”*

The statements of the respondents prove that the family members of the accident survivors hold positive attitude towards them. All the family members like children, wife or parents of the respondents are, to some extent, very kind to them in their difficulties. Most of the respondents think that it was not possible to survive without cooperation from his/her family members.

#### **7.4.5 Participation in Decision Making Process**

Decision making is the process of selecting a logical choice from among the available options. Participation in any decision making process indicates the position of someone in the society. Road traffic accidents have adverse effect on the life of survivors. Many survivors turn into persons with disabilities permanently after road accidents. Persons with disabilities are often excluded from participating in the decisions that affect their lives. Sometimes, they are not asked to know their opinion regarding any important family issues. Their absence from decision-making process reinforces barriers to full participation in the society. Those who are totally incapable and out of employment, do not have any value in expressing opinion. But if an accident survivor has earning capacity and can support family, s/he has active participation in decision making process. Respondent Abul said:

*“My family takes my opinion regarding any decision of our family because I’m the head of the family and an earning member of a family. In the time of danger the family comes forward.”*

Respondent Borhan had almost the same opinion like Abul. He stated:

*“Still now I have the capability and authority to take decision regarding my family. Whenever I am in danger my family members come first to help me.”*

Bashar, one of the respondents had the power to make decision as he can earn and support his family. He said .....

*“I earn my livelihood independently so that I have the authority to take decisions regarding my family. They want my opinion regarding my family issue.”*

It was revealed that the female accident survivors, compared to their male counterparts, have almost the opposite sort of experience about participation in decision making process. They said that usually they do not have equal rights as women when the question of decision making comes. In addition, disability makes the situation more vulnerable for them. Respondent Ranu argued:

*“As a disable person like me in the family what kind of importance I have. I am a burden of my family. Who can want to take the opinion of a burden woman?...nobody.”*

Respondent Sonia also had the same type of opinion regarding participation in decision making process. She stated:

*“As a female the family does not give me any importance regarding taking decision especially as a disable women and same things also implies to me.”*

When a woman is totally disabled and live on the mercy of others, she is usually excluded from decision making process. Respondent Shakila in this regard said:

*“I am a fully incapable person now. I do not have any power in decision making because I live on the mercy of others...”*

Other respondents have opportunity to give their opinion or participate in decision making process. In this regard, Jakir with a smile and happy face said:

*“In my family my wife helps me the most. Moreover my brothers come forward in the time of danger. They try to ask me about different issues of my family.”*

According to respondent Tajul:

*“My family does not help to solve my financial problem. But in other subjects they help me enough and try to look after me. They give importance of my opinion.”*

Although Jamal’s opinion does not get importance to every member of his family, his wife considers his opinion seriously. He expressed:

*“I do not know whether anyone will come for me at the time of danger but my wife is always by my side. My wife says- if I get food you will get food. ...She always discuss with me when she wants to do anything.”*

By analysing the above statements of the respondents, it is apparent that most of the respondents get the opportunity to take part in family's decision making process. Mostly, the male respondents have the greater scope for participation compared to their female counterparts regarding decision on any tough situation of their families. Most of the families in a patriarchal society are male-dominated and it has also been reflected in this study. The female respondents of the accident survivors do not get the opportunity in decision making process. Normally in our country, women get less importance than the men. If a woman is disabled here, the situation is much worse. They not only face negligence, but also get less opportunity in decision making process.

#### **7.4.6 Social Status of the Respondents**

Social status is the position of a person within the society. Status can be of two types: one is achieved status that someone can earn by his/her own efforts, while the other is called ascribed status in which one can be placed in the stratification system by inherited position.

In this study, social status means the position of a person according to which s/he is treated by the people of the society. How is their attitude towards the respondent? If anyone faces difficulties, is s/he helped by others or not? From this study, it is revealed that some respondents are satisfied with the behaviour of the people of the society. When they walk along or cross the road as disabled persons, they get help from others. Many people come to help them willingly. In this regard, respondent Baten stated:

*“The people of our society do not misbehave or ignore towards my situation. Rather than they console me. They regret that how a normal person came to this undesirable situation... If I face any trouble while walking in the street they eagerly help me.”*

Respondent Shakhawat explained people's attitude towards him sharing a day's experience. He said:

*“...people try to help me a lot. When I am walking, crossing the road, many people help me for that. One day after waiting for a long time in the road I was not able to get in the bus, at that time a motor bike came to me and help me to reach my place.”*

But some respondents have negative experience in this regard. They think that they are not treated well by the community members. As they are now leading their lives as disabled persons, sometimes negative words are used to identify them, which is painful for them. According to respondent Abul:

*“There are so many people around us who do not like the disable people. Some people call me Khora from behind for hobbling. Many people say that disable are the enemy of Allah, at that time I feel really bad.”*

In Bangladesh's patriarchal society, equal right for woman has not been established as of now. Furthermore, if a woman becomes disabled, she has to face various problems in the society. They are not helped cordially by all classes of the people in time of problems. Respondent Ranu explained her situation:

*“When I fall into trouble many people come forward to help me but some people close their eyes and ignore me... Sometimes the children call me crippled unconsciously but the senior people try to make them understand about my condition and situation.”*

Respondent Shakila had all but same experience. She stated:

*“Some people around me try to help me but it was not all the time. ... do not laugh at my situation. They said that when I was in good health I used to do a lot of works but now cannot do anything without the help of others.”*

In any society, some people are always found who are good in nature. But some are very negative towards destitute people like the disabled. As a disabled, respondent Borhan had mixed experiences. He said:

*“People around me do not possess good outlook towards me. But all the people are not same in nature. Very few people try to harm me but many people also try to help me lot.”*

In another case, respondent Salim mentioned:

*“Sometimes the people of our society try to help me and stand by my side. But 1/2 people ignore me and try to humiliate me and laugh at my situation.”*

Another respondent Jakir also had mixed experiences. He said:

*“People in the society always help me to lead my life. When I fell into trouble they help me according to their capabilities... try to take information about me. There are also bad people though the number is few... Everybody is getting busy about themselves.”*

A person's position in a society depends on his/her ability. If a person has the ability to earn, usually s/he is treated well and cooperated by others. But when one becomes disabled due to road accident or any other causes and lose or see a fall in capacity, people around him/her do not want to stand beside. Respondent Jahangir described:

*“When a normal people become disabling and lost him/her body part, people lost their confidence on him/her. Suppose, if I asked to borrow 100tk they do not give but when I was normal they easily lend me more money or whatever I asked for... the people in our society think that I cannot able to repay their debt.”*

Respondent Bashir gave positive answer about his position in the society. He viewed:

*“People around me know me very well. When I need help they try their level best to help me. If I need a bucket of water they brought it for me.”*

Generally when a person turns into one with disability, s/he becomes excluded from the mainstream of the society. He cannot lead his/her life as was being led before getting disabled. But it is not always true for everybody. Respondent Al-Amin opined:

*“I have all that respect and acceptance as before, after having my accident. I get invitation from different social and cultural programs... I also try to participate all these programs.”*

**Box 16: Al-Amin**

Al-Amin is a farmer belonging to a middle class family. Aged approximately 40 and studied up to class five, he is married and lives in a village of Arai-hajar in Narayanganj with his family. Members of his family include his wife, two daughters and two sons. Before the accident, agriculture was the main source of his income and as he could work hard on full time basis in farms, earning was sufficient to run his family. But as he became disabled due to a road accident, he cannot work like before. As a result, he cannot work himself in the field, he just tries to look after farming and this has resulted in his reduced income. Very recently, his elder son has started to work in a garment factory, which helps his livelihoods slightly.

In Bangladesh, most of the victims of road traffic accidents are poor. So, if one survivor becomes disabled and cannot earn like before, s/he has to face financial crisis. In such a situation, one can get all types of helps excepting the financial help from others. Because, other people think that s/he will not be able to repay the loan. Respondent Tazul had this type of experience. He explained:

*“I always get help from others at the time of leading my life. But in case of financial help I can not get help from whom I would get before... I do not attend any social function. But sometimes whenever my friends invite me I severely attend that.”*

There are various misconceptions and prejudices regarding the disability issues in the society of Bangladesh. This makes the lives of persons with disabilities further vulnerable. A person can become disabled due to various causes. Road traffic accident is one of the vital causes for that. Every year, many people are becoming disabled due to road accident. Whatever causes may be responsible for one’s disability, s/he should not be disregarded by anyone. But respondent Rafiqul had to survive with the situation. He stated:

*“If any people from my area get haunt by disability, he/she feels bad for that and possess a humiliating life. This is for the negative outlooks of the society. They think that disability is the consequence of one’s sin and have to suffer. Many people laugh at disable people and they said that Allah has decided for them. But after hearing this how a disabled can survive?...”*

Begging is disgraceful, which is not liked by the people of a society. So, whoever chooses begging as a means of livelihood stays in the lower position of the society. As respondent Hafiz is a disabled beggar, he opined:

*“In our society people dislike not only begging but also disability... I am a disabled and living on begging... so, you should understand how am I leading my life?.”*

Although there are negative attitude towards the disabled survivors in the society, some people are very positive and try to stand beside them without any interest. They inspire them to lead a decent life. Respondent Jamal said with sorrow:

*“The outlook of the people of our society is very negative towards a person with disability. Sometimes children pass bad comments to disables people in open place. But I do not feel hurt because they do that unconsciously... My close friends help me and motivate me lot. They told me that whatever you do in using your one hand is really appreciable.”*

Solaiman, one of the respondents had mixed experiences. He said:

*“I consider the behavior of people towards me is quite good. In case of walking on the road people extend their hand for helping me. ...sometimes few people ignore me. Because they thought that if I beg financial help from them.”*

One participant of FGD-2 who is a driver said:

*“I always try to help a disabled person. When I see a disabled standing road side to get up a bus I stop my bus and help to reach him/her destination. Even I forbade my conductor to take fare for travel.”*

In FGD-1, one of the participants said:

*“We should not neglect the persons who became disabled due to road accidents. Because they are not responsible for this condition and anybody of us can be the victim of road accidents at any time... they are also human being and all of we should stand beside them...”*

The social status of RTA victims, especially those become physically disabled, depends on how do people think and perceive them. In some communities, disabled people are treated as second class citizens. They have been lagging behind in almost all walks of life. As

they are not financially independent, they have to depend on others for their basic needs -- even for their day-to-day requirements. They face more or less the same types of problems -- health, financial, emotional abuse, discrimination and non-cooperation. But Bangladeshi culture and tradition has always honoured the destitute people and given them a respectable place in the society. So, those who become disabled due to road accident usually get help from the people of the society. In this study, most of the respondents out of 19 opined that people of their society have positive attitude towards them. They also received help in time of their needs.

## **7.5 Vulnerabilities and Coping Strategies**

### **7.5.1 Vulnerabilities of the Respondents**

Vulnerability is the inability of a household to cope up with the adverse situation using existing assets and resources (Ellis, 2000). Vulnerability can be defined as the diminished capacity of an individual or group to anticipate, cope with, resist and recover from the impact of a natural or man-made hazard. In Bangladesh, there are many types of vulnerable groups. Among them, it can be mentioned the name of women, aged, children, and the disabled persons. RTAs have turned into a common phenomenon nowadays here. Every year, a large number of people die and get injured due to road accidents. Among the injured, a portion of the victims lead their remaining life as disabled. So, those who have turned into persons with disabilities as a result of road accidents, are considered as the survivors and they have been selected as respondents of this study. People with disabilities are part of vulnerable population. In this study, some most important and relevant points relating to vulnerability were considered. These were disability, physical illness, loss of income, unemployment, river erosion, loss of assets, debt, lack of credit, poultry death etc. All of the case respondents in this study think that disability itself is the main factor of their vulnerability. For their disabilities, they are socio-economically disadvantaged and facing various problems. Baten, like all other respondents, stated:

*“Because of the accident I have lost my one leg and today I am a disabled person. Now the problems I am facing only for this disability. It is the root cause of my present position... nobody is vulnerable in our society like a disabled person.”*



Disability created by road accident makes a person vulnerable. Because, disability limits one's capability to earn as s/he cannot be involved in any type of income generating activities. Respondent Borhan said:

*“Now my family survives on the money which I get as house rent. I lost the opportunity to earn because of my accident. With the help of the artificial limb what can I do?...”*

Unemployment is the cause as well as the outcome of the vulnerabilities suffered by various groups. Lack of access to employment is the most common concern of the disabled road accident survivors in Bangladesh and it is one of the most important sources of vulnerabilities. Employment opportunities for disabled persons are less than that of the non-disabled persons, which further contributes to their high rate of poverty and social exclusion. Respondent Shakhawat lost his job after being disabled due to road accident. He said:

*“Now I am unemployed. I have lost my job which I used to do before. I am not able to find any job. Nobody is willing to give job opportunity to a disable person like me.”*

Due to disability, one cannot work like an able person. As a result, s/he becomes excluded from employment. Loss of income or out of employment makes a person vulnerable. According to another respondent Sonia:

*“I had a dream to complete my education and a respectable job but today I am a disable for that reason I have to stop my education. I do not know whether I would be able to do any kind of job in future or not.”*

Bangladesh is one of the most natural disaster-prone countries in the world. Numerous disasters like cyclone, floods, river bank erosion etc. are gradually escalating as consequence of climate change, which is increasing the vulnerability of the people of Bangladesh. In this study, few case respondents are affected by river bank erosion that pushes them towards vulnerable situation. Respondent Ranu expressed her views:

*“Once we were well off in our village home. There was no need of anything... homestead, cultural land, cattle, poultry...everything we had. But one day the river beside our home devoured everything and makes us street beggar. After losing everything we came to Dhaka and started to struggle...still now we are bearing its effect.”*

Another respondent Hafiz is also in a vulnerable position now due to the causes of riverbank erosion and his persisting disability. He said:

*“Today I am handicapped which is created by road accident. On the other hand I lost my cultivable lands and everything what I have in river erosion. Disability and river erosion make me a beggar... Now I had to beg for my survival.”*

There are some respondents in this study who are suffering from various health-related problems or disease-like heart disease, diabetes, back pain etc. along with their disability. They are also suffering from headaches, sleeping problems, disturbing nightmares and general health problems, which are not related to their injury. As a result, they cannot work and earn properly. Furthermore, they have to spend money to bear the cost of treatment, which creates a burden on them. One of the respondents Shakila stated:

*“I am totally handicapped now. Furthermore, I am suffering from heart disease, jaundice, eyesight problems. I can not move without the help of the others...it is not a life. Now I cannot bear this life...waiting for death.”*

Loss of income is very relevant to vulnerability. When a person is capable of earning, s/he can cope with financial vulnerabilities. But in contrary, if one loses income due to any cause, s/he faces many problems, which act as vulnerability. In this study, most of the respondents lost or had reduction in their income due to disability. In the case of respondent Jakir, road accident has brought misfortune as he has lost his previous source of income. He described:

