

Assessment of Road Safety Awareness and Knowledge among Drivers and Community People

A Baseline Study

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Working Paper

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Executive summary

This baseline study was initiated by the Research and Evaluation Division at BRAC. Underlying the aim of BRAC road safety programme is to achieve zero fatal road accident. To understand this dynamic of road accident with the purpose of prevent its occurrence to satisfied level, the community centric existing knowledge was assessed in the study areas. The baseline survey involved the participants from community members, students and drivers of both motor and non-motor vehicles. However, the study intends to understand the current status of individual and group level knowledge and attitude of drivers and community members regarding road safety. To map changes over time between baseline and end term periods, the baseline study conducted between two groups of respondents; such as treatment group (the group would be intervened by the programme supports) and control groups (the group would be independent, not supported by the programme). The most significant findings of the baseline study were as follows in regardless to the comparison between treatment and control groups.

Firstly, in case of the assessment of the commercial motor vehicle drivers, the majority learned driving from an *ostad* (senior drivers). The vast majority had no license (80%). Almost none of them had received training after the start of their career (90%). Some traffic laws were little learned, but some were known and some were well known to the respondents. Concerning the least known, around 75 per cent of the group did not know about the speed limits, 84 per cent did not know the laws regarding illegal overtaking, almost no one knew about keeping insurance documents with them while driving, and practically no one knew about the laws about fastening the seat belt. Concerning somewhat more known laws, the majority did not know that the use of a mobile phone during driving was illegal, around 40 per cent of the group did not know that carrying an excess of passengers was illegal, and more than 40 per cent did not know that they had to have a driving license with them while driving. Concerning the well known laws, the vast majority knows that carrying excess goods was illegal, and that illegal parking was a punishable offence. Around 30 per cent of the drivers always obeyed the traffic laws, while the majority only sometimes obeyed them. Of around half of these laws, the vast majority told that they were able to obey them, but roughly 40 per cent told that they could not obey the laws concerning speed limits, excess carrying of drivers, carrying of driving license, and mobile phone use. Concerning knowledge of risky places on the road, the vast majority knew that a road bend was a risky place for road crashes, between 60 per cent and 70 per cent of the group knew that a school or college premises and the bazaar were risky places for road crashes, while the vast majority did not know that a narrow bridge, an uneven road, and other spots were risky places as well. Concerning knowledge of risky driving behaviour, 70 per cent respondents knew that over-speeding and illegal overtaking were important causes of road accidents, only 27 per cent knew that carrying excess goods and passengers were causes of road accidents, and only a small minority knew about irregular pre-checking of vehicle, the use of mobile phone, and other cause of road accidents. Approximately 23 per cent of the drivers had been a victim in a road crash, while working or in their personal life. Finally, around 28 per cent knew only up to 25 per cent of the traffic signs, and on average a driver knew around 40 per cent of the traffic signs.

Secondly, our observations showed that among the non-motor vehicle drivers, 28 per cent possessed a driving license. Practically, no one of the group had received training. On average this group of respondents knew 31 per cent of the major traffic signs that were shown during the survey. Their knowledge of risky places for traffic was as follows: 80 per cent was aware of the road bend, 61 per cent knew about the uneven road, 50 per cent knew about the Bazaar, 38 per cent knew about the place in front of a school or college, 10 per cent knew about the narrow bridge and 3 per cent knew about other risky places for traffic. Of these respondents 25 per cent had been a victim of a road crash in their life, as driver or otherwise.

Thirdly, following the data on the students group, almost all of the respondents learned from their parents as how to walk along and cross the road, while about half of them had learned it also from their teachers. Parents were the people the students talked with about road safety mostly (66%), followed by friends or neighbours, and then by teachers (16%). Most had not attended a discussion organised by a NGO or CBO (community based organisations). There were three risky places for road crashes that more than half of the students knew of: a broken bridge or road (75%), a Bazaar (58%), and a road bend (59%). The vast majority did not know the other risky places: road without footpath, junction, sleeper of bridge, round about, and others. None of the reasons for road crashes were known for more than around half of the students. Around half of the respondents knew about the following causes of road crashes: road of reckless driving and over speeding areas, and people not knowing how to walk around the road safely. Roughly, one third respondents knew about of drivers not knowing how to drive safely, and people not knowing how to cross the road safely as causes of road crashes. Around a quarter knew about having narrow walking space besides the road as cause of accident. The vast majority did not know about absence of a speed breaker at the intersection of a road, the absence of traffic signs, and uneven roads as causes. Regarding some (other) key road safety knowledge: 36 per cent knew about risky points in a road for a road crash, 37 per cent knew one should walk on the right side of the road when there was no foot path, 30 per cent knew how to cross the road safely, and 12 per cent knew what the safe places of the road were where one could safely cross.

The study assessed the community knowledge through in-depth interviews and focused group discussions. Assessment of the community people included drivers, shop owners, teachers, village leaders or the people aged at least 20 years. Both in interview and FGD sessions, participants were willing to join and shared their experiences and thoughts on road safety issue. By sex, participants were both male and female as an average of 60 per cent and 40 per cent accordingly in all sessions. The findings were grouped into the three themes: concern about road safety of the community people, the ownership on road of the community people, and how to reduce risk of local road accident.

However, both the data types either quantitative or qualitative revealed that the road safety knowledge of all the groups of respondents were poor. Most of the motor and non-motor vehicle drivers had no license, and none of the non-motor vehicle drivers had received training. Moreover, very few motor vehicle drivers knew about speed limits, illegal overtaking, and laws regarding seat belts, while they lack commitment to obey the laws concerning speed limits, excess carrying of drivers, carrying of passengers or goods, keeping driving license, and proper mobile phone use.

Chapter 1.

Introduction

In the recent years, bodily injuries are one of the leading causes of death in both developed and least developed countries (LDCs). The injury events have meant a shift in the global burden of diseases. It is a well documented fact that the burden of tropical diseases, HIV (Human Immunodeficiency virus) and TB (Tuberculosis) will be supplanted by the global burden of road traffic injuries which is to rise to the third leading cause of death in 2020 (Murray and Lopez, 1996). Interestingly, it is estimated that 90 per cent of road traffic fatalities occur in low and middle income countries (WHO 2013) and these fatalities and injuries affect productive members of society (*ibid*).

Globally, deaths and injuries from road accidents are a major and growing public health problem. More than 20 million people are severely injured or killed on the roads throughout the world each year and the burden falls most heavily on low income countries (Zwi 2010). Road safety problems represent very significant domestic, social and economic problems while one can be afforded, especially in developing countries where resources are scarce and cannot be spent on preventing 'accidents'. Having an effect on short-term 'health' problems, road accidents can cause injuries requiring long periods of rehabilitation as well as permanent disabilities (Oginni and others 2012).

Low to middle income countries face particular challenges related to lack of resources to address safety concerns including infrastructure and enforcement efforts, cultural usage norms for safety devices, and compromised road engineering due to lack of innovation and upkeep (Forjuh 2003).

As a developing country, Bangladesh has faced same experience to the above-mentioned tendencies. Everyday people are wounded from road accident and this number is much higher than other countries in the world. Drivers and pedestrians are the main sufferers among all the sufferers. The reasons behind the accidents are their ignorance on different road safety issues. In other words, no formal training as drivers to drive, enough knowledge about the vehicle, lack of tendency to abide by traffic law, less careful on the road etc. could be the reasons of accidents. Moreover, there are other reasons such as bad condition of road, narrow road, road with many turns might cause accidents. In addition if there are residents beside highway or local road the possibility of accidents likely to be much more than other places. A junction of the road is also vulnerable place for accident. A report (Alim and others 2006) suggested that unauthorised vehicle, their vulnerable condition and other reasons such as overload and illegal parking cause accident and pedestrian unmindful has also cause accident while they are using local roads and highways.

In 2011 after the tragic road crashes in which several show biz celebrities, school students and secretaries of the Government lost their lives, an emergency meeting of the National Road Safety Council (NRSC) invited BRAC and Army to establish driving training school to train drivers and driver instructors. BRAC immediately responded and launched its driving training school of international standard.

BRAC's road safety programme includes educating as many of the Bangladeshi poor as possible about road safety, raising awareness in communities living beside major roads and highways and training commercial vehicle drivers on safe and defensive driving. BRAC's road safety programme is an ETP (education, training and publicity) programme. It must not be forgotten that ETP goes hand in hand with law enforcement, as it gives people, including offenders, the chance to correct their mistake by enrolling in courses on safe driving.

Considering the present context of road safety issues in Bangladesh, BRAC road safety programme initiates on community centric approach by incorporating community members, educational institutions and drivers to increase the knowledge and thereby change their behaviours on road safety. The programme intervention's underlying goal is to achieve zero fatal road accident by creating awareness campaign. The proposed intervention of the programme will launch actions with the aid of different stakeholders with different plans of activities to achieve the intervention's objectives. The programme intervention includes road safety education to the students and teachers for roadside educational institutions; road safety training for motor and non-motor drivers, training to the community group. To attain this goal, programme has taken initiative to make aware by giving training and workshop to students, teachers, both motor and non-motor (rickshaw and rickshaw van) drivers and form a committee named Community Road Safety Programme (CRSP) through different interventions to avert casualty and other kinds of damages.

The study intends to understand the current status of individual and group level knowledge and attitude level of drivers and community members regarding road safety. This study however has some specific objectives to answer the core research question on the ground of which this research stands. Broader objective of the study is to assess road safety awareness of people living beside and using roads in the project areas by involving community with a view to reduce road crashes.

The specific objectives of the study are:

1. Assessment of the level of knowledge, behaviour and partial attitude of motor and non-motor drivers.
2. Assessment of the knowledge level of students.
3. Assessment of the knowledge of the community people from bazaars, market or common inhabitants.

Chapter 2.

Methods

The study conducted a baseline survey of selected drivers and students to be intervened along with a corresponding control group of non-intervened drivers and students in the neighbouring Thana under same districts. Baseline survey data would be compared with end term survey data one year later. The study would map changes over time between baseline and end-term periods, and between treatment and control groups. Incorporating a control group into the baseline study allowed accounting for external factors that influence outcomes. Such factors were likely to equally affect treatment and control groups and therefore, differences might be attributed to the intervention alone.