*“I was a driver before the accident. The income was quite enough then for my livelihood. I could manage everything with this income. But road accident changes everything particularly the income of mine. Now I am not able to do all types of works. My family runs from the income of house rent and rickshaw rent and it is quite hard for us to survive with that income.”*

On the other hand, several case respondents did not lose their income completely, but it got reduced. Respondent Salim stated:

*“I am not able to work like before because of my accident. I am trying to run a shop after having disability but my income is half now. Now I can not fulfill my family’s all demands.”*

In another case, respondent Abul said:

*“Before, I could earn enough to manage my family. Though now my income is not totally off but it decreases a lot as I am not capable for all types of work... I have to scramble while walking. At this situation it is tough for me to do anything...”*

In cases of prolonged treatment of the road accident survivors, the family may end up selling most of their assets or land and getting trapped into long-term indebtedness. As a result, these type of families have to suffer a lot. According to respondent Jahangir:

*“After the accident we have to sell our lands for my treatment purpose. Today I do not have any asset left. I have only a shop now. But I am not able to run that shop because of my disability.”*

Respondent Mamun has almost the same experience. His family lost cultivable land and other resources for his treatment. In addition, his income has stopped abruptly after accident. He expressed:

*“The family was passing good times. My father was a teacher. Have some lands. I also could earn a little bit. But after my accident today I am in a wheel chair and without it I can not move...for the purpose of my treatment my father had to sell cultivable land.”*

Most of the road accidents victims in Bangladesh are poor. In addition, If one has lost one's earning capacity, income will get reduced or closed that exerts negative impact on the families' livelihoods. Families face difficulties in catering to their basic needs, inability to pay school fees for their children, pay bill for treatment and in some worse cases, a number of families are forced to depend on handouts from friends and relatives for survival. Even they have to take microcredit from local NGOs that cannot be repaid in due time. Respondent Bashar said:

*“My income is nearly half because of my disability. With the help of one leg it is very difficult to work hard and earn for family for that reason I can not pull my family from the grip of poverty... sometimes I need to beg for help from my relatives... I had to take loan from a local NGO.”*

Poultry raising is an established business in Bangladesh. The contribution of poultry farming is vital to the national economy in case of generating employment opportunity, additional income for households and improving the nutritional level of the people. Many

people, particularly those who are landless, marginal and even disabled, are engaged in this business as it does not need huge capital. But sometimes, outbreak of diseases like Avian Influenza makes the farmers vulnerable. In this study, respondent Jamal started poultry farming with the help of his wife after losing one hand in a road accident. Once it was profitable for him and he could manage his family very well. But he lost almost all of his investment following the poultry deaths due to bird flu outbreak. He expressed:

*“After the accident I have to work with my one hand. Finding no other way I started poultry farming following the advice one of my relatives. At the starting of my farming I did well. I could meet the basic needs of my family, even I could save something. But few months ago almost all of my poultry died in a pestilence. Still now I could not recover its loss.”*

Poor families are more likely than those better off to suffer immediate economic effects as a result of road traffic injuries. In Bangladesh context, there are a good number of road accident survivors who are vulnerable. They cannot overcome the situation due to poverty. Respondent Solaiman described:

*“I grow up under extreme poverty. In addition, road accident makes me a permanently disabled person... because of my disability my earning has almost stopped. Now I work in a rice mill where I am paid half of usual wage. I cannot meet my basic needs with it rather than support my family... I cannot start any other business according to my physical capability for economic crisis. It is not possible for my family to give any single **poisa** to do anything.”*

In Bangladesh, most of the survivors of RTAs are poor and those disabled among them are more vulnerable than others. In spite of disability, some survivors have physical capabilities to get engaged in income generating activities like small business. But they do not have the capital or savings to start any business. In this case, credit facilities can be helpful for them. But many survivors in absence of credit facilities are suffering as a burden to their families. In this regard, respondent Tazul opined:

*“Before I used to work hard and earn for my family. I can say that I do not have any occupation after my accident... I am disabled but it is not right that I am completely unable. I have capacity to do something but it is needed capital. If I would get credit I could use it properly. But it is tough to get credit. Nobody wants to give credit to a disabled man like me.”*

Participants of FGDs shared their opinion regarding the vulnerabilities of the victims of road accidents depending on their experiences or perceptions. One participant of FGD-1 said when a person becomes physically disabled due to road accident, s/he turns out to be a burden for his/her family. The participant stated:

*“A survivor in our locality lost his job after being disabled due to road accident. He is now completely unemployed. Before accident his socio-economic condition was very good and tried to help the poor people beside his residence. But it is a matter of sorrow that now he has to beg for help to others.”*

Another participant of FGD-3 shared his experience saying:

*“One of my known transport worker is now in a trap of debt. After his accident he sold most of his assets to bear the expenses of his treatment. ... next time he took credit from a local NGO to do small business but failed. Still now he could not repay that credit.”*

By analysing the statements of the case respondents and the opinions of FGDs participants regarding the vulnerabilities of road accidents survivors, it is found that they are affected by various factors, in which they have limited, or no control. Some most important and relevant points relating to their vulnerabilities are disability, health problem, losing ability, loss of income, unemployment, loss of assets, poverty, lack of credit, poultry death, natural calamities like river erosion etc. Among these, all the respondents are said to be affected by disability, which was caused by road accidents. When they became disabled, it ultimately reduced their ability to perform any type of work. As a result, some of them became unemployed or suffered in terms of reduction in income. Besides, some of them are poor and affected by river erosion that also made them vulnerable.

### **7.5.2 Livelihood Strategies of the Respondents**

Livelihood strategies are the combination of activities or strategies that people choose to undertake in order to achieve their livelihood goals. Livelihood strategies are composed of activities that generate the means of household survival (Ellis,2000). These activities help people survive against vulnerability. According to DFID, a livelihood strategy is the overarching term used to denote the range and combinations of activities and choices that people make in order to achieve their livelihood goals. It is a combination of various activities that are used to meet various needs and shows a positive correlation and

reinforcing relationship with livelihood assets (DFID, 1999). These strategies can vary depending on time, season and situation. Depending on the severity of crisis and nature of shocks and vulnerability, people adopt a range of different strategies. In this study, the selected RTA survivors were found to be active and earning persons prior to the state of road accident victims. Though they adopted various livelihood strategies, they were bound to change the strategies after road accidents as all of them became physically disabled due to the mishaps. When a person becomes disabled s/he loses his/her capability, which pushes him/her to a vulnerable situation. As s/he loses his/her capability, he/she cannot be involved in income generating activities. For this reason, it can be said that road accidents change the livelihood strategies of all the survivors. It was observed that there was no specific and permanent income generating activities of the respondents during the whole year. They adopted various types of livelihood strategies according to their physical and other capabilities.

Some of the case respondents in this study were found living in Dhaka city. In the city, there are various scopes to get involved in income generating activities. For this reason, landlessness, natural calamities, river erosion and lack of income generating opportunities push the rural poor to Dhaka city. Among them, a big number adopt informal sector jobs like a hawker or rickshaw-puller as their general means of livelihoods. There are also many physically disabled persons living as vendors in Dhaka. Respondent Baten described:

*“After road accident I lost my previous job. Then I had to depend on my wife’s income for my survival. Now I am selling jhalmuri in a small scale for last two month in every evening sitting beside the roads. The money that comes from selling Jahlmuri is not enough for my daily expenses. So, my household runs from the financial help that comes from my wife’s income.”*

Driving is one of the important livelihood strategies adopted by many people in Bangladesh. But there is a negative side of driving. Drivers have the more chance to be the victims of road accidents compared to others and among the survivors who became disabled are drivers. When a driver turns into a disabled person, usually s/he cannot drive properly. As a result, he has to change his/her livelihood strategy. But anyone can go back to this occupation if it does not create any major problem in driving. Respondent Abul, who was a driver, said:

*“I had driving experience and lived on driving. After accident I could not drive or any other work. Then my parents support me financially almost two years and for their support I was able to live. Presently though I have some problems in my one of my legs but it does not trouble me in driving. For that reason, I am able to run my family by driving.”*

Participation of women in the labour market has increased with a more accelerated rate in the recent years in Bangladesh. In the context of growing need and decline in family support along with the ever-increasing pressures to sustain, women have been pushed to get engaged in income generating activities. They are being engaged in various formal and informal sectors for the survival of their livelihoods. The national labour force statistics showed that male and female labour force participation has increasing trends. During the latest sub-period, that is 2006 to 2010, female labour force participation increased from 26.1 to 36.0 percent, which was faster compared to other neighbouring countries (Khatun, 2015). But most of the married women, particularly those with disabilities in Bangladesh, are still out of employment and their livelihood strategies depend on families as they have no other way. In this study, respondent Ranu was a vegetable seller before her accident. Now due to her disability, she cannot continue her previous work. As a result, she has to survive depending on her family. She expressed her views:

*“I am leading my life through hardship. ...what am I doing? Now I am totally dependent on my family. I am supposed to live like whatever my family wants.”*

Another female respondent Shakila was involved with small business as her livelihood strategy. After the accident, it stopped and she is now totally incapable and depends on others. She stated:

*“I used to lead my life in this way since last 6years. I am not able to earn anymore. I have only a daughter. But she does not communicate with me frequently. Presently I am staying with one of my relatives and waiting for my last breath.”*

### **Box 17: Jamal**

Jamal is a poultry farmer in a village of Manikganj. He is 32 years old and studied up to class eight. He lives with his family consisting of five members, including parents, wife and daughter. His father is a farmer and mother is a housewife. Before the road accident, he used to work with his father in farmland side by side his study and their family was running well. But when his hands became inactive in a road accident, he could not continue his work and turned out to be a burden for his family. He was totally unemployed few years and had to pass his time with hardship. At long last, he started poultry business with the help of his wife and relatives. He is now doing well.

Respondent Shakhawat is also leading his life with the help of his family. He stated:

*“I was a service holder and for the sake of my service I had to stay in Dhaka. After accident I was sacked from the job and till today I am unemployed. Though I am searching for a job from my heart and soul but failed. Now I am trying to survive or live with the help and assistance from my brothers.”*

When a person becomes disabled, loses his/her capability to be engaged in previous work, s/he has to find out alternative way/strategy for livelihood. Those who cannot give physical labour but have any other capital or asset can use it for livelihood. Respondent Borhan said:

*“There is a scope to rent house in our locality and it is very much profitable. After losing my leg in that accident my parents built a house for me. I rent a portion of my house and I am able to lead my life somehow with the income of that.”*

It is unfortunate that the entire household may get affected financially, socially and emotionally although only one person usually gets involved in a road accident. The most devastating impact of road accident is the economic one. When a person becomes seriously injured, s/he has to stay at hospital for long following treatment requirements. In case of prolonged treatment for the victim, the family may end up selling most of their assets or land and getting trapped into long-term indebtedness. As a result, most of the survivors have to start their livelihood with the financial help of others or taking loan from NGOs for business. Respondent Jakir said:



*“After completing my treatment process, I was turned into a stranded person. I borrowed some loan from a local NGO and started to run a shop. But I didn’t able to run that shop properly. And after that I bought four auto rickshaws from my own savings and loan. And from the rent of that I somehow managed to run my family... I also get the disability allowances regularly.”*

As all the persons with disabilities due to road accident cannot perform any type of work, they usually go for any work helpful for them to perform. In Bangladesh, there are many such disabled road accident survivors, who did not lose their confidence and tried to get involved with income generating activities rather than begging or depending on others for their livelihood. Many of them are in small businesses like running vegetable shops, tea-stalls, van-based shops, snacks, dry fish sales, mobile top-up etc. In this perspective, one of the case respondents Jahangir informed:

*“I did not lose my hope after losing one of my legs. I try to become self-dependent with my one leg. With the help of a local MP I got BDT 50,000/- financial assistance from PM’s relief fund. With that money I set up a small shop.....now somehow I am able to lead my life from the income that comes from that shop.”*

Another respondent Bashar, too, did not stay idle when he became disabled after road accident. For his livelihood, he started running a small tea-stall with the financial help of NGO. He explained:

*“...being lame, I have stayed at home for some days. After getting well, I came to Savar, Dhaka. In there with the help of a brother I took some loan from an NGO and set up a tea stall. In the beginning the income was very low. But now I am going well. ... by getting financial support a disable person can go ahead through earning like a normal people.”*

Respondent Salim struggled for long for his livelihood and he is now running a tea-stall, which was set up with the financial help of others and at the cost of some assets. He stated:

*“I have been struggling for last 20years. But my present condition is quite better than before. After finishing my treatment when I return to home I could not do anything almost a year. If I wish I could beg but I did not want begging. I had always searched for a job. But because of my*

*disability no one wanted to give me a job. Then I got some financial help from my in-laws house. By taking a loan from a local NGO and selling the cattle and I started to run a tea stall. Presently my household is running with the income of the tea stall. Truly, leading life through hardship is quite pleasuring.”*

Some of the survivors of road accidents in Bangladesh have multiple income sources. They have adopted multiple strategies for livelihood as disability due to road accidents reduced or stopped their income. Respondent Al-Amin was a dedicated farmer before his accident and could maintain his family with his income from agriculture. But now his income has reduced due to his disability and whatever he earns is not enough for his family. In this regard, he talked about his livelihood strategy:

*“After completing my treatment I returned to my home and trying to look after the agricultural work with hardship. But I could not work as before. There are some cattle in my home and I am able to run my family with the income that comes from raising those cattle. I have got some credit for increasing my income. I am also getting some financial help from my close relatives. I send my elder son to a garments and he is sending some money in every month. By this way my family is running.”*

Respondent Tazul has now got a chance to look after rent-a-car business. Besides, his son and wife also earn to support his family. He said:

*“At present I reached at this position through hardship and sacrifice... After my accident, I stayed some days in my village home. Then, for the needs of my life I had to come in Dhaka. I was trying to turn my fortune by the help of some of my close friends. At last I get acquainted with a rent a car businessman. He gave me the responsibility to look after his business. In the meantime, my son got elder and started working. My wife also works in a garment. Now I am leading my life in this way...”*

Disability is not inability. A disabled person had the inherent worth, which can be manifested through education and training. In Bangladesh, there are many persons who became disabled due to road accidents but are trying to be self-dependent through training. Respondent Sonia took training and now she is in sewing work. Besides, disability allowance also helps her livelihood. She explained:

*“It can be said that I am alive because of the help and inspiration of my family. Without the help of my family, to lead a life as an unmarried disable girl is quite impossible... After getting well, passing some days I have taken sewing training from CRP. Now I am doing some sewing works. Side by side I am trying to continue my study. Above all in every month I am getting disability allowances that help me as my pocket money.”*

Respondent Hanif also took training after being physically disabled due to road accident. With his artificial leg, he is trying to run a shop for his living. He explained his situation saying:

*“At the beginning I was in dark. I did not know what was going to happen. ... I thought, my life must be challenging. I had also taken challenges. After five months I attached an artificial leg. I took training from CRP. This has been shown me the path of life. At present I started a shop of repairing electronic products. For this I had to take some loans. My brothers had also helped me. Now I am doing well...”*