The study was carried out in two spots selected randomly out of four areas in the project. The selected spots were in two districts such as Sreepur to Barmi Bazaar road (approx 9 km) under Gazipur district and Teknaf bus stand to Shamlapur Bazaar (approx 32 km) under Cox's Bazaar district. The target population was road users of different stakeholders. These were: heavy motor driver non-motor driver: rickshaw and rickshaw van, community people and students. However, the distribution of questionnaire survey, FGDs and KII are as in the following table:

Table: Sample size

Group	Population Size	Actual Sample (Treatment + Control)
Gazipur		
Motor	350	235
Non-motor	350	235
Student (class VI and VIII)	1200	190
Cox's Bazaar		
Motor	350	235
Non-motor	350	235
Student (class VI and VIII)	1200	190
Gazipur and Cox's Bazaar		
Community people	16 Interviews	16 FGDs

Margin of error 5 per cent and confidence interval at 95 per cent

The study predominantly used quantitative method by taking consideration of describing a few issues as included in survey questionnaire. As intervention messages and activities are different, instruments is used to collect data from different stakeholders. The status of knowledge and behaviour towards road safety were gathered using survey questionnaire. A short qualitative survey questionnaire was administered for assessing mainly knowledge level of the community people with a view to understand the initial phase of group intervention considering socio-demographic information of the local members. Assessment of community people was studied qualitatively through focus group discussion (FGD) and

a few in-depth interviews that would help to examine how the objectives of group formations were met.

Because of the semi-structured data nature, the raw field data had been edited with necessary clarification and code. After coding all the collected data, data cleaning was also executed finally when the entry had been finished. STATA software was used for quantitative data entry and analysis.

Chapter 3.

Results

The study conducted survey with different indicators on road safety issues that were categorised into motor drivers, non-motor drivers and students. The key findings over the baseline survey are as follows in the selected tables.

3.1 Assessment of heavy vehicles

3.1.1 Socio-demographic profile

In finding socio-demographic profile of the respondents, the study assessed some key issues of the respondents which include about their family members, age, education, income and marital status. In case of total family members at the household level, average 3 to 5 members were found in the highest per cent of the respondents as followed by about 36 per cent and 47 per cent respondents in treatment and control group respectively (Table 1). The difference between treatment and control group was found at significant level when average family members were counted on 3 to 5 per household; but in counting with other numbers, the difference between treatment and control group were not statistically significant. The age between 18 to 40 years old was found among most of the respondents followed by about 78 per cent and 83 per cent respondents in treatment and control group respectively. The study found few respondents which were less than 18 years old (about 10 per cent and 3 per cent respondents in treatment and control group respectively) and the difference between these groups were found statistically significant (Table 1). In case of achieving education, most of the respondents were passed from primary school (about 44 per cent and 34 per cent respondents in treatment and control group respectively) while the difference of findings were significantly different between two groups. In case of finding income status among the respondents, the highest 38.72 per cent households of treatment group had monthly income on around 15000 BDT or more, and the difference between treatment and control group was different significantly. The average monthly income between BDT 10,000 to 15,000 was found among about 37 per cent and 33 per cent households of treatment and control group respectively whereas the difference between these groups was not significant (Table 1). In the study, about 77 per cent and 83 per cent respondents were married in treatment and control group respectively.

Table 1. Socioeconomic profile of the motor drivers

Indicators and Answers	% of Respondents			
	Treatment Group	Control Group	p value	
Number of Family Member/s (Nos)	1-3	8.51	8.47	0.98
	3-5	35.74	46.61	0.01*
	5-7	31.49	24.58	0.09
	7+	24.26	20.34	0.30
Age (years)	<18	9.79	3.39	0.00*
	18-40	78.3	83.47	0.15
	40-60	11.49	12.29	0.78
	60+	0.43	0.85	0.56

(Table 1 continued.....)

(.....continued Table 1)

Indicators and Answers		% of Respondents		
		Treatment Group	Control Group	p value
Education	Class I to V	44.26	34.32	0.02*
	Class VI to VIII	28.51	36.02	0.08
	Class IX to SSC	6.38	10.59	0.10
	HSC	0.43	0.42	0.99
	Only Signatory	12.77	15.25	0.43
	Illiterate	7.66	3.39	0.04*
Monthly Income (BDT)	<5000	0.85	4.24	0.01*
	5000-10000	23.4	41.1	0.00*
	10000-15000	37.02	33.05	0.36
	15000+	38.72	21.61	0.00*
Marital Status	Married	77.45	83.05	0.12
	Unmarried	22.13	16.95	0.15
	Divorced/separated	0.43	0	0.31

3.1.2 Motivation of the drivers in driving

It was assessed on ground of the drivers' motivation in coming to the driving profession. Regarding this, the study found that the family members were the main sources of respondents' motivation mostly as they had come in driving profession. The highest about 44 per cent respondents of treatment group came in driving profession because of their family members' influence on them. On the other hand, about 34 per cent and 43 per cent respondents of treatment and control group were self motivated for coming in this profession whereas the difference between treatment and control group was significant. Few per cent of respondents told about their driving interest that had grown from their relatives, local people and friends.