For his living, respondent Mamun still depends on his family. But with the hope of finding out means for his livelihood, he is taking training. He expressed his views as the following:

*“I am alive only because of my family assistance. At this moment it is quite impossible for me to do anything. Now I am taking training from CRP. I am dreaming to set up an electric repairmen shop. I do not know how much it will possible to fulfill my dream.”*

Some of the respondents in this study have cultivable land and they were engaged in farming previously. They could not work properly for certain period of time after the road accidents. At that time, family supported them. But when they recovered from injuries, they tried to get engaged in their previous work. Besides, they are trying to find out other sources of income for livelihood. Respondent Rafiqul described:

*“At first I had thought that my life had been stopped. But with the help of my family now I can walk hobblingly and remain healthy... I can look after agricultural work of my family. Recently I took computer training. By taking this training I am trying to run a shop. Insha’Allah, hopefully I will be able to do something.”*

Begging is one of the means of livelihood for many people in Bangladesh. Especially there are many disabled persons who are engaged in begging. Disability is the main reason for choosing such an way of their living. When a person becomes disabled due to road accidents or any other causes, s/he loses his/her capability and as a result, s/he cannot join all types of work. In this situation, s/he has to depend on others or indulge in begging. Respondent Hafiz said:

*“I started walking with the support of a stick after passing nine months of my accident. First time I opened a shop of betel leaves in the market near of my house. I started the shop with the loan from a local NGO. Besides, I had agricultural lands and homestead but because of rive erosion I lost everything... At last after losing everything I came to Dhaka with a familiar person of my village and started begging. At present my life is running through beggary.”*

**Box 18: Hafiz**

Hafiz is a disabled beggar in Dhaka. Aged approximately 48 and begging in the city for about six years, his ancestral home is in Munshiganj where his family members live. His wife died five years ago and he has two daughters and one son -- all of whom live in village. He lives in Dhaka without family and stays at bus station like a vagabond. He was a farmer and worked as a truck helper before the road accident. Whatever he used to earn before accident was sufficient to maintain his family. But he became disabled after the accident. Finding no other way, he came to Dhaka for livelihood. Moreover, river devoured his agricultural lands that also pushed him to Dhaka. Begging is now the main source of his income as the family depends on this income.

Poultry raising is one of the profitable businesses in Bangladesh. Many young people are engaged in such farming and they are doing well. Respondent Jamal also started poultry raising with the help of his wife and one of his relatives. He explained.....

*“... when I lost my hand by the accident, my father helps to run our household. I was without doing any works but rearing goats. In the meantime, I got married. After marriage, I raised poultry farm with the saved money of my wife and a relative who had given some money. At present there are 800/900 hens in my farm and I can lead a solvent life with the income from the farm.”*

When a person of a poverty-stricken family turns into a person with disability, s/he has to struggle hardly for survival. As the family cannot support or fulfill the basic needs properly, s/he has to try to get involved in any given type of work for livelihood that can even be hard to perform. Respondent Solaiman is working defying his disability at a rice mill although it is tough for him to continue. He described:

*“I am passing a painful life almost since two years. After accident I returned home completing my treatment for 3/4 months but still now I can not move well. I have to walk slowly with the support of stick ... In this condition none can do work. But forcefully I have to do for the vulnerable situation of my family. Before my accident, I have experiences working in a rice mill beside my home... It is very difficult to work standing straightly. But for my livelihood I have to continue that work.”*

Participants of the FGDs, who know the road accident survivors, said about their present livelihood strategies. They said that the present condition of the survivors is not good at all. They have adopted various strategies for their livelihood like getting involved in small trade, depending on families, begging etc. One of the participants stated:

*“before accident my known victim was a driver and earned much for his livelihood. Now he cannot work due to his disability. So far I know now he lives on the support of his family. Sometimes he comes to bus stand for help and we all try to help him.”*

After analysing the statements, it can be said that the RTAs have changed the livelihood strategies of these survivors. It is observed that there is no specific and permanent livelihood strategies adopted by the respondents during the whole year. They have adopted various types of livelihood strategies. Almost all of them did not lose confidence and tried to do something for living. Most of them were engaged in small businesses like that of a vendor, running small shops, driving, poultry farming, sewing etc. Some of them adopted

more than one livelihood strategies for survival. In several cases, the respondents took loan from local NGOs or relatives. For some, disability allowance also helped in their livelihood. A few of them are fully dependent on their family members for livelihood. Only one respondent was found to have adopted begging as livelihood strategy. But it is noticeable that almost all of them could not go back to their previous occupation as livelihood strategy following their disability. Now they are engaged in various works, which are only for the sake of their livelihood.

### **7.5.3 Problems and Challenges in Present Livelihood**

All of the respondents of this study were active and involved in any type of income generating activities. The lives of the accident survivors have got changed a lot after occurrence of the accident in their lives and they have turned into disabled persons. Although all of them are now physically disabled, they have adopted different livelihood strategies. But limitation in movement from one place to another due to disability creates problems in livelihood of some respondents like Baten. He postulated:

*“I am a physically challenged person. Recently I started to sell jhalmuri with the help of my wife. However I felt difficulty in moving that’s why I have to jhalmuri sitting in the same place. If I would be able to move this could increase my selling and income.”*

After road traffic accident, respondent Abul cannot walk properly. But he can drive vehicle, which was his occupation earlier. Driving was his only source of income and his livelihood depended on it. Finding no other way, he restarted driving but faces some problems. He explained the problems saying:

*“I have a problem with my one leg but after having a problem I do not feel any big problem in driving. But vehicle owners sometimes do not allow me to drive. They think that I might occur accident ...even do not want to give me equal wage compare to others... I failed to take license from BRTA because of my disability. Few days ago I took a license by bribing. But sometimes on the road the traffic police irritate me.”*

Road accidents can change the livelihood pattern of someone within a moment. Whoever happened to be self-dependent and used to serve family before accident, can turn out to be a burden. Sometimes, even if an individual tries to get involved in any income generating activities s/he fails to do so due to his/her disability. The employers are very much

reluctant to provide any job for the persons who become disabled due to road accidents. Respondent Ranu said:

*“Before accident I would sell **tarkari** beside my residence which helps me to manage my family. Now I am disabled and cannot work ...I have to depend on my family. As I cannot earn, my husband misbehave with me at times. I am trying to find out any type of source of income but nobody show interest to give me any job for my disability...”*

Respondent Borhan gets disability allowance, but it is not enough. Besides, he has another source of income in the form of his house rent. But there is a problem that hinders his livelihood. He expressed his views:

*“I do not get the house rent properly. Sometimes the rooms remain vacant for the lack of tenants... However I get disability allowances but that is too small.”*

Battery-run rickshaw has now become one of the popular transports in Bangladesh. Many people are driving rickshaw for livelihood. Some rickshaw-pullers have no rickshaw of their own. They hire rickshaws from the owners on rental basis or revenue-sharing basis. Therefore, renting out rickshaw has turned out to be a profitable business for some people. But it needs to get its battery charged every day. Besides, this type of rickshaw is not allowed to run on every road as it is sometimes responsible for accidents. As a result, those who bought rickshaw by taking loan from bank or any other organisations now face problems in repaying the loan. Respondent Jakir stated:

*“Recently I bought a battery run rickshaw which I rented for money. But it seems difficulties regarding its battery charging. Sometimes the authority could not allow riding this type of rickshaw on the roads... I couldn't repay the loan that I borrowed from bank and NGO.”*

Threat of miscreants is one of the problems in doing business in Bangladesh. Respondent Jahangir cannot move without wheelchair. Although he is a physically disabled person, he tries to earn by himself by way of running a shop. But he faces some problems. He said:

*“Sitting on a wheel chair it is very difficult to run a shop. In addition the shop which I had before was forcefully broke by the local **mastan**. Recently I started a very small shop beside road temporarily where I can not display many goods. I always in fear when the shop will be wiped out?...”*

Most of the road accident survivors are poor and they do not have enough capital to invest in. As a result, they have to take loan for livelihood. But they face problems in repaying the loan with their tiny income. According to respondent Bashar:

*“It is very difficult to run a shop for a person with disability like me. Besides, I had to take loan from a local NGO to run a small shop which is now the only way of my livelihood. In that case I have to repay the installment from that small income and for that reason I do not have any money left for myself.”*

The economy of Bangladesh is primarily dependent on agriculture. Most of the people are directly or indirectly engaged in a wide range of agricultural activities. There are many people whose only source of income is agriculture. They employ their full labour and time in agriculture. They also get its return. But when a person becomes disabled and cannot get engaged in agricultural activities like before, his/her income ultimately marks a fall. Then if s/he wants to do any other work for livelihood, s/he cannot due to financial problems. Respondent Al-Amin stated:

*“In present situation financial problem is the biggest problem. Income has been decreased from agriculture. I am not able to do any kind of productive activities. ... I could not repay the previous loan. I did not have enough capital in my hand for myself to do any kind of small business with that money.”*

Most of the disabled survivors cannot move from one place to another without the help of others. Respondent Tajul is engaged in a rent-a-car shop and the working place is far from his home. He has to go there by rickshaw for which he has to spend money from salary. He said:

*“Presently I can not go to the place where I work without rickshaw. For that reason I have to spend a portion of my salary. Moreover, my boss is not willing to pay my salary in time when the business does not go well.”*

In Bangladesh, tea stall business provides a poor family with the opportunity to develop a unique small business. Thousands of ordinary people earn their livelihood by selling tea in every part of Bangladesh. There are especially many physically disabled persons who are running tea stall for livelihood. Because, it is comparatively easy and does not need that much money to run. But some of them face difficulties. Respondent Selim explained:



*“Presently I am running my family with the income comes from a small tea stall. But many people cheat me by not paying bill. Sometimes if I do not want to sell without cash money somebody threat me. In this way my income is decreasing gradually. I am worried whether I would be able to continue my business or not.”*

Some of the respondents like Mamun, Hanif, Rafiqul took training from the CRP for self-employment. But when they went back home and started running shops for livelihood based on their training, they faced some difficulties. All of them had to take loan from local NGOs, but couldn't repay the loan with tiny income. One of the respondents Hanif stated:

*“Presently I have started an electric repairmen shop in our local bazaar but I'm unable to work like an able bodied man. For this reason I had to keep a boy to assist me. Furthermore I had taken loan from an NGO at high interest rate when I started the shop but failed to repay it fully still now.”*

Begging as a livelihood strategy is persuaded by a large number of people in various parts of Bangladesh. Among them, a big number of beggars are disabled following their road accidents. In this study, respondent Hafiz lost one of his legs and now cannot lift any heavy thing and cannot afford to give physical labour due to his physical condition following a severe accident. So, he indulged in begging finding no other alternatives. But begging is disgraceful as a livelihood strategy. He explained his experience:

*“I have to face many difficulties during begging. People misbehave and misconduct with me. Police and local goons also trouble me. ...sometimes I have to spend night on footpath or open space...it is not a life.”*

Poultry industry is one of the most promising sectors for Bangladesh. This industry can provide various opportunities to help increase GDP growth rate while also ensuring self-employment and reducing poverty at a large scale. Many young people are opting to get involved in this industry rather than finding job opportunities. Sometimes, it is found that the persons with disabilities get engaged in poultry farming with the help of others. But they have to face some difficulties due to their disability. In addition, poultry virus, high price of poultry food pose challenge in this business. Respondent Jamal described:

*“Running a poultry farm is very difficult task for me as a disabled person. Here it is needed to be engaged all the time but it is not possible for me. I have to depend on my wife’s help. Besides, I have to face some difficulties because of poultry virus, increased food cost etc. It has happened many times that all the poultry died by viral infection...”*

### **Box 19: Solaiman**

Solaiman is a young man of 20 years old and he works with disability at a rice mill. He was born in a very poor village family in Singair Upazila of Manikganj. He lives with his five-member family consisting father, mother, brother and sister. His father is a day-labourer and mother is a housewife. The income of his family is too small to meet the basic needs of the family. As a result, he abandoned his study only after class eight and started working as a truck helper to help his family. But this brought misfortune to his life as an accident made him a person with disability. He is unmarried and thinks that no girl may agree to marry him. Although he cannot walk properly without the help of any stick, he remains engaged in a rice mill beside his home only for survival.

Finding no other way to survive, persons with disabilities have to get engaged sometimes in tough jobs, which are not always suitable for them. But they do not get wages properly even after doing such type of heavy work. Sometimes, they are being deprived of other facilities only due to their disability. But they have to keep mum as they do not have any alternative. Respondent Solaiman explained:

*“Presently I am working in a rice mill where I have to work in a standing position. But it is very difficult for me to stand still while working and I also do not get the wage properly..... I get the half wages comparing with my colleagues. ...the owner thinks that I do not work properly and for that reason I have to remain satisfy with that. Sometimes the owner says- if you do not like that you may leave the job. But where would I go?...”*

By analysing the statements, it has become clear that the respondents are suffering and facing various problems in their present livelihood. All of the respondents have become physically disabled due to road accidents and disability is the main problem in their livelihoods. As a result of disability, they cannot work or move from one place to another like before, which, in turn, impacts their livelihood negatively. Some of them are fully

unemployed and depend on their families for livelihood. They are searching for job, but in most cases the employers are not interested to provide a disabled person with any job. A large number of respondents are running small shops taking loan from local NGOs, but all of them could not repay such loan. Besides, threat of miscreants, wage discrimination, lack of capital are found to be problems in their present livelihood. One of the respondents also does begging in order to earn his livelihood, but it is disgraceful and unpleasant as livelihood strategy.

#### **7.5.4 Policy, Allowances, and Micro-credit**

Road traffic accidents have become a serious concern in Bangladesh and the situation is deteriorating day by day. Every year, a large number of people are killed and injured in road accidents. Many of them who sustained serious injuries cannot recover fully and become persons with disabilities. In developed countries, there are different processes through which different government and non-government agencies or organisations provide the road accident victims with services in order to improve the situation.