Table 2. Motivation of the drivers in their profession

Indicators and Answers		% of Respondents		
		Treatment Group	Control Group	p value
Sources of motivation to come in profession of driving	Family	44.26	38.14	0.17
	Relatives	11.06	8.05	0.26
	Local people	8.51	10.17	0.53
	Self	34.04	43.22	0.04*
	Friend	2.13	0.42	0.09
General reasons for coming in driving profession	To get rid of unemployment	11.49	13.98	p value was not calculated when multiple responses counted
	To get instant income	34.04	27.97	
	No opportunity in other income	10.64	7.63	
	To be with freedom	20.43	14.83	
	Self satisfaction	12.34	9.32	
	Extreme poverty	10.64	15.25	

(Table 2 continued.....)

(.....continued Table 2)

Indicators and Answers		% of Respondents		
		Treatment Group	Control Group	p value
Driving profession is risky compared to other profession	Yes	95.74	97.88	0.18
Main reason for coming in driving profession even it is risky	Freedom	10.67	15.58	p value was not calculated when multiple responses counted
	No skills on other work	18.22	18.61	
	Poverty	14.67	19.05	

Apart from the sources of driving motivation, most of the respondents (about 34% and 28% respondents among treatment and control groups) had come in this profession to get the instant income. Among other choices, freedom of profession was caused as the most significant matter among the respondents along with other reasons such as being employed, not getting alternative income sources, self satisfaction and living in poverty level (Table 2).

The highest about 96 per cent and 98 per cent respondents respectively of treatment and control group thought that they had come in driving profession despite their familiarity of this risky profession. Overall, the study found main factors of the respondents for their coming in driving profession in spite of its risky nature. The factors are like freedom of profession, no skills on other works and poverty condition of the respondents (Table 2).

3.1.3 Vehicle types and earnings

The assessment was shown on the type of vehicles of drivers, ownership, status of earning money and the matters of taking leisure every day. Regarding vehicles for driving, the study found CNG and Auto Rikshaw as the most frequent driving vehicles of the respondents. About 59 per cent and 60 per cent respondents of treatment group drive CNGs compared to about 26 per cent and 20 per cent respondents in control group. The study found very few numbers of respondents who drive Bus or Minibus (Table 3). In case of driving with bus or minibus, the difference between treatment and control group was found to be statistically significant while it was not significant for CNG and Auto Rikshaw.

Among these vehicles, drivers rented most of the vehicles followed by about 51 per cent and 57 per cent respondents in treatment and control group respectively. The second highest respondents, about 47 per cent and 40 per cent of treatment and control group respectively drive their own vehicles (Table 3).

The respondents usually earn money by trip wise driving, or daily basis followed by the respondents who had rented vehicles. About 83 per cent and 69 per cent respondents of treatment and control group thought to earn extra money beyond the scheduled trip. As the reasons of their additional trip, the study found some causes in treatment group, mainly for instant more income (80%), repay loan (24%) and buying something special for family members (22%).

On the other hand, the main reasons found in control group, especially for vehicle owner's pressure (74%), repay loan (21%) and buying something special for family members (11%). About 62 per cent and 61 per cent respondents of treatment and control group were found who usually drive their vehicles every day a week. The respondents told that they should have average rest period three hours per day whereas they actually took rest less than three hours per day during the survey (Table 3).

Table 3. Types of vehicles and earning money

Indicators and Answers		% of Respondents		
		Treatment Group	Control Group	p value
Type of Vehicle you drive	CNG	59.15	60.17	0.82
	Auto Rikshaw	25.53	20.34	0.18
	Bus (long route)	8.09	0.85	0.00*
	Mini bus	7.23	18.64	0.00*
Ownership of vehicle	Self	47.23	39.83	0.10
	Company	1.28	2.97	0.20
	Lease	51.49	57.2	0.21
Different ways of earning money from driving (except self ownership)	Trip wise	26.38	25.85	0.89
	Daily	26.81	35.59	0.03*
	Monthly	0.43	0	0.31
Drivers' expectation for additional trip	Yes	83.4	69.49	0.00*
Why to think for additional trip	In case of sickness of family members	9.69	3.05	p value was not calculated when multiple responses counted
	To buy something special for family members	21.94	10.98	
	To repay loan	23.98	21.34	
	To start with additional business	2.04	4.88	
	At time of getting force from vehicle owner	2.04	74.39	
	For additional income	80.1	1.83	
Driving everyday in a week	Yes	62.13	60.59	0.73
Should take rest in a day (hr)	1-2	40.00	33.47	0.14
	>2-3	36.17	48.73	0.00*
	>3-4	19.15	16.53	0.45
	4+	4.68	1.27	0.02*
	Average	2.86	2.79	0.36
Average rest time per day (hr)	1-2	49.36	70.76	0.00*
	>2-3	28.51	19.92	0.02*
	>3-4	16.60	5.51	0.00*
	4+	5.53	3.81	0.37
	Average	2.61	2.15	0.00*

3.1.4 Training and License

The study showed that the respondents mostly received first lessons of driving from their *Ostad* (about 66 per cent and 75 per cent respectively in treatment and control group) followed by the second highest sources was *helper* of the vehicles (about 16% and 14% respectively in treatment and control group). In the process of getting license, about the highest 80 per cent and 70 per cent respondents from treatment and control group had not received license where the difference between group was found statistically significant ($p=0.02$). Few respondents as about 19 per cent and 29 per cent respectively from treatment and control group got license undertaking exam through the BRTA ($p=0.01$). Among all the receiver of driving license, most of the respondents, about 89 per cent and 88 per cent respondents respectively from treatment and control group got training after they had started driving.

Table 4. License and training of the drivers

Indicators and Answers		% of Respondents		
		Treatment Group	Control Group	p value
Membership of Labour Union	Yes	67.66	64.41	0.45
First lessons of driving from	<i>Ostad</i>	65.96	75.42	p value was not calculated when multiple responses counted
	Helper	16.17	13.98	
	Trained driver	5.96	0	
	Cousin	5.53	3.39	
	Others	6.38	7.21	
The process of getting license	Exam through BRTA	18.72	28.81	0.01*
	Broker	1.28	0.85	0.65
	No license	80	70.34	0.01*
If any training drivers got after starting drive	Don't get training	88.94	87.71	0.67
	NGO	0.43	0.42	0.99
	BRTA	10.64	10.59	0.98
	Trade union	0	1.27	0.08

3.1.5 Driving rules and punishments of violating the rules

The study asked the drivers on some rules and regulations that should be obeyed by them when they drive. A total 10 types of necessary rules were usually followed by the drivers, where the government imposed several punishment criteria in respect to the violations of these rules. However, the interview conducted to the drivers focusing the issues if they should obey these rules, or not during driving. However, the findings were found in most of the cases where speed limit had been followed in the road (Table 5). About 75 per cent and 79 per cent drivers respectively from treatment and control group thought that they should not drive over speed limit. In the second highest respondents, about 57 per cent and 65 per cent respondents were found while they should keep license during driving. In the least possible maintaining the rules, about 1 per cent respondents in both group thought that they should use seat belt. On the other hand, about 3 per cent and 1 per cent of the respondents respectively from the treatment and control group did not know about the driving rules and regulations (Table 5).

Overall assessment of the rules if maintained by the drivers, the highest 68 per cent and 80 per cent respondents from treatment and control group did not obey the rules at regular basis, but they sometimes maintained driving rules. On the other hand, all the driving rules were strictly maintained by about 28 per cent and 18 per cent drivers of the treatment and control group respectively (Table 5).

In the status of not possible to obey the driving rules, the highest about 46 per cent respondents of the treatment group told that the speed limit and use of mobile phone were not maintained by them whereas, it had been counted about 47 per cent and 50 per cent respondents of the treatment and control group respectively. The drivers preferred to carry excess passengers beyond the vehicle capacity while about 44 per cent and 37 per cent respondents thought that the reduction of overloading with the excess passengers were not possible to the drivers (Table 5).

Table 5. Rules, regulations and punishment of illegal driving

Indicators and Answers		% of Respondents		
		Treatment Group	Control Group	p value
Drivers should obey the rules and regulations in regarding the issues on...	Speed limit	74.89	79.24	p value was not calculated when multiple responses counted
	Carrying goods	19.57	23.73	
	Carrying passengers	41.28	48.73	
	crossing	15.74	24.15	
	parking	18.30	19.49	
	Keeping license	56.60	65.25	
	Maintaining Insurance	7.66	16.53	
	Maintaining necessary papers	35.32	38.56	
	Using seat belt	0.85	0.85	
	Using mobile phone	36.60	54.66	
	Don't know	2.98	1.27	
Status of obeying all the rules?	Yes	28.07	18.45	p value was not calculated when multiple responses counted
	No	3.51	1.72	
	Not always	68.42	79.83	
Status of not possible to obey the specific rules	Speed limit	46.38	47.03	p value was not calculated when multiple responses counted
	Carrying goods	10.21	13.56	
	Carrying passengers	44.26	37.29	
	crossing	4.26	13.14	
	parking	10.21	13.98	
	Keeping license	39.57	39.83	
	Maintaining Insurance	4.68	4.66	
	Maintaining necessary papers	14.47	12.29	
	Using seat belt	9.79	8.05	
	Using mobile phone	45.53	50.42	

(Table 5 continued.....)

(.....continued Table 5)

Indicators and Answers	% of Respondents			
	Treatment Group	Control Group	p value	
Reasons for not possible to obey the rules	Lack of arrangement for using seat belt	10.21	8.05	p value was not calculated when multiple responses counted
	Getting license is expensive	27.23	24.58	
	Necessity to receive urgent mobile call	45.96	49.58	
	Keeping papers is useless	10.64	5.93	
	In advanced of taking serial	18.3	13.14	
	Passengers' force in increasing speed	17.45	24.15	
	Carrying extra passengers to earn extra income	27.23	22.46	
Drivers know about the respective punishment that exists when violate the rules in the following issues	Unlimited speed	65.96	74.15	0.05*
	Carrying excess goods	74.89	74.58	0.93
	Carrying excess passengers	79.15	80.51	0.71
	Illegal crossing	73.19	81.36	0.03
	Illegal parking	72.34	80.08	0.04*
	Not keeping license	90.64	92.8	0.39
	Not maintaining Insurance	40.85	67.37	0.00*
	Not maintaining necessary papers	88.09	93.64	0.03*
Not using seat belt	17.02	39.83	0.00*	
Using mobile phone	68.09	80.08	0.00*	

The study tried to understand the reasons of the drivers as why they did not obey the rules. Among all the reasons, the selective important reasons were shown in Table 5 in respect to the responses of the drivers. About the highest 46 per cent and 50 per cent drivers respectively from the treatment and control group told about the use of mobile phone during drive. They received mobile phone call when they drove, because their phone calls were urgent to receive. Another reason was about the expensiveness of getting the vehicle license where the responses were come from about 27 per cent and 25 per cent respondents of the treatment and control group respectively. Among the other reasons, the drivers had lack of arrangement for using seat belt, poor mindsets to take extra advantages with additional passengers, additional trip, and no vehicle papers or over speed. The detail was shown in Table 5.