But it is a matter of sorrow that there is no specific policy or service arrangement taken in Bangladesh for the sake of road accident victims or survivors. As a result, they have to suffer a lot to lead their lives after the accidents. There is a programme called disability allowance, which is for all types of disabled persons. So those who become disabled due to road accident are also enlisted for such allowance. Some of the respondents in this study are said to be getting the benefits of disability allowance. Respondent Ranu, Borhan, Jakir, Hafiz and Jamal are getting the allowance. One of them expressed his views:

*“After being disabled due to road accidents my source of income stopped. Then there was no other way but depending on my family. I felt myself as a burden to my family. Presently I get BDT 500 as disability allowance in each month from the social service department. It gives me the hope to live...”*

The government of Bangladesh introduced a landmark programme called disability allowance for all types of persons with disabilities. Under this programme, each person with disability gets BDT 500 per month. But in present context, the amount of this allowance is too small to bear one’s expenses. Respondent Borhan informed:

*“I am getting the disability allowance which is the only source of my income. However, the allowance money is very small but it inspires the disabled people. At present time BDT 500 is nothing. So, it should be increased. ”*

Disability allowance is a good initiative for the persons with disabilities. There are many persons with disabilities who have no other source of income excepting this allowance. On the other hand, there are many disabled persons who are eligible for getting this benefit but are still out of this scheme. Respondents Baten, Shakhawat, Shakila and Abul thought that they should be given the disability allowances. But they are not getting this allowance or any other financial help from any organisation despite being persons with disabilities due to road accidents. One of them stated:

*“I do not get any kind of assistances from the govt. or non govt. organization. The allowances that are reserved for the disabled persons, I do not get due to unknown causes. I tried to conduct with the social service officer several times but he gives me only assurance and consolation.”*

Beside the disability allowance, microcredit is one of the supporting programmes for the destitute people of Bangladesh. One can become self reliant using microcredit and find out a way of life and livelihood. Most of the road accident survivors are poor and when they turn into persons with disabilities, they cannot lead their lives properly. Then if someone wants to restart any work for generating income, s/he needs financial support that can be availed from microcredit programmes. Some of the respondents of this study started small business with the help of microcredit taken from local NGOs. Jahangir, Jakir, Hafiz, Bashir, Salim took microcredit. One of them explained:

*“...for long term treatment after accident I had to finish all my savings along with other assets. For my physical disability I could not go back to my previous income generating work. I had no source of income. I was in a dark what to do at that time. Then I got microcredit assistance from the local NGO which helped me to start life again.”*

People with disability could be mainstreamed with some vocational training. But the scope of training for the persons who became disabled due to road accidents is limited in Bangladesh. If they get the scope of training according to their capabilities, they can also contribute to their families as well as the country. In this study, very limited number of

respondents got training from the CRP on different trades that helped them restart small business for livelihoods. Respondent Hanif stated:

*“I did not get the disability allowances or any other financial assistance from govt. or non govt. organizations. The previous source of my income totally closed when road accident pushed me a disabled one. Finding no other way with the help of my friends I went to Savar CRP and took training on ...now I run a small shop near my home for livelihood.”*

By analysing the statements regarding the policy/process, allowances or microcredit, it has been evident that there is no specific policy for the road traffic accident survivors in Bangladesh. But a section out of the total respondents get disability allowance given by the government. The Department of Social Service (DSS) under the Ministry of Social Welfare runs the scheme. Although some people are getting this allowance for their disability, a large number of respondents are still out of this programme. On the other hand, those who get disability allowance are not satisfied with the small amount of the scheme. They think that it is insufficient for them to bear expenses. Some of the respondents, who are poor, take microcredit from local NGOs for their livelihood. Besides, a small number of respondents take training from the CRP to become self-reliant.

#### **7.5.5 Measures Needed for the Survivors**

The survivors of road traffic accidents are suffering from various problems. Sufferings, in particular, of those who have become disabled due to road accidents, have no end in sight. Road accidents have changed their lives, which are now far different than what were before. It is unfortunate that although a road accident usually involves one person, practically the entire family get affected financially, socially and emotionally. The most devastating impact of a road accident is the economic consequence. Such accidents result in high economic costs. Emergency treatment, initial medical costs, long-term care and treatment, legal costs, and employer/workplace costs are all considered to be direct sorts of costs linked with road accidents. In some cases, the family, due to prolonged treatment of the victim, may end up selling most of their assets or land and getting trapped into long-term indebtedness. They become stranded and homeless people. Some of them lead their lives as floating people in Dhaka city. For this type of people *khash* land can be allocated by the government to rehabilitate them. One of the respondents, named Baten,

recommended allocating *khash* land for the disabled survivors so that they can live without any harassment. According to him:

*“Today I am a floating people. I do not have any place of mine to live. Now I am living in a khash land of government.”*

He further added:

*“Like me there are many road accident victims losing everything took shelter in **khash** land, footpath or in slum and leading miserable lives. They are now rootless and floating people. They have no certainty of their lives. They have to face multifaceted problems as floating people ...I think that the government should allocate land for the affected people to live.”*

Employment of the RTA survivors who have become physically disabled can be an important and powerful indication of inclusion and mainstreaming them in the society. Because, many of them after getting disabled lost their jobs or not getting any new jobs. Though the government of Bangladesh created job opportunities for persons with disabilities by keeping quota for them reserved, it is yet to be fully implemented. Some private organisations also have taken initiatives for the employment of persons with disabilities. But the initiatives are not sufficient and the actual employment rates among them are very low. Employment and constant source of income could be a fundamental element in ensuring that people with disabilities are able to lead an independent and self-reliant life without overdependence on other people's help. It is, therefore, said that if a disabled road accident survivor gets employment opportunities, s/he can be self-dependent and his/her livelihood pattern can be changed. Respondent Shakhawat commented:

*“ Road traffic accident makes me a physically disabled and disability makes me unemployed ... You know how a disabled person who is unemployed also has to lead a miserable life in our society. ... due to disability when one lost one's employment, income also reduced or closed. At this stage he/she had no other way but depending on others. So, if we get the employment opportunity according to our educational qualification and ability it will be quite healing for us.”*

Another respondent Sonia had the same type of recommendation for the welfare of RTA victims like her who have become physically disabled. According to her:

*“People like me who are disabled by road accident should give employment opportunity according to their merit based on education, ability etc. ...only creating employment opportunity they can be able to uphold their head in the society.”*

There are many disabled persons who are not fully incapable and they can do at least something. Hence, if they get any such opportunity, they may perform well and lead a normal life. For this to happen, it is needed to find out suitable job and employ them. Because, there are many jobs suitable for a disabled person. Respondent Mamun is unemployed and he wants a job depending on his capability. He stated:

*“Many works are possible to be done sitting on the wheel chair ... I have a dream to be engaged in a job but my dream would come true only if I get support...”*

He also expressed his views as following:

*“Employment opportunity according to ability should be ensured. This will create self-dependency and remove financial problem of us...”*

Lack of practical experiences and vocational skills are also creating obstacles to access the disabled road accident survivors in income earning options. A small number of organisations are involved in vocational training for disabled people in Bangladesh. CRP is one such kind of organisation that provides training, but it is not sufficient. If the victims are provided with proper training based on their capabilities, they can be self-reliant and contribute to their families as well. Therefore, training facilities should be affordable and available for them. In this regard, respondent Rafiqul said:

*“after training, CRP gave me a computer. I have the desire to set up a training center...I hope it will help to remove my suffering. ...I think that like me other physically disabled persons can take training in different trade and it will help them to do something for livelihood.”*

Another respondent Hanif also argued in favour of training. He expressed his opinion:

*“Training facilities should be available and affordable for the people like me. We do not want to be burden on others. We want to be engaged in income generating activities but lack of skill we cannot ... If we get proper training according to our capabilities, we can be self employed and earn for our livelihood.”*

Disability is not always inability. There are many disabled persons who have the capacity or quality to get engaged in income generating activities. But they cannot utilise their capacities due to lack of proper support and lead their lives as the families' burden. Besides services, they can involve in many informal sectors to earn for their livelihood. In this way, they can become earning persons and help their families. Respondent Al-Amin argued:

*“The authority should analyze the disability situation and should take proper steps. We do not want to get charity but work so that we can earn by ourselves. Considering our abilities government can create income earning opportunities. If we get the income opportunity, we will not face any further negligence and deprivation.”*

The government of Bangladesh introduced disability allowance programme, which is run by Department of Social Service under the Ministry of Social Welfare. Through this programme, all types of disabled persons are getting monthly allowance that helps in their livelihood. Those, disabled due to road traffic accidents, are also included in this programme. The programme is appreciated by all classes of people, especially the beneficiaries. But the amount of this allowance is not enough to manage the living cost of a person in today's society. So the amount of this allowance should be increased. Respondent Tazul opined:

*“Disability allowance is a blessing for disabled persons. It has shown the light of hope to lead life. But the amount of this allowance is too small that it is finished to buy **pan supari**. So, the amount should be increased on the basis of present market prices of commodities.”*

Disability allowance is a very good initiative in Bangladesh on part of the government, but all persons with disabilities could not be brought under this scheme as of now. There are many road accident victims who are now physically disabled, but remained out of this scheme although they are eligible for such welfare scheme. If they get the allowance or any other financial support, it can be helpful for their livelihood. Respondent Ranu commented:

*“I am completely a disabled woman and I have no source of income. Even so I am not entitled for disability allowance where many are getting without being disabled ...disability allowances will be quite helpful for the people like me who do not have any source of income. ...it will help meet their daily needs.”*



There are many persons with disabilities who are capable and confident to get engaged in various income generating activities. But they cannot do so due to lack of financial support. If they get proper support, their livelihood pattern could be changed. Respondent Borhan said:

*“A market is situated near my house. If I started a shop in the market it could help me to run my family well. But due to financial incapability it can not be possible for me. Furthermore we have established an organization for disabled persons. To maintain this organization properly financial help is needed.”*

Most of the road accident victims who have become disabled are excluded from income earning activities as they are considered to be unable to work due to their physical impairment or psychological consequences. These people are poorest of the poor in the society of Bangladesh. Although they have ability, they cannot resume their livelihood due to lack of capital or any other financial support. Most of them believe that they could have some income and pay back the loan if they were provided the same. They also think that if they get loan at lower interest rate, it will help increase self-reliance, self-confidence and self-esteem. Like respondent Abul recommended:

*“Many of us have lost everything in road accident and left nothing for livelihood. For their livelihood financial assistance is important. At least if they are provided by loan they can use it for livelihood. Govt. and non govt. organizations can come forward to help in this regard”*

Finding no other way of livelihood, some indulge in begging. Financial crisis is the main reason behind begging. Although respondent Hafiz is a beggar, he wants to give up this way of livelihood if he gets any financial support. He stated:

*“Nobody likes begging. For this reason I want to give up begging and try to do something on my own village. But if I want to do anything first of all I need financial support, which I do not have...who will help me?...even if I would get loan without interest...”*

Poultry farming is a profitable business in Bangladesh and even many physically disabled persons are engaged in this business. But it needs a big amount of fund to run it properly. Respondent Jamal expressed with a grim face:

*“Presently I face some problem in doing my poultry farm. Now I am in very much debt. The interest of debt is increasing day by day and it burdens me. If I get interest free loan service then it will help me to overcome my situation.”*

Some of the respondents started small business taking loan from local NGOs, but the interest rates are really high. As a result, they cannot repay its installments in time and the amount of loan gets increased day by day, which creates problems in their livelihood. So they want interest-free loan as disabled persons. Respondent Jakir opined:

*“Presently somehow I lead my life with the income from rent of auto rickshaw. It was not possible for me to buy this rickshaw with my own capability. I took loan from the bank for buying the auto rickshaw. But the interest of the credit that I take is high enough for me to repay. So, if this interest could be waived it would good for me.”*

Another respondent Jahangir had same opinion. He stated:

*“I somehow setup a small shop temporarily beside the road. If I get the credit without interest it would help me to expand my shop. Furthermore, if I get cooperation of local administration it would also help me to settle my business.”*

There are many road accident survivors who are now physically disabled and can be self-employed through small business or running small shops. But for lack of opportunities most of them are leading their lives as burden for their families. There is no specific land for them to live or do any business. In this regard, respondent Basher expressed his opinion:

*“If the government take initiatives to build market on the acquire land and lease it to the disable people like me it will be very helpful for us. We can see that the powerful people forcefully grab the **khash** land... we do not get anything... If the government allocate to the disable people it will be beneficial for us.”*

Early and timely treatment can save the lives of road traffic accident victims. But the access to treatment facilities of road accident victims in Bangladesh is not easy and affordable. As a result, a large number of seriously injured victims died on way to hospital. Those who can reach hospital or other treatment centres have to face many

difficulties and harassment. Some of them have to stay long time in hospital for treatment purpose, which creates extra burden for the family. Sometimes, the injured victims do not go to the hospitals due to their inability to bear the expenses of treatment and suffer for long becoming disabled persons. In this regard, respondent Solaiman opined:

*“Like me there are many victims of road accident who did not get proper treatment at due time and turned into physically disabled. ...In our country perspective treatment is not for poor people. Many victims cannot bear the expenses of treatment due to their poverty. Everywhere in treatment we have to face difficulties. I myself could not complete my treatment because of money. My family does not have the ability to bear the expenses of surgery. ...However, it is needed immediate treatment for road accident victims. If an injured victim gets proper treatment, he/she can be saved. So, govt. should provide treatment for road accident victims free of cost.”*

Another case respondent Shakila also recommended free medicine along with other basic necessities. According to her:

*“Presently I am totally a disabled woman. Road accident has destroyed my life. Die is the only way that I always pray to almighty Allah... Living in this world is burden to me. But as I am alive now, I need medicine and other basic necessities. So, if I get these free of cost, I could lead my life by myself.”*

Respondent Salim is very disappointed as he does not get any support from the government or any other organisations as a disabled person being a road accident victim. So he did not give his opinion for upholding his livelihood. He expressed his views saying:

*“I do not have any wants and demands. I do not want car or houses... What is the benefit of want?... If I ask for anything I will not get anywhere. According to my condition and status I should get many things but I get nothing... Moreover I do not get disability allowances.”*

## Insights from FGDs

No participant in the three FGDs was the victim of RTA, but they have given their recommendations on the basis of their experiences and perceptions to combat the problems of road accident survivors. When a person becomes physically disabled by road accident, everybody knows that their livelihood patterns change and they lead miserable lives. So, they should be provided with necessary support to help them maintain their overall condition.

Insights from these FGDs are summarized in table

	<b>FGD-1</b>	<b>FGD-2</b>	<b>FGD-3</b>
<b>Recommendation</b>	<ol style="list-style-type: none"> <li>1. Provide monthly allowance</li> <li>2. Quota facility for getting the government and other jobs</li> <li>3. Treatment services free of cost for a certain period of time</li> <li>4. Arrange reserved seat in local buses</li> <li>5. Providing licence to the partly disabled person who can run motor vehicle</li> <li>6. Education facilities for their children</li> <li>7. Set up rehabilitation centres</li> <li>8. Allocation of <i>khash</i> land</li> </ol>	<ol style="list-style-type: none"> <li>1. Financial support to do something</li> <li>2. DPS for their children.</li> <li>3. Job for the capable victims</li> <li>4. Loan facilities without interest</li> <li>5. Awareness building</li> <li>6. Education and training according to their capabilities</li> <li>7. Set up small shops</li> </ol>	<ol style="list-style-type: none"> <li>1. Stand beside the victims</li> <li>2. Financial support to have small shops, small business etc.</li> <li>3. Monthly allowance by govt. to meet daily expenses.</li> <li>4. Provide free treatment facilities</li> <li>5. Jobs for capable survivors</li> </ol>

By analysing the statements of the case respondents and participants in the FGDs, it is revealed that most of them recommended taking initiatives for the rehabilitation of road accident victims through providing financial assistance as most of them were poor or became poor after accident. They have nothing left to invest in their future or livelihood. So, most of them have favoured financial assistance. Facilities of microcredit, interest-free loan, disability allowance can be important options for financial assistance. Employment opportunities can also be powerful indication of inclusion and mainstreaming them in the society. There are many road accident survivors who have the quality or capacity to get employed. But they are kept out of this opportunity only for their disability. For this

reason, some recommended to create job opportunities for the disabled survivors. Even they can be self-employed through proper training, small business or by way of running small shops. Some of the respondents suggested allocation of *khash* land for them by the government to live in or build market for doing business. A few of the respondents recommended providing treatment at a low cost or free of cost for the road accident victims. In addition, the number of orthopaedic hospitals or trauma centres should be increased so that those sustained injuries in road accidents can be shifted rapidly there. The disabled victims of road accidents are part of our society. Overall development of a society or a country is not possible keeping them out of the mainstream society. So, various initiatives should be taken by the government or other organisations considering their capabilities and overall situation for their rehabilitation and sustainable development.