In another inquiring with the drivers, the study found the per cent of drivers who were violating the rules of driving even they were well known about the punishment for violating the respective rules. The detail findings on 10 issues of violating rules were given in Table 5.

3.1.6 Road accident points and reasons

The drivers were asked to find out about the reasons of road accident as they perceived over the long experiences. Regarding the issue, the study found the reasons in different context based on road structure and driver's mistake mainly. In case of road related causes of accident, most of the drivers (about 89% and 94% drivers respectively from treatment and control group) agreed that the bend of road was the most vulnerable point on the highway where accidents mostly happened (Table 6). Among the other vulnerable places of the road, the road side adjacent to bazaar and school or college was mostly voiced as the reasons of road accident. The relevant proportion of drivers' % responses was shown in Table 6.

Some reasons were found as causes of road accident while the drivers had mistaken in several activities. Among the drivers' mistake, the majority of the respondents (about 70% respondents of both two groups respectively) agreed that the over speeding and overtaking were the main reason of road accident. Other reasons could be overloading, irregular checking of vehicles or use of mobile phone while driving a vehicle (Table 6).

The study tried to understand the perception about the meaning of road accident from the drivers where most of the respondents, about 88 per cent and 95 per cent respondents respectively from two groups meant the road accident as the cause of making people injured. As the result of accident, only death was also defined by the meaning of road accident as mentioned by about 75 per cent and 89 per cent drivers respectively from both the groups (Table 6).

Table 6. Road accident and its reasons as perceived by drivers

Indicators and Answers		% of Respondents		
		Treatment Group	Control Group	p value
Various locations of road are vulnerable for road accident	Bend	82.55	94.07	p value was not calculated when multiple responses counted
	Narrow bridge	22.13	31.78	
	School/college	60.85	54.66	
	Bazaar	68.94	77.12	
	Broken road	10.64	8.05	
	Others	5.95	4.24	
Drivers' mistakes in accelerating road accident	Increasing speed	69.79	74.15	p value was not calculated when multiple responses counted
	Carrying excess goods and passengers	27.23	13.56	
	Overtaking	71.06	67.37	
	Lack of regular check of vehicles	16.17	19.92	
	Using mobile phone during drive	13.19	12.29	
	Others	5.54	10.17	
Definition of Road Accident as perceived by drivers	Injured	87.66	94.49	p value was not calculated when multiple responses counted
	Death	75.32	88.56	
	Damage of vehicle	73.62	77.97	
Victim in road accident	Yes	23.4	24.15	0.8491

(Table 6 continued.....)

(.....continued Table 6)

Indicators and Answers		% of Respondents		
		Treatment Group	Control Group	p value
Whom do you blame for road accident	Drivers	68.09	64.41	p value was not calculated when multiple responses counted
	Pedestrians/children/students	28.94	29.66	
	Cattles and sheep rearing	15.32	5.93	
	Government	11.49	6.78	
Reasons for blame of them	Don't know the rules on walk or crossing the road	28.09	30.51	p value was not calculated when multiple responses counted
	Cattles are on road	17.87	7.20	
	High speed	29.36	24.58	
	Drive without maintaining rules	14.89	18.22	
	No repairing broken road	14.89	5.08	

The study found that about 23 per cent and 24 per cent drivers respectively from treatment and control group were victim in road accident. In most of the cases of road accident, drivers had been blamed mainly, and other agents of road accident were pedestrians, children, students and cattle rearing on the road were significantly raised by the respondents (Table 6). As the reasons for giving blame to these agents, the highest about 28 per cent and 31 per cent respondents respectively from both the group agreed that the agents did not know the rules on walk or crossing the road (Table 6).

3.1.7 Knowledge on traffic signs

The study assessed the knowledge level on different traffic signs of the respondents. In table 7, the knowledge score on traffic signs had been grouped into four range, such as 1-25, 26-50, 51-75 and more than 75 out of maximum 100. However, most of the respondents were scored between 26 to 50 while the difference between the treatment and control group was not statistically significant. The score between 51 to 75 was achieved by about 24 per cent and 32 per cent respondents of two groups respectively which was found statistically different between these groups. The average score of the drivers were about 39 per cent and 42 per cent respectively of the treatment and control group.

Table 7. Knowledge score on traffic signs

Knowledge Score on Traffic signs	% Respondents (motor drivers)			
	Treatment	Control	Diff	p value
1-25	27.66	24.58	3.08	0.45
26-50	44.68	37.29	7.39	0.10
51-75	23.83	31.78	7.95	0.05*
76-100	3.83	6.36	2.53	0.21
Average Score	38.85	41.85	3.0	0.10

3.2 Assessment of non-motor drivers

3.2.1 Socio-demographic profile

Likewise motor vehicle drivers, the study conducted survey among the non-motor drivers such as rickshaw and rickshaw van mainly. In finding socio-demographic profile of the respondents, the study assessed some key issues of the respondents which include about their family members, age, education, income and marital status. In case of total family members at the household level of the non motor drivers, average 3 to 5 members were found in the highest per cent of the respondents as followed by about 43 per cent and 57 per cent respondents in treatment and control group respectively (Table 8). The difference between treatment and control group was found at significant level when average family members were counted on 3 to 5 per household; but in counting with other numbers, the difference between treatment and control group were not statistically significant except finding more than 7 members per household.

The age between 18 to 40 years old was found among most of the respondents followed by about 58 per cent and 74 per cent respondents in treatment and control group respectively. The study found few respondents which were less than 18 years old (about 16 per cent and 3 per cent respondents in treatment and control group respectively) and the difference between these groups were found significant statistically (Table 8).

Table 8. Socioeconomic profile of the non-motor drivers

Indicators and Answers	% of Respondents			
	Treatment Group	Control Group	p value	
Number of Family Member/s (Nos)	1-3	22.05	20	0.60
	3-5	42.91	56.86	0.00*
	5-7	24.41	18.04	0.08
	7+	10.63	5.1	0.02*
Age (years)	<18	15.69	3.14	0.00*
	18-40	57.65	74.12	0.00*
	40-60	24.31	21.96	0.54
	60+	2.35	0.78	0.15
Education	Class I to V	20.31	36.08	0.00*
	Class VI to VIII	4.69	5.88	0.54
	Class IX to SSC	0.78	2.35	0.15
	HSC	0.78	0	0.15
	Only Signatory	32.03	27.45	0.25
	Illiterate	41.41	28.24	0.00*
Monthly Income (BDT)	<5000	11.07	3.92	0.00*
	5000-10000	78.66	89.41	0.00*
	10000-15000	9.88	6.67	0.20
	15000+	0.4	0	0.31
Marital Status	Married	84.38	92.94	0.00*

In case of education status of the respondents, most of the respondents were illiterate (about 41 per cent and 28 per cent respondents in treatment and control group respectively) while the difference of findings were significantly different between treatment and control

groups. The second highest respondents, about 32 per cent and 27 per cent respectively of two groups were found only signatory in education status.

In case of finding income status among the respondents, the highest 79 per cent and 89 per cent households respectively from treatment and control group had monthly income between BDT 5,000 to 10,000 while the income difference between two groups was statistically significant. The average monthly income, BDT less than 5,000 was found among about 11 per cent and 4 per cent households of treatment and control group respectively whereas, the difference between these groups was statistically significant (Table 8). In the study, about 84 per cent and 93 per cent respondents were married in treatment and control group respectively.

3.2.2 Vehicle types, training and license

The study found that about 87 per cent and 84 per cent respondents respectively from treatment and control groups drove rickshaw; and rest of them were Rickshaw-van driver (Table 9). Among them, most of the drivers had their own vehicles followed by about 64 per cent and 48 per cent respondents in two groups respectively. Most of the drivers drive their vehicles without having license where only about 28 per cent and 22 per cent drivers of two groups had obtained their license. However, all of these licenses were not owned by themselves followed by the highest about 22 per cent and 61 per cent respondents respectively from the treatment and control groups ($p=0.00$). In findings, only about 1 per cent respondents in both groups received training for safe driving (Table 9).

Table 9. Type of vehicles, ownership and training of the non-motor drivers

Indicators and Answers		% of Respondents		
		Treatment Group	Control Group	p value
Types of vehicle	Rikshaw	87.11	83.92	0.30
	Rikshaw-van	12.89	16.08	0.30
Ownership of the vehicle	Own	63.67	47.84	0.00*
	Samity	0.39	0	0.31
	Self ownership	21.48	28.24	0.07
	Garage	14.45	23.92	0.00*
Have license	Yes	28.13	22.35	0.13
Ownership of license	Yes	77.78	38.6	0.00*
Get trained for safe driving	Yes	0.39	1.18	0.31

3.2.3 Driving in highway

The study assessed on knowledge level of the respondents when they were used to drive in highway. It was found that only about 18 per cent respondents of the treatment group drove in highway followed by about 76 per cent drivers in the control group ($p=0.00$). The respondents were asked about the process of driving in highway and found that the highest about 82 per cent and 91 per cent drivers respectively from two groups responded as they followed adjacent to the left side of highway when they drove in highway. Most of the respondents (about 80% and 89% respondents of two groups respectively) agreed that bending point of road was indicated as the most vulnerable side of road accident. Uneven

or broken road might be another cause of road accident raised by about 61 per cent and 46 per cent respondents respectively from the treatment and control groups. The respondents were asked- why they used highway even the highway was restricted to drive for non motor vehicles. Regarding this question, more income was possible when they drove in highway; even the highest about 70 per cent and 80 per cent respondents of two groups respectively believed that the accident might be happened because of their driving in highway (Table 10).