## **CHAPTER EIGHT**

### **Summary, Recommendations, and Conclusion**

This chapter deals with a summary of the major findings of the study. A set of recommendations for formulating policies and adopting plans and programmes are proposed for the wellbeing of road accidents survivors in the chapter. The chapter also presents the conclusion at the end of the chapter following the scope of further research.

#### **8.1 Summary of the Findings**

Road accidents have become a great concern in Bangladesh and the country's road safety situation is deteriorating day by day. Every year a large number of people die and get injured due to such accidents. On the other hand, some of them who get wounded severely never recover fully and suffer from various problems like permanent disability. But little is known about their livelihood patterns due to lack of research in this regard. In view of this, the researcher conducted this study in order to know in detail the livelihood patterns of the road accident survivors. Due to the fact that the present study was focused on the survivors of road accidents and their livelihood patterns, the researcher undertook a qualitative method, which was facilitated by case study approach. In conducting the study, data were collected from 19 road traffic accident survivors residing in greater Dhaka region as the prime respondents who were selected purposefully as the road accident survivors were not readily available and remain scattered in the area of study. At first, the researcher took help from hospital, Upazila Social Service Office, trauma centre, police stations and different organisations working in the field to know the locations of survivors who were the primary source of information. The principal method of data collection was face-to-face in depth interview with semi-structured interview schedule consisting of open-ended questions. In addition, the researcher conducted three focus group discussions (FGDs), two with transport workers and one with commuters, and observation techniques to collect primary data for the study.

Data from primary sources were intermingled with secondary data. In considering the research ethics, confidentiality and anonymity of the respondents were given pseudonym. As the study was qualitative in design, qualitative data were processed and analysed based on the objectives of the study. The researcher categorised the transcription by using

different themes using thematic analysis for processing and analysing data in descriptive manner. Moreover, verbatim quotations of the respondents were used in order to provide in-depth insight as well as to strengthen the qualitative analysis.

For conducting the study, it was not possible to select case respondents equally from different districts of greater Dhaka area because of variation in terms of their availability. Most (06) of the total of 19 respondents were from Dhaka district, three each from Gazipur, Narayanganj and Manikganj districts, two each in Munshiganj and Narsingdi districts. Almost half (10 survivors) of the respondents live in rural areas and remaining ones in urban and suburb area. The case respondents were from different age groups. The study was mainly conducted on the survivors who were physically active and/or involved in any type of income generating activities before facing the accidents. For this reason, no child or age-old person was found to be included in this study. Furthermore, young people are mostly engaged in different types of works and they have to travel from one place to another every day for their own purposes. As a result, they become the prime victims of road accidents. It was reflected in this study. The age of the respondents ranged from 20 to 55 years with the average age being 36.79 years. It was also found that male people are at higher risk of road accidents compared to their female counterparts. Out of the total respondents investigated, majority (16 respondents/ 84.21 per cent) of them were males and the remaining three (15.79 per cent) were found to be females. This was because male people are the main breadwinners in maximum families and they have to travel almost every day for livelihood. On the other hand, females are involved in different indoor and household activities and stay mostly at homes. As a result, they are not at high risk of road accidents in Bangladesh. With regard to marital status, it was found that most of the respondents were married (that was 63.16 per cent). Of the remaining total, 26.32 per cent respondents are unmarried and 10.52 per cent were found to be widows/widowers.

In Bangladesh, more than half of the families are composed of two to four members with the average household size 4.5 persons. The study found that the family of respondents consists of three to six members and the average size is 4.16 persons. All households of the study were headed by males that indicate the dominance of patriarchal society. In this study, all the case respondents were physically active and involved directly or indirectly in different types of occupation for their livelihood before turning out to be the victims of road accidents. With regard to the respondents' previous occupation, it was found that almost half (09 in total) of the respondents were transport workers, i.e. drivers, helpers.

Three respondents were farmers and two others were found engaged in services. Two respondents were not involved with any paid work. They serve their families and most of the time they spend in household works. The remaining three respondents were gardener, cloth seller, and vegetable vendor. But road traffic accidents have changed everything and most of them could not go back to their previous occupations due to their physical disability. Some of them lost their previous occupation or were bound to change those occupations. A small number of the respondents are still out of employment and leading their lives with the support of their families. Rest of the respondents adopted various occupations like small business, poultry farming, running tea stall, household work, street vendor-like work, house renting, driving, small shop keeping, sewing, electronic repair work, begging etc. for their livelihood.

As this study mainly focused on the livelihood patterns of road accident survivors, the Sustainable Livelihood Framework was used primarily to widen an understanding as this framework provides a picture of the key elements in describing or understanding the issues of one's livelihood. Livelihood resources and assets are the important inputs for the livelihood system. These livelihood assets are considered as the means of production available to a given individual, household or group and this can be used in their livelihood activities. Human capital is an important livelihood asset that is determined by one's qualities such as education, training and health condition. With regard to educational qualification, the study revealed that most of the respondents completed primary education and some of them have secondary level education but they could not continue their studies due to poor socio-economic condition. Even a very few of the respondents are totally illiterate or never went to school. No respondent was found to have received higher education or bachelor degree. Only three respondents were found to be educated up to Higher Secondary School (HSC) level, but they were also bound to abruptly end studies after road accident sufferings. Training is recognised as one of the major instruments for human resource development. It makes a man efficient and conscious about their rights and responsibilities. Road accident victims, who became physically disabled, lost the capabilities due to their accidents. As a result, they cannot engage themselves in all types of income generating activities. For this reason, they need training to help them become self-reliant through income generation as small-scale entrepreneurs. But this training is often not available for the persons with disabilities in Bangladesh. A very small number of disabled survivors get the opportunities to avail this training. Besides, many of them do



not know about the training opportunities provided by the government or non-government organisations (NGOs). In this study, only four respondents were found to have received training from the CRP on different trades. One of them was woman who also became physically disabled due to road accident.

Good physical condition is important as it enables the people to pursue different livelihood strategies efficiently and helps achieve livelihood objectives. But the health condition of the case respondents was not good at all. Primarily, all the respondents were physically disabled due to road accidents that hinder in pursuing livelihood strategy effectively. Some of them could not move without assistive devices like crutch or wheelchair. In addition to their disability, many of them were suffering from various diseases like diabetes, heart disease, chest pain, back pain etc. Most of them got hurt in legs at the time of accidents and even some of them could not get relieved of pain as of now. But a small number of them were in good health and they did not have any other physical illness. In case of treatment, it was found that most of them are not able to afford the cost of treatment and a few of them try to take treatment from experienced doctors when they fall sick. Most of them depend on the pharmacy salespersons, quacks or *kabiraj* for treatment. Before getting seriously ill, they usually do not want to go to specialised doctors or hospital. Most of them, however, stated that expenses of treatment were not affordable for them and it was one of the main reasons for them to go to local doctors or persons like *kabiraj* rather than consulting specialised doctors.

Possession of (land) holdings, homestead, ponds, trees, livestock and poultry indicate one's natural asset that is used for pursuing livelihood strategies. The study found that almost half of the respondents were residing in urban areas and they didn't have land, ponds, trees or livestock. Even they did not have homestead of their own. As a result, they were to live in rented house or at shanty on *khash* land of the government. On the other hand, the respondents who lived in rural areas had more or less natural capital or assets like homestead, farmland or any other. All of the rural respondents had at least homestead, where they had various types of trees and vegetable garden. A few of them had cultivable land and ponds with the female family members rearing domestic animals at home.

Physical capital comprises the basic infrastructure that people need to make a living, and produce goods that they use to support livelihoods. In this study, housing facilities, toilet facilities, source of drinking/bathing water, electricity, household furniture, electronics and jewellery etc. were considered as important aspects of physical capital. With regard to

physical capital, it was revealed that the housing condition of the respondents was not good as a whole. Few of them were living in *kutchha* house and one was living at a shanty on the government's *khash* land. Almost all the respondents of urban area live in rented house, where they avail electricity, water, gas and sanitation facilities. But many respondents in rural area are deprived of electricity, gas and pure drinking water. Actually, many rural people of Bangladesh are still out of these facilities. But the study showed that a few of the respondents in rural area did not get electricity and pure drinking water properly. But no respondent of rural area was found who has gas connection for cooking. At present, there are some basic furniture items like cot, chair and table that are used in every family, which was also reflected in this study. In addition, there were some other furniture items that were used by some of the respondents. About electronic commodities, it was found that all the respondents use cellphone and some of the respondents have TV and fridge. One of the respondents does not have TV as his family thinks that it is prohibited by religion. Usually, every woman uses jewellery items like gold ornament but only one out of three female respondents here was found to have gold ornament.

Financial capital describes the monetary resources that people use to achieve their livelihood objectives. In this study, monthly return, savings, microcredit etc. are considered as financial capital of livelihood assets. The findings reveal that most of the respondents do not have enough return or income to maintain a standard level of living. In Bangladesh, the road accident survivors, who have become physically disabled, are not financially included over the course of time. In the cases of prolonged treatment for the survivors, the family may end up selling most of their assets or land and getting trapped into long-term indebtedness. Investment in treatment of a seriously ill family member stops only when all assets are sold. As a result, these types of families have to suffer a lot. Furthermore, the loss of income due to disability pushes a family into poverty. In this study, the monthly return of most of the case respondents got reduced after becoming disabled as they have very limited income or no income of their own. But in some cases, other family members are engaged in earning, which is supportive to manage their families. Few respondents have multiple sources of income. The study has showed that the income level of the respondents' families range from BDT 12,000 to 25,000 per month and according to their opinion, it is not enough to maintain their family well. Although most of the respondents are poor and living with limited income, they cannot keep anything for future as savings.

Furthermore, some of them had to take loan at the time of treatment after the accident and the loan could not be paid back as yet. It is also found that a few respondents had to take loan from the local NGOs or relatives to run tea stall, poultry farming or any other business. One of the respondents gets remittance from his brother who stays abroad. One respondent does begging in Dhaka city. Moreover, the female respondents are in a disadvantageous position. They do not have easy access to credit and other income generating opportunities. Only one of the female respondents tried to help her family by way of indulging in sewing job. One of the objectives of this study was to know about the causes and nature of road traffic accidents in greater Dhaka area. The study found that there was not a single specific reason behind the road accidents the respondents came across. It varied from respondent to respondent although there were common factor for some. There were many factors that contributed to occurrence of road accidents in the area of study. Among various causes, competition between the drivers of two vehicles to overtake each other was found to be one of the important causes that's seen on the roads in Bangladesh and also reflected here. Reckless/careless driving and defective vehicles were also the important causes of road accidents faced by some respondents. Many others identified unskilled driving, wrong side driving, and bad weather for their accidents. One respondent blamed using cellphone while crossing the road for accident while another blamed nothing but his own fate. On the other hand, participants in the FGD-1 mainly blamed drivers for their overtaking tendency and careless driving. Participants in the FGD-2 and 3 blamed carelessness and ignorance of pedestrians and passengers regarding the traffic rules for road accidents.

Road accidents have turned into a common phenomenon in Bangladesh, but it is not same in nature. There are differences in nature of RTA in different locations. Nature of road accidents can be varied on the basis of time, place, type of collision, vehicle involvement, weather, injury type and so on. In this sense, the nature of road accidents that the case respondents suffered in the area of study, were not same. The differences in nature of RTA were revealed through the analysis of their statements. It was revealed that such accidents occurred at various time. It took place in the morning, at night and even in the broad day. But morning and night time were the time of accidents as happened in most of the cases. Actually, roads during this time remain a bit less occupied. For this reason, drivers usually drive recklessly. As a result, accidents occur. The following accidents occurred in different places of the area. But majority of them took place on the highways. In this connection, it

can be explained that the national highway is the busiest road with multiple vehicles travelling at high speeds. Moreover, type of collision in these accidents was not of same kind. Most of the accidents were head-on collisions and single vehicle collision. Regarding the victims of accidents, it was found that a big number out of all the respondents were drivers or helpers. Besides, there were pedestrians and passengers too. In most of the cases, accidents were serious in nature. There was a higher rate of leg injuries in the present study.

Road traffic accidents have devastating consequences in the lives of the accident survivors. Though accidents take place in a fraction of seconds, their consequences may last for a lifetime and it radically changed the life of a survivor. It not only changed his/her personal life, but also almost everything in life. But little is known about its consequences due to lack of studies. In this study, it was one of the objectives to know the consequences of road accidents for survivors. It was found that the road accidents brought negative consequences as all of the survivors were economically active and directly or indirectly contributing to the household income before the accidents. But when they became disabled due to road accidents, their income stopped or got reduced. Some lost or changed their previous occupation. Few respondents could not regain previous jobs only for their disability. It brought bad consequences on their family income. Some of them had to engage in small work, business or even in indecent work like begging. Rest of them had to live on depending on their families. As family income reduced most of them could not maintain standard level of their living as before accident. Even it was hard for somebody to meet their basic needs properly as a human being. In cases of prolonged treatment for some of the survivors, the family had to sell most of their assets and land and got trapped into long-term indebtedness. Physically some of them were suffering from various problems that stemmed from injuries due to road accidents. A small number of survivors were also suffering from depression along with anger, sadness, despair, sleep difficulties as a result of the accident and its aftermath. They were worried about their future, particularly the unmarried respondents were very much worried about their marriage as usually nobody wants to make disabled his/her life partner. Some of the respondents lost their confidence to live, but rest of them was very confident and said that they would be able to survive it if given little support. Confidence was their driving force of lives. RTAs also pushed few respondents to lose the position in the society. One of the respondents said that his first wife and child left him after the accident.

Timely and proper rescue of road casualties is essential to reduce the severity of injury to the crash victims. But in Bangladesh, there remains no strong and coordinated rescue system. As a result, when a road accident occurs generally, local people or pedestrians come forward to rescue the victims on humanitarian ground. The study revealed that most of the accident survivors were rescued by the general people or passers-by who came to the rescue without any personal interest. The road accident survivors met with the fatality on highways where movement of pedestrians was not available. Nearby residents stepped forward immediately to rescue the victims after hearing the noise or sensing any accident thereof. Sometimes, the injured victims were rescued by drivers, even the van drivers. Family members also had the scope to rescue the accident survivors in two separate cases as it occurred near their residences. One of the female respondents was rescued by her family members. But in this study, traffic or highway police was not found to be active in rescue or help while sending any victim(s) to hospital or clinic for emergency treatment.

The victims who become seriously injured by road accidents should receive treatment immediate after their rescue. It can reduce the rate of death due to road accidents. But only admission to any hospital or clinic is not everything. Cooperation, care and support are also important for the victims during the period of treatment or stay at hospital or any other health service centres. Without proper cooperation and support from family, relatives, doctors and other parties concerned, it is very tough to continue treatment. In this regard, the study revealed that most of the case respondents took treatment at *Pongu* hospital (NITOR) at any stage of their treatment. But some of them had bitter experience about the treatment and other services provided by this hospital. One respondent mentioned how he was trapped by a *dalal* at this hospital that eventually led him to become disabled. Besides, a few respondents blamed lengthy procedure for getting admitted here that hindered timely treatment. Some respondents mentioned the non-cooperation and misbehaviour of doctors and nurses towards them at the time of treatment. Though most of the case respondents took treatment at *Pongu* hospital at any stage, a small number of them admitted to Dhaka Medical College Hospital, CRP or any local hospital/clinic for treatment. Some respondents had to take treatment at more than one healthcare centre or shifted more than one places for better treatment.

It appeared that almost every respondent gratefully remembered the contribution and cooperation of his/her family in time of treatment. Actually in Bangladesh, family by tradition is the best resort for a person in time of any need and distress. Family members

can not reject or ignore a survivor when s/he is in hospital for treatment. On the other hand, every respondent had a negative answer since there is no specific government or non-government organisation to help the road accident victims for treatment. Only one respondent got tiny help from the Hospital Social Service Office. A few respondents got financial help from their employer or the owners of vehicles. But it was not sufficient compared to the total cost of their treatment process. As a result, most of the respondents had to bear the expenses of treatment by themselves or their family members. For this reason, a small number of respondents had to end up selling most of their assets or land or spend savings and get trapped into long-term indebtedness. Sometimes, a few respondents had to take loan from unauthorised money-lenders against high interest rates. During the treatment, some of them spent a big amount of money and it ranged from BDT 20,000 to 5,00,000.

One of the specific objectives of this study was to reveal the survival patterns of road accident survivors in family as well as in the society. With regard to survival pattern of the respondents, it was found that most of them had to survive depending on others like the family members as they were not fully capable of getting involved in income generating activities. They were leading miserable lives with various problems. They were not getting equal opportunities. They were not being treated well by others, including even the family members. Sometimes, some of them had to face verbal abuses. It appeared that female respondents were more vulnerable and disadvantaged in their families. Two female respondents stated that when they became disabled and started life depending on their families, they had been the subject of discrimination, negligence and even psychological abuse. But some of the respondents were trying to earn as per their capacity and supporting their families although their income decreased after accident due mainly to disability. They were trying to become self-dependent through engaging in income generation for their livelihood.

For this reason, they did not consider themselves as burden. But those, who did not have any other alternative rather than depending on their families, considered themselves as burden for their families to some extent, although they think that all of their family members did not have burden-like treatment with them. Even there were some cases where families always tried to support and stand beside the respondents. Family is still working as the best and the last resort for a person in context of Bangladesh. It is very much applicable for the victims of road traffic accidents too. The accident survivors in

every stage of life need cooperation from their families. Moreover, whoever turns into persons with disabilities due to road accidents have no other way to live without family cooperation irrespective of their capacity to earn or not. In this study, the statements of the respondents proved that the family members of most of the accident survivors held positive attitude towards them. The family members like child, wife or parents of the respondents were very kind to some of them in time of their difficulties. Few of them directly opined that they were alive only because of the family cooperation and support towards them.

Participation in decision making is important to assess the survival pattern of a person. Road traffic accidents have adverse impact on the survivors. The survivors who lost their capabilities and jobs after the accidents mostly live in their families as burden. Even they lose their family position that they used to enjoy before the accident. They are often excluded from participation in the decision making process. Sometimes, they are not asked to know about their opinion regarding any important family issues. Those totally incapable and out of employment do not have any value with regard to their opinion. But whoever have earning capacity and can support families have active participation in decision making process. In this study, it was found that most of the respondents, particularly the male respondents, got the opportunity to take a decision regarding different issues of their families. It is supposed that the male respondents have more opportunity to participate in decision making in tough situation due mainly to patriarchy in the society. But the female respondents of the accident survivors did not get the opportunity to participate in decision making. Normally, women get less importance than their men counterparts in our country. Furthermore, if a woman becomes disabled the situation is much worse for her and it has been reflected here.

In this study, social status of survivors was assessed to know about the survival pattern of them in the society. Social status means the position of a person for which s/he is treated by the people of the society. How is the attitude towards the respondent? If anyone faces difficulties, is s/he helped by others or not? With regard to social status of the respondents, the study found that the people of their society had positive attitude towards most of them. If anyone faces any difficulties, people around him/her come forward to help him/her. Some respondents were satisfied with the behaviour of the people of the society. As disabled persons, many people try to help them. Actually, Bangladeshi culture and tradition has always honoured the destitute people and given them a respectable place in

the society. So, those who became disabled due to road accident they usually get help from the people of the society. It appeared that some of the respondents got all types of help in need excepting the financial help from the society. In contrary, the disabled were treated as second class citizens. They were lagging behind in almost all walks of life. They live a life excluded from the society, having no dignity and honour. As they are not financially independent, they have to dependent on others for their basic needs, even for the day-to-day requirements. They face more or less the same problems - health, financial, emotional abuse, discrimination and non-cooperation. A few respondents had negative experience in this regard. They thought that they were not treated well by the community people. As they are now leading their lives as disabled persons, sometimes negative words are used to recognise them that sound painful for them.

Road traffic accident survivors, particularly those turned physically disabled, are one of the vulnerable groups of people with no security of life in context of Bangladesh. With regard to the vulnerabilities of respondents, the study found that all of them were physically disabled due to road accidents and disability itself was the main factor behind their vulnerability. As is the case, disability limits one's capacity to earn as s/he cannot get involved in any type of income generating activities. Furthermore, they are economically disadvantaged and face various problems. When they became disabled, it ultimately reduced their ability to perform any type of work. As a result, some of them lost their previous jobs that also reduced their income. Lack of access to employment is the most common concern for the disabled road accident survivors in Bangladesh and it is one of the most important sources of vulnerability. Employment opportunities for the disabled persons are less than that of the non-disabled persons, which further contributed to their high incidence of poverty and social exclusion. Moreover, most of the respondents were economically poor and did not have access to credit or other forms of finance. They had very limited livelihood assets to lead standard level of living. Among them, some grew up with poverty and some others became poor after accidents because road accident had economic impact on the victims.

A few respondents were suffering from health problems like heart disease, diabetes, back pain etc. along with their disability. They were also suffering from headache, sleeping problem, disturbing nightmare and other general health problems, which are not related to their injury. As a result, they could not work and earn properly. Furthermore, they had to spend money to bear the cost of treatment round the year, which created a burden on them.



The family of several respondents ended up selling most of their assets and land and got trapped into long-term indebtedness due to prolonged treatment of the accident survivors. As a result, these type of families had to suffer a lot. Some survivors in spite of disability had physical capabilities to get engaged in income generating activities like small business. But they did not have capital or savings to start any business. In that case, credit facilities could be helpful for them. But due to lack of credit facilities, many survivors were suffering as a burden on their families. On the other hand, those took microcredit from local NGOs or relatives could not repay the same in time. One of the respondents started poultry farming, but he lost almost all of his investments due to the deaths of his poultry animals following bird flu. Two respondents lost their cultivable land and homestead due to river erosion, which is responsible for their vulnerability.

Although different factors made the respondents vulnerable, they had adopted various livelihood strategies for survivals. With regard to livelihood strategies or adaptation mechanism, the study found that road traffic accidents pushed almost all the survivors to change their livelihood strategies. It was observed that the respondents had no specific and permanent income generating activities round the year. They adopted various livelihood strategies. It was mentioned earlier that all the respondents were physically active and involved in income generating activities before getting faced with road accidents, but almost all of them had to change livelihood strategies after the accident. Nobody could go back to their previous job following their disability. Whatever they were doing now was just for their survival. But it was a good sign that most of them had confidence and were trying to get engaged in any type of income generating activities for livelihood. The study found that most of the respondents were engaged in small business like running small shops, working as vendors, driving, poultry farming, sewing etc. Some of them had to start their livelihood with the financial help of others or take loan from NGOs or relatives. Three respondents took training from CRP, which helped them to adopt livelihood strategies. A very few respondents lived on the rent of house and battery-run rickshaw. One respondent was found to sell *jhalmuri* on pavement. A small number of them were fully dependent on their family members' support. Only one respondent chose begging for livelihood.

Though all the respondents were found to have adopted various livelihood strategies for their livelihood, most of them were facing various problems regarding their present livelihood strategies. All the respondents thought that road accidents, which made them

disabled, mainly caused their livelihood problems. Disability reduced their capabilities to move, which is why, one respondent had to sell puffed-rice staying at the same place. A few respondents managed their business or ran shops sitting on wheel chair, which was uncomfortable. Some of them were fully unemployed and depending on their families, which was disgraceful. In some cases, they were being treated as burden by their family members. The respondents living on house rent sometimes endure problems when their rooms remain vacant for lack of tenants. A few respondents were searching for job, but the employers were not interested in providing job to a disabled person. One respondent faced some difficulties in poultry farming because of poultry virus, increased food cost etc. The respondents running small shops or business taking loan from local NGOs or relatives could not repay the loan in due time. Besides, all the respondents, who took training from the CRP to become self-employed, could not succeed for lack of capital. One of the respondents indulged in begging finding no other alternatives to earn livelihood. But he had to face hostile, abusive comments while begging. In another case, one respondent due to his disability received lower wages compared to others even after doing an equal job. After all, it appears that almost all of the respondents were facing financial problems or lack of capital in their present livelihoods.

Policies, Institutions and Processes (PIPs) are crucial elements for livelihood framework. Appropriate policies, institutions and process can remove constraints to the development of survivors of the RTAs. The study revealed that most of the RTA survivors were poor and they had limited resources. Government agencies, NGOs and the private sector can provide support to them. But these development agencies did not contribute much for the welfare of the RTA survivors. Thus, the RTA survivors' livelihoods were affected by a combination of lack of institutional and administrative help, poor infrastructure and inadequate extension services. Although RTAs have become a serious concern in Bangladesh and the situation is deteriorating day by day, there is no specific policy or services taken for the welfare of RTA victims or survivors. As a result, they have to suffer a lot to lead their lives after accidents. But there are different processes in developed countries through which different government and non-government agencies or organisations provide services to help improve the overall situation of the road accident victims.

There is a programme called disability allowance, which is for all types of disabled people, run by the government of Bangladesh. So, those who become disabled due to road

accident are also enlisted for this allowance. In this study, it was found that some of the respondents were getting the benefits of disability allowance. Although this allowance is for disabled persons, a good number of respondents were still out of this programme. They did not know the reasons behind their exclusion. Under this programme, each person with disability gets BDT 500 per month. But the small amount of this allowance in context of present market value is too small to bear one's expenses. So, most of those getting the allowance opined that it was not sufficient for them at all.

There are many NGOs in Bangladesh working in different fields. But no specific and/or established NGO works exclusively for the livelihood of road accident survivors. Microcredit or microfinance is one of the common programmes run by most of the NGOs in Bangladesh. It was found that most of the road accident survivors are poor and when they turned into persons with disabilities, they could not lead their lives properly. Then if someone wants to restart any work for income, s/he needs financial support that can be availed from microcredit programmes of government/non-government organisation (GO/NGO). In this study, a few respondents were found to have microcredit from the local NGOs for their livelihood. Besides, a small number of respondents took training from CRP that helped them start their new lives. Livelihood outcomes of the respondents like more income, increased wellbeing, reduced vulnerability etc. were found as a result of pursuing livelihood strategies under the PIPs. But it was not equally applicable for all of the respondents. They adopted different livelihood strategies because of survival options for which they were faced with multifaceted problems although the problems could be reduced by way of taking different initiatives for them. In this regard, the respondents also gave some recommendations for combating the problems related to livelihood and also for overall improvement of the condition.

The study found that the survivors of RTAs were suffering from various problems in Bangladesh. Sufferings of especially those, who became disabled due to road accidents, have no end in sight. Most of the respondents were not economically well off and their condition became further down after turning disabled due to road accidents. They didn't have left anything to invest in any income generating scheme. Lack of adequate capital or savings held them back from restarting any income generating activities or anything else for better lives. So, most of them were favouring financial support or interest-free loan that can be helpful in present livelihood. Road accidents changed their lives, which were far different before the accidents. They had to suffer a lot and lead their lives as burden on

their families. As most of them lost their earning capabilities, they turned into the subject of negligence, abuse and deprivation. It is unfortunate despite the fact that only one person in a family might have had the sufferings of road accident, but the entire household might get affected financially, socially and emotionally. In this study, the statements of the respondents proved that most of them recommended taking initiatives for the rehabilitation of road accident victims like them by means of providing financial assistance.

Microcredit, disability allowance can be important options for the respondents as financial assistance. Employment opportunities also can be powerful indications of inclusion and mainstreaming them in the society. There are many road accident survivors who have the quality or capacity to get employed. But they are kept out of this employment opportunity due to disability. Even they can be self-employed through small business or by running small shops with the financial help of others. Some of the respondents suggested allocating *khash* land for them by the government to help reside or build market for business. One of the respondents recommended providing the road accident survivors with treatment at low cost or free of cost. In addition, the number of orthopaedic hospitals or trauma centres should be increased so that the road accident victims can be shifted there rapidly. The disabled survivors of road accidents are part of our society. The overall development of a country is not possible keeping these people out of the mainstream society. Thus, various initiatives should be taken by the government or other organisations considering the capacity and overall situation for rehabilitation and development of the injured road accident victims.

## **8.2 Theoretical Implication**

The present research employed “Sustainable Livelihood Framework” as theoretical framework to search for broader meaning of the findings. This framework is useful to assess the vulnerability context of road traffic accident survivors; identify the livelihood assets or capitals in their possession; prevailing social, institutional and organisational environment; livelihood strategies they deployed; and the outcomes they achieved.