Table 10. Driving in highway of the non-motor drivers

Indicators and Answers		% of Respondents		
		Treatment Group	Control Group	p value
Driving in highway	Yes	17.58	76.47	0.00*
Process of driving in highway	Through solder outside of white border	9.38	5.88	p value was not calculated when multiple responses counted
	Adjacent to the left side	82.03	91.37	
	Don't know/wrong	9.77	2.75	
Points for accident vulnerability	Bend	79.69	89.41	p value was not calculated when multiple responses counted
	Narrow bridge	10.16	13.73	
	School/college	38.28	36.47	
	Bazaar	50	58.04	
	Broken road	60.55	46.27	
Benefits or problems in highway due to carry of additional goods or passengers	Others	2.73	5.1	p value was not calculated when multiple responses counted
	Don't get any problem	7.81	2.76	
	Accident	69.53	79.92	
	More income	46.48	43.7	
	Don't know/wrong	5.08	1.57	
	Vehicle may be malfunctioned	2.73	3.54	
	Harassment by police	0	0.79	
Physical or mental sufferings	0.78	6.69		
	Tire puncture	4.3	2.76	

3.2.4 Reasons of accidents

The study found that about 25 per cent and 29 per cent respondents respectively from the treatment and control group was victim in road accident while the difference between the groups was not statistically significant (Table 11). The respondents were asked to know the reasons of accident in their locality. In this regard, the highest 50 per cent respondents of treatment group thought that the accident was happened since the people did not know the rules for using road. On the other hand, the highest about 63 per cent respondents of control group told about the high speed of the vehicles which was the main reason of local road accident. In most of the cases of road accident, about 54 per cent and 65 per cent respondents respectively from the treatment and control group blamed drivers as the main agent of road accident. Giving blame to the drivers was caused by their increasing trend of speed of the vehicles. About the highest 38 per cent and 28 per cent respondents respectively from the treatment and control groups told about the drivers' tendency to increase high speed of the vehicles (Table 11).

Table 11. Accidents and reasons of accident as perceived by the non-motor drivers

Indicators and Answers		% of Respondents		
		Treatment Group	Control Group	p value
Victim in accident	Yes	25	29.02	0.30
Reasons of accident in locality	Don't know the rules of road use	49.61	52.94	p value was not calculated when multiple responses counted
	Don't know how to drive	33.59	47.45	
	Don't know how to cross road	22.66	38.04	
	Limited space for footpath	36.33	27.45	
	High speed of Rikshaw/Rikshaw-van	42.58	62.75	
	Broken road	8.20	1.18	
	Others	7.03	5.88	
Whom do you blame for road accident	Driver	53.91	64.71	p value was not calculated when multiple responses counted
	Pedestrians	17.58	19.22	
	Government	8.59	7.06	
	Vehicles	12.89	3.92	
What reasons	Breaking the rules of driving	11.33	8.24	p value was not calculated when multiple responses counted
	Pedestrians don't know rules for crossing the road	18.36	22.75	
	High speed of vehicles	38.28	28.24	
	Broken road	12.89	4.31	
	Cattle and sheep rearing on road	7.03	2.35	

3.2.5 Knowledge on traffic signs

The study assessed the knowledge level on different traffic signs of the respondents. In Table 12, the knowledge score on traffic signs had been grouped into four range, such as 1-25, 26-50 and 51-75 out of maximum 100. However, most of the respondents (about 60% in both groups) were scored between 26 to 50 while the difference between the treatment and control groups was not statistically significant. The highest score was measured between 51 to 75, achieved by about only 2 per cent and 3 per cent respondents of two groups respectively while the difference between two groups was not statistically significant. The average score of the non motor drivers was about 31 per cent in both treatment and control groups.

Table 12. Knowledge score on traffic signs

Knowledge Score on Traffic signs	% Respondents (Non-motor drivers)			
	Treatment	Control	Diff	p value
1-25	36.72	36.47	0.25	0.95
26-50	60.94	60.39	0.55	0.90
51-75	2.34	3.14	0.8	0.58
Average Score	31.34	31.52	0.18	0.82

3.2.6 Key assessment skills

About 28 per cent and 22 per cent respondents respectively from the treatment and control groups had license or other legal documents of the vehicles. Around 1 per cent respondents in both groups had received training for safe driving. About 31 per cent respondents of both groups were aware of traffic signs.

Table 13. Assessment of driving skills of the non-motor drivers

Indicators and Answers		% of Respondents	
		Treatment Group	Control Group
License/legal documents	yes	28.13	22.35
Trained up for safe driving	yes	0.39	1.18
Aware of traffic signs	Have knowledge	31.34	31.52

3.3 Assessment of students

3.3.1 Basic information of the students

Concerning road safety knowledge and experiences of the students from secondary school, the study conducted survey among the students selected from class VI and VIII in the project areas. Among the students, the number of class VI and class VIII students was about 47 per cent and 53 per cent respectively in the treatment group. On the other hand, the number of students was about 36 per cent and 64 per cent respectively in the control group (Table 14).

Table 14. Basic information of the students

Indicators and Answers		% of Respondents	
		Treatment Group	Control Group
Educational Qualification	Class VI	47.04	36.11
	Class VIII	52.96	63.89
Sex	Male	58.15	65
	Female	41.85	35

3.3.2 Student familiarity with road and vehicles

Based on student interviews, the study asked about the local vehicles in the project areas. However, the highest about 94 per cent