People and their access to assets are at the core of livelihood framework. DFID identified five (5) categories of assets or capital. These are human capital, social capital, natural capital, physical capital and financial capital. These capitals or assets are important in the lives of RTA survivors. But the study reveals that most of the survivors do not have enough natural capital like land, homestead, ponds, trees, livestock and poultry. Most of

those living in rural areas have homestead to live, but do not have cultivable land. Very few respondents said they had cultivable land, but it had to be sold for bearing the expenses of treatment after accidents. Housing facilities, civic amenities, furniture, electronics and jewellery are also called the physical capital of a person. The study shows that the housing facilities and civic amenities are not available to all the respondents. Among them, most of the respondents living in urban area reside in rented house and have electricity, gas and sanitation facilities. But in rural area, many survivors are deprived of electricity, gas and pure drinking water. Annual return, savings, microcredit etc. describe the financial capital that people use to achieve their livelihood objectives. The findings show that the financial condition of all the respondents is not so good at all. All the respondents are physically disabled due to road accidents and most of them have very limited income or no income at all.

Vulnerability context is another analytical principle of the livelihood framework, which is relevant to the study. In this study, some of the most important and relevant points relating to vulnerability have been considered. These are poverty, disability, health problem, loss of income, loss of employment, loss of assets, river erosion-like natural calamity, loss of ability etc. It becomes clear that all the respondents are affected by disabilities that are results of road accidents. When they became disabled, it ultimately reduced their ability to perform any type of work. As a result, some of them have become unemployed and have been leading their lives depending on families. Besides, some of them are poor, suffering from disease while a few of them lost cultivable land and homestead due to river erosion that made them vulnerable.

In this study, the researcher has tried to analyse and understand how the road accident survivors manage to cope with and/or adapt their livelihoods in different contexts. The study finds out that the RTAs changed the livelihood strategies of the survivors. They have adopted various types of livelihood strategies for survival after turning disabled due to road accidents. Almost all the respondents did not lose confidence in them and tried to do something for self-reliance. Most of them got engaged in small businesses like small shop keeping, tiny trading, poultry farming, sewing, household work, electronics repair work etc. Some of them adopted more than one livelihood strategies for survival. A few of them depended on their family members. Only one respondent chose begging for livelihood.

Therefore, sustainable livelihood framework has been used in this study to have better understanding about what resources do they have and how do they pool these resources

and diversify activities by pursuing their livelihood strategies in order to reduce vulnerability, ensure their wellbeing, improve socio-economic condition, increase income and so on.

### **8.3 Recommendations for Improving the Livelihood Standards of Road Accident Survivors**

Taking into account the views of the case-respondents, FGD participants and the observation of the researcher, the following ideas are recommended for improving the livelihood standards of road traffic accident survivors:

1. It was revealed that there is no specific national policy on the victims of road traffic accidents in Bangladesh. No insurance coverage or the like has yet been adopted for improving the quality of survivors' livelihood pattern. It is therefore necessary to adopt national policy of which a comprehensive plan can be formulated for suitable implementation for greater welfare of the road accident survivors.
2. Some of the survivors, as found in the study, have the ability to be involved in income earning activities. They are keenly interested if they are given scopes for work even at subsistent level. Such efforts, if possible, will surely energize them to be more committed to services refreshed with social and economic empowerment. Work opportunities or engagement in any income earning activities can help in bringing them to the mainstream of the society. So, job opportunities afresh or according to case specific need and ability should be created for facilitating them cope up with the present stressful situation. Alternatively, or additionally self-employment schemes may also be encouraged in informal sectors for their survival. No denial of the fact that in view of the present needs and conditions of the survivors, arrangements will be made.
3. At family level one of the most pertinent impacts of road traffic accidents is the impact on income and job. If one has lost one's job, income has been closed or stopped or reduced. Such awful situations in case of income, as has come out of the study, have several repercussions on the families' livelihood as a whole. One outstanding feature of the road traffic accidents occurred in Bangladesh, the poor people largely become the victims. Usually, they do not have savings or extra-

capital to start small business or any other income generating activities to cope up the situation. Therefore, in support of the victims or victim survivors credit facilities may be advanced at the Government or Non-Government organizations as part of policy.

4. Occupational training programs should be expanded and given to accident victims or survivors for obtaining required skills for income earning. There are big numbers of disabled road accident survivors, physically in particular but are able to be skilled to meaningfully pursue and raise the standard of their livelihood status through such training programs.
5. By providing due emergency treatment many lives of road accident victims can be saved. The number of hospitals and the trauma centers on highway roadsides in Bangladesh cannot be said as adequate. Moreover, the services given hospitals and particularly the trauma centers require a fair review. Many a time, it takes time to shift injured person or persons to the hospital from an accident spot, and some of them die on the way. In view of this reality, it is needful to set up more medical hospitals and trauma centers to ensure emergency treatment wherever it occur accidents.
6. The study findings showed that the road accident survivors are deprived from compensation and the poor section of them are seldom aware of their rights of this compensation due to lack of knowledge. In this study a few case-respondents were able to receive from the transport owners a sum of money as compensation. Out of such standpoint and claim as a part of human rights imperatives a compensation scheme could be developed with the stakeholders' contribution on regular basis. In this effort, along with transport providers, government or other parties, the passengers may also be added. There is also an urgent need to fix the compensation rate based on current market price, and create awareness among the road users.
7. Among the survivors of road traffic accidents almost all were found to suffer from some critical problems generally. But the women survivors, as found, have certain additional problems in their lives particularly in family perspectives. In our tradition bound society, role of the females specially those are the home makers, tends to multiply many additional problems. Therefore, this is a

particular consideration for taking into account when assistance in any form, including medical or monetary.

8. In Bangladesh there is no specific substitutive institution as centers or services for facilitating the road traffic accidents survivors' rehabilitation. It was found that most of the rehabilitation of accident-survivors had to stay manage their living in own family brackets with very minimum facilities due poor or no attention from any corners. The situation was so painful that, even friends had become apathetic avoiding responsibilities. In such a precarious situation the need for helping the survivors, the families concerned, a holistic plan need be chalked out to practically address the problem.
9. The road accident survivors who turned into persons with disabilities have naturally a lower workforce participation rate. Employment is not only important for economic security, also it is required for physical and mental wellbeing, independence, and identity. Needless to say, income support systems allow people to live with a social dignity. In view of this reality, it is needed to remove barriers that stand as bar in economic participation. So, not compensation alone will help much, measures for re-strengthening the persons with disabilities shall have to be incorporated in the total rehabilitation scheme.
10. Additionally, to incorporate the needs of the road accident survivors who have become especially disabled and who come from vulnerable groups socially and economically, existing poverty alleviation scheme should include the above view in order to promote their livelihood opportunities.

Survivors of road accidents who became physically disabled are a part of our society. In Bangladesh most of them are subjected to socio-cultural and economic disadvantages, which obstruct their access to health care, education, training, employment and other services. But without their participation proper development of a society or a nation is impossible. It is evident there is no single solution to the challenge for enhancing livelihoods of RTA survivors. Various modalities such as appropriate policy, skills development, entrepreneurship, employment, microfinance, creating barrier free environment, and so on could be supportive in their progress towards social inclusion and to improve the livelihood patterns.



## 8.4 Scope for Further Research

The research undertaken for this thesis has highlighted a number of topics on which further research would be beneficial. The study was mainly conducted on the survivors of road traffic accidents to understand their livelihood patterns. But it did not cover all the aspects of road traffic accidents and the survivors of RTAs in this study. So, in light of the findings of this study, further study may be suggested in the following areas:

1. The study has been conducted in Greater Dhaka as location of the study. Greater Dhaka cannot represent the whole country as it is a small part of Bangladesh. On the other hand in the present study, the sample size was small. So, further study can be conducted on the whole Bangladesh using a large number of respondents that will help make it more representative.
2. Road traffic accidents are a burning issue in global or country perspective. But most of the studies were mainly conducted on the nature and causes of RTAs. Very few studies were carried out on the survivors or victims of RTAs particularly on the survivors who are physically disabled. Therefore, more studies can be conducted on all types of survivors or victims to know the impact of RTA on them.
3. The general objective of this study was to know the livelihood patterns of the road accident survivors. But there are various issues relating to livelihood pattern and it was not possible to cover everything in it. Therefore, further study can be done giving emphasis on other issues relating to livelihood patterns of RTA survivors.

## 8.5 Conclusions

In Bangladesh, road accident has become a serious problem and road safety situation is deteriorating day by day. It has turned into a significant problem both in terms of loss of human lives and financial consequences. Every year, a large number of people die and get injured due to road traffic accidents (RTAs). A large number of the road accident victims recover from their injuries. But some of those who become injured severely do never recover fully and suffer from some kinds of permanent disabilities. On the other hand, disabilities make them vulnerable and many of them become burden on their families. They suffer from less healthcare and medical services, emotional support and basic necessities that are required for their survival and well-being. They are very much depressed in their family and social life with manifold insecurities. In Bangladesh, no

significant efforts for providing care, support and rehabilitation services to the survivors of road accidents have been undertaken either at the government or the private level. It is true that long-term impacts of road traffic injury are poorly documented and little is known about this impact. Furthermore, most of the people do not know about the livelihood patterns of road accident victims or survivors due to lack of adequate information. In view of this fact, the researcher has conducted the present study to know about the livelihood patterns of the survivors of road accidents in greater Dhaka of Bangladesh.

This study examines the livelihood patterns of the survivors of road accidents. It explores the current situation of RTAs and its impact especially on the survivors in greater Dhaka. It is found that greater Dhaka is most vulnerable both in terms of total number of road accidents and accident rates than the other parts of the country as Dhaka is located at the centre of Bangladesh and Dhaka as the capital city is also located in this part. Reckless driving, defective vehicles, unskilled driving, night driving, foggy weather, using cellphone while crossing road are found as the important causes of occurring road accidents here.

The study reveals the socio-economic condition of the RTA survivors and it is found that overall conditions of the respondents are not good at all. Most of them are from poor families and do not have enough capital. In addition, the survival patterns of the accident survivors have been changed after occurring the accidents in their life. All of them are now physically disabled and most of them, to some extent, depend on their family members for the sake of survival. Even few of them are considered as burden on their families. It is mentionable that disability itself is the main factor for their vulnerability as disability limits one's capability. Some of them lost their previous jobs that reduced their income. Poverty, lack of access to employment, limited livelihood assets, health problems and river erosion have also been found as the sources of their vulnerability.

It is positive that they have adopted various livelihood strategies for survivals in spite of their vulnerability. Most of them adopted various livelihood strategies like small business, poultry farming, running tea stall, household works, begging, working as street vendor, house renting, driving, small shop keeping, sewing, electronic repair work etc. However, the study reveals that the livelihoods of road accident survivors in the study area have been seriously affected due to limited facilities in terms of lack of access to resources, lack of employment opportunities and the negative attitudes of family and community members as well. Therefore, it is needed to take initiatives for the rehabilitation of road accident

victims by the way of providing financial assistance that includes microcredit, disability allowance etc. Employment opportunities may be powerful indications of inclusion and mainstreaming the injured accident survivors in the society. The survivors think that increase in their income and the positive attitude of the family and the community towards them may change their livelihood patterns. They suggested that provisions for training and treatment, credit facilities, employment generation, housing facilities and financial support can improve their livelihood status.

Finally, meaningful initiatives should be taken by the government agencies and non-government organizations for uplift of the livelihood patterns of road accident survivors recognizing their problems from a human rights point of view in Bangladesh.

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# Appendices

## Appendix A

### **Interview schedule for collecting data of a Research Project titled “Victims of Road Traffic Accidents in Greater Dhaka: A Study on the Livelihood Patterns of the Survivors”**

Serial no.

Date:

*[Consent and confidentiality: This is an interview schedule for understanding the livelihood patterns of road traffic accident survivors. It is an academic research work. Please share your own views and experiences. Your accurate answer will help the researcher to assess the condition better. It is your wish to continue the interview session or not. But your cooperation will be highly appreciated by all concerned. Your statement will only be used for academic purpose and confidentiality and anonymity will be maintained strictly]*

#### **A. Demographic and Socio-economic Information**

1. Could you please tell me something about yourself like your name, address, age, sex, marital status, religion, nationality etc.
2. Tell me something about your family type and size, family members and their identity.
3. Who is the head of your family, his/her occupation, income?
4. Could you please tell me about your educational qualification, other qualification(s), training(s) etc.
5. What's your present occupation/profession and nature of your occupation?
6. What and how was your previous occupation/profession? Any other sources of previous income?
7. Tell me about your physical condition, treatment process etc.
8. Do you have cultivable land? Size of land? Land as source of income?
9. Do you have homesteads of your own? Size of land where your homestead is.

10. Tell me about your other natural capital like ponds, trees, livestock and poultry etc.
11. Do you avail housing facilities and civic amenities like electricity, water, cooking gas and sanitation?
12. What types of furniture do you have in your home?
13. Do you or your family members use electronic goods, jewellery etc.? Name the goods and jewellery, if any.
14. What are the sources of your income, amount of monthly income?
15. Tell me about your savings, debt etc.
16. Are you suffering from any disease or physical problem side by side your disability?
17. Usually at the time of your ailment, where do you go for treatment and why?

## **B. Causes, Nature, and Consequences of Road Accidents**

18. Do you think road accident is a problem in Bangladesh? If yes, why?
19. According to you, what are the causes of road accidents in Bangladesh?
20. Who are the mostly responsible for occurring road accidents in Bangladesh?
21. What do you think about the causes of accident that you faced?
22. Do you blame yourself for your accident?
23. Can you mention the place where your accident occurred?
24. Can you briefly describe the day of your accident?
25. What was the type of collision?
26. Can you remember, what happened at the time of accident?
27. Could you please describe the circumstances of the accident?
28. Could you please tell me what were your major injuries?
29. Do you think road accidents have devastating consequences on you? Why?
30. How will you explain the physical or health consequences of road accidents on your life?

31. Do you think physical disability is the main consequence of RTA? What types of physical problems are you facing as a result of accident?
32. Do you feel there has been a major consequence of the accident on your personal or family life? If yes, how?
33. How does road accident bring negative consequences on your occupation and income?
34. Do you think your living standard, food consumption etc. decreased as a result of accident? If yes, how?
35. Do you think road accident affected your family relationships? If yes, please explain.
36. What are the psychological consequences of road accident on your life?
37. Do you think there has been a change in your social life as a result of accident?
38. If any other changes happened as a result of the accident, explain how?

### **C. Nature of Rescue and Treatment Situation**

39. Were you rescued immediately after the accidents or it was delayed?
40. How you and other victims were rescued, who came forward to the rescue?
41. Can you remember what types of people came to your rescue?
42. What do you think about the motives of the people that came to help you?
43. Did you get proper assistance at the time of rescue? If yes, please describe the nature of assistance.
44. Did you get any help of highway police? If yes, how was it?
45. Were you shifted to hospital immediately after rescue? Who helped in this regard?
46. Where did you get admitted after accident and how long did you stay there?
47. Did you receive proper treatment? Nature of treatment? Opinion about the services provided by hospital, clinics or any other healthcare centres.
48. Who helped and cooperated you most during the period of your treatment?
49. Can you mention the nature of help and cooperation provided by your family? Any other help from relatives, friends, colleagues or employers?

50. How were the assistance and care provided by doctors, nurses and other staff of the hospitals or clinics?
51. What types of problems you faced at the time of admission to hospital and treatment period?
52. What was the amount of your treatment cost? Source of the cost? How did you manage it?
53. Did you get any financial help from your relatives, friends or any other person beside your family? If yes, how it was?
54. Did you get any financial help from any government or non-government agencies at the time of your treatment? If yes, tell something about the nature of assistance.

#### **D. Survival Patterns in the Family as well as in the Society**

55. Do you consider yourself as dependent on others or self-dependant?
56. If you consider yourself as dependent on others, mainly on whom you do depend?
57. Please mention the level and nature of your dependency. What are the causes behind your dependency on others?
58. Do you consider yourself as a burden on your family or others? If yes, why and how?
59. How do you feel when your family members treat with you as burden?
60. Do you face any discrimination in family or society due to your disability?
61. Please share your experiences regarding discrimination or negligence towards you shown by your family or the society;
62. Are you being neglected by your family, relatives and neighbours?
63. Mention the causes behind discrimination or negligence towards you.
64. Do you face any physical and mental torture by family members? Nature of torture?
65. Do you get proper support and cooperation from your family to meet your requirements? If yes, when and how do you receive such needed cooperation.

66. What type of family support and cooperation you do usually get to meet your requirements and for your livelihoods?
67. What is your opinion regarding the attitude of your family members toward you?
68. Do you have enough scope to participate in any decision making process of your family? If no, why? If yes, how?
69. Please share your experiences regarding the attitude of the people of your society toward you?
70. When do you feel the need of help of other people of your society?
71. Do they help you in time of your needs? If yes, is it adequate?
72. Do they help willingly or on your request? Do you have any experience in this regard?
73. Do any people call you using negative words or laugh at your situation? How do you feel then?
74. Do you get any invitation to attend different local socio-cultural functions? If yes, do you participate in these programmes?
75. What do you think about the overall social situation for your smooth living?

## **E. Vulnerabilities and Coping Strategies**

76. Do you consider yourself as vulnerable in your society? If yes, why?
77. What do you think about the cause of your vulnerability? How this cause makes you vulnerable?
78. Can you please share your experience on how did you manage to cope after becoming physically disabled due to RTA?
79. Please inform about your present livelihood strategy. What are the problems you faced to adopt this strategies?
80. Mention the major problems of your present livelihood? How does it affect your income?
81. Do you know about any policy, allowance or other services for the survivors of road accidents? If yes, are you enlisted for the services?

82. Do you get any other financial assistance from government or non-government organisations at present? If yes, mention the nature of assistance.
83. What are the limitations of existing services provided for the survivors of RTAs -- particularly those who turned disabled?
84. What measures should be taken to develop the socio-economic conditions and enhance the survival mechanism of the survivors of RTAs like you?

(Thanks for your cooperation and valuable opinion)

Date:

Signature of the investigator

## Appendix B

### FGD guidelines for collecting data of a Research Project titled “Victims of Road Traffic Accidents in Greater Dhaka: A Study on the Livelihood Patterns of the Survivors”

*[Consent: This research is conducting to know the livelihood patterns of road accidents survivors. You are selected as an interviewee or participant for giving related research information. It is assured that information given by you will be used for research purpose and absolute confidentiality will be maintained as well.]*

Para.....	Village.....	Union.....
Upazila.....	District.....	
Location of FGD.....	Date.....	
Name of Coordinator.....		

#### **FGD Checklist**

1. Your opinion about road traffic accidents in Bangladesh;
2. Main factors associated with the cause of RTAs in Bangladesh;
3. Mostly responsible cause for the RTAs;
4. Please give reasons for your answer as above;
5. Who are responsible in general for RTAs -- drivers, passengers or pedestrians?
6. Level of awareness about road accidents among general people.
7. Are you the victim of RTAs? If yes, what type?
8. Do you have any known person or relative who is the victims of RTAs?
9. People who are the prime victims of road traffic accidents;
10. Impacts of RTAs on victim -- financial, physical, psychological;
11. Impacts of RTAs on the victim’s families;
12. Impacts of RTAs on the economy of Bangladesh;



13. Rescue system of road accidents victims in Bangladesh;
14. Existing medical treatment and rehabilitation services for the victims in Bangladesh;
15. Level of knowledge of road users in Bangladesh regarding road safety measures;
16. Safety measures taken by the authority to prevent road traffic accidents;
17. Are the measures taken by government enough to reduce RTA?
18. Please give reason for your above answer;
19. Problems being faced by the government in implementing road safety measures;
20. Do you have any idea about the livelihood patterns of RTA survivors who turned into persons with disabilities?
21. How do they manage their livelihoods?
22. How is their position in the society? Common people's attitude towards them;
23. Do you try to help them in their needs? If yes, how?
24. Challenges/problems faced by the survivors of RTAs;
25. Impact of RTA on their livelihood patterns;
26. What are the adaptation strategies of the survivors to manage their livelihoods;
27. Support and services provided by the government and non-government organisations for them;
28. Measures needed for the welfare and socio-economic rehabilitation of road accident survivors.

(Presented checklist is not complete. It, however, relates the queries out of discussion)

(Thank you for your active participation)

### ❖ **Recommendations to Ensure Road Safety**

Road traffic accidents are not a problem of a country. It is a global problem and the Government of a country alone cannot tackle road safety problems. The British Medical Journal of 11th May 2002 indicated that more people die on the road traffic accident than from malaria worldwide. But it is a matter of sorrow that many people do not know that road traffic accidents are preventable (Krug, 2002).

Road traffic accidents occur due to different causes. So, for ensuring road safety or reducing road accidents it is needed to take initiatives on the basis of different issues in the following ways:

#### **1. Road and Road Environment Improvement Measures**

- i. Conduct countrywide survey on the conditions of national highways and take a comprehensive plan to repair dilapidated roads;
- ii. By turn, improve all major highways to four lane with dividers, this will help to reduce head on collisions;
- iii. Identify all dangerous turning points all over the country, and erect dividers at each point;
- iv. Remove road side hazard immediately;
- v. Clearly notify speed zones for major arterial roads in the country;
- vi. Introduce speed cameras on all main highway corridors;
- vii. Scientifically identify accident prone locations on or “black spot” the highways and take immediate safety measures in this areas;
- viii. Maintain bridges in every highways;
- ix. Install clear road signs and markings on all major roads and remove unauthorized speed breakers;
- x. Construct sufficient footpaths and foot over bridges to facilitate free movements of pedestrians on major roads;

- x. Remove floating shops, mobile hawkers, artisans and temporary traders from roads and roadsides;
- xi. Construct adequate numbers of speed breakers, Zebra crossings, traffic signals, light posts with street lights;
- xii. Erect separate lanes by the side of the main highways for slow moving vehicles;
- xiii. Enhance the capacity of the existing road system as possible from both vehicular and pedestrian points of view by taking immediate steps;
- xiv. Install weighting station and restrict overloading in the major highways through monitoring and supervision;
- xv. Set up a national monitoring authority to supervise road maintenance and repair;

## **2. Drivers and Driving Related Measures**

- i. Fix the speed limit of vehicles on highways. Drivers of the vehicles who exceed the speed limit should have their licenses confiscated.
- ii. Address seriously loop-holes that allow obtaining licenses without tests or fake licenses through bribery so that no fake license holder can drive on the roads;
- iii. Prohibit use of mobile phone while driving a vehicle;
- iv. Develop training programme for all types of drivers;
- v. Check physical and mental condition of drivers before driving;
- vi. Take initiative to control irresponsible overtaking, excessive speeding and overloading;
- vii. Check strictly drunk and drowsy driving;
- viii. Provide training to the drivers, supervisors and helpers about accident information, road safety, traffic rules, marking, traffic signs etc.;
- ix. Give the passengers mandate to monitor the driving behaviour of their respective driver and report any misconduct to the police or any other authority;

- x. Develop adequate modern driver training institutions with a strict process of accreditation with BRTA;
- xi. Undertake regular awareness building programs targeted to drivers at bus/truck terminals with a focus on road safety issues;

### **3. Vehicle Related Measures**

- i. Immediately taken off all expired vehicles from the roads. The rest should be undergone proper fitness certification process.
- ii. Set up more weighting stations on national highways to control overloading of trucks;
- iii. For the sake of safety, re-examine locally made bus-bodies thoroughly;
- iv. Continuous drive to control non/sub-standard vehicles on roads;
- v. Strict enforcement and random vehicle inspection (light, brake, tyre) all the year round;
- vi. Introduce computer based vehicle fitness checking system immediately;
- vii. Mark head light of vehicle by black color;

### **4. Pedestrian and Passengers Related Measures**

- i. Pedestrians should be aware and obey the traffic rules;
- ii. Raise public awareness about accidents and road safety;
- iii. Organize rally, special days and weeks observation on road accident and road safety;
- iv. Ensure use of seatbelts and helmets by the passengers at the time of travel;
- v. Avoid using mobile phone while crossing the road;
- vi. Restrict traveling as rooftop passengers;
- vii. Incorporate pedestrian facilities including people with disabilities in all road projects so that they can move easily;
- viii. Erect adequate numbers of foot-over bridges or underpasses in suitable locations for pedestrians movement;
- ix. Remove wasteful structures that are cost heavy but pedestrian –unfriendly;

- x. Not project body outside the vehicle at the time of traveling;
- xi. Not travel on overloaded buses and their roof tops or on trucks.
- xii. Get on and down from the vehicle after noticing every sides very carefully;

## **5. Regulators and Regulations Related Measures**

- i. Recast Bangladesh Road Transport Authority (BRTA) with professionals, skilled, honest personnel and provide regular training to the staff to familiarize them with modern management and safety measures;
- ii. Highway police need to be better equipped, increased in number and be accountable. They should not become an instrument of harassment and extortion (Sharmeen and Islam, 2011:53-54).
- iii. Develop the curriculum for driving school and registration system for driving schools and driving school inspectors;
- iv. Increase the number of highway police, traffic police and their facilities;
- v. Extend highway patrolling to all major roads. They should be given special training for the evacuation of accident victims, providing emergency relief measures and also arranging first aid to the injured persons;
- vi. Make road safety education compulsory and integrated in the school curriculum at all levels from primary level to university level, and even in teachers training curriculum;
- vii. Strengthen, modernize and make accountable the road maintenance department;
- viii. Continue drive mobile court without interval at each and every road to check the rules and regulations;
- ix. Enforce law strictly as well as punish to corrupted traffic police or any other regulators.
- x. Organize an intensive Road Safety Campaign throughout the country by all concerned departments;

## **6. Post-Crash Care Measures**

- i. Train up the police, all motor vehicle drivers, helpers and other staffs and common people in general in first aid;
- ii. Make basic first aid compulsory for driving license applicants. The subject should also be taught in schools and colleges;
- iii. Strengthen emergency care in all major hospital for road accident victims;
- iv. Establish trained mobile teams with ambulances and other equipments which can promptly reach an accident site and at the same time have continuous communication to a nearby hospital;
- v. Improve and encourage coordination and cooperation between health facilities, police force and other involved emergency service organizations on strategic, tactical and operational level;
- vi. Make available the ambulance services and its staff should be trained in first aid and in rescue operations;
- vii. Develop and implement an efficient communication system between health centres and hospitals, between the Police and medical staff and between the accident site, the medical facilities and the Police;
- viii. Upgrade the existing hospital facilities. Recruit more doctors and nurses and give accommodation within the hospital premises so that they can be easily reached in case of an emergency;
- ix. Establish an unique phone number for all where people can ask any kind of help regarding accidents and also can inform to take immediate action;
- x. Establish primary trauma centre at every suitable place along major highways;
- xi. Improve and increase trauma treatment facilities and ensure adequate trained manpower for such facilities on all major highways and major urban centres.

## **7. Institutional Measures**

- i. Modify and update the existing laws and policies relating to road safety;
- ii. Enactment of laws to ensure punishment of the culprits involved in road accidents;

- iii. Ensure strong punitive measures against the officials who are involved in issuance of fake license or any other irregularities;
- iv. Increase the number of Highway police, traffic police and their facilities and clearly define and specific terms of reference to exercise their power;
- v. Create a road fund in order to provide adequate funding for road maintenance and road safety;
- vi. Identify fake or license issued without any tests and take immediate action against it;
- vii. Involve insurance companies for realization of claims by road accident victims;
- viii. Strengthen legal provisions for compensation claims by accident victims;
- ix. Review the accident insurance sector and ensure a more victim-friendly operation of the sector;
- x. Promote and develop public transport system;
- xi. Establish National Traffic Training Academy along with a comprehensive review of current approach to traffic planning and management by police;
- xii. Strong political commitment and consensus among the political parties to ensure road safety.

## **8. Research and Awareness Development Measures**

- i. Advance road safety research;
- ii. Strengthen and update accident data reporting and recording system;
- iii. Develop a realistic strategy to overcome the problem of under reporting of road accidents;
- iv. Ensure traffic safety education and information for all ages of road users;
- v. Mass media campaigns and publicity for awareness building;
- vi. Implement road safety awareness campaign in all parts of the country;
- vii. Develop community based road safety program (Forum, July-2012).

With a view to curbing the road accident fatalities in Bangladesh the following measures are recommended for consideration by Bangladesh Road Transport Authority in its Annual Report-2008.

Recently the High Court of Bangladesh ordered the government to immediately remove all unauthorized structures within 10 meters of highways, restore visibility of motorists at blind curves, and install speed-limit signs to prevent road accidents.

The court ordered the amendment of relevant rules to set SSC as the minimum educational qualification for drivers and it would be effective after five years. It asked for reasonably increasing the penalty for traffic rules violations under the Motor Vehicles Ordinance,1983. Other directives by the High Court to check road accidents are

1. Establish a professional driving training institute;
2. Increase penalty for violating rules;
3. Include traffic rules in school syllabus to make students aware;
4. Highlight traffic rules in electronic, print media to raise awareness among citizens;
5. Make highways straight, demolishing blind corners (The Daily Star, 04 December,2015).

Bangladesh Passengers' Welfare Association also had given some recommendation to ensure road safety. These are the followings-

1. Utilizing the media for raising public awareness about traffic rules;
2. Removing makeshift kitchen markets and shops located close to highways;
3. Providing professional training to drivers;
4. Strengthen law enforcement to stop unfit vehicles from plying the roads and highways;
5. Construct Separated lanes for slow moving vehicles on highways;
6. Set up trauma centres near highways to provide immediate care to accident victims (The Daily Star,10 January,2016).

The World Bank and the World Health Organization (WHO) advocate a "systems approach" to road traffic safety that emphasizes involvement at all levels of the road traffic system—from road providers and enforcers (vehicle manufacturers, road traffic planners, road safety engineers, police, educators, health professionals and insurers) to road users(Khan, 2007: 323). As road accidents occur due to various causes, taking any single approach, it is not possible to ensure road safety. So, by adopting a comprehensive approach the rate and fatalities of road traffic accidents can be reduced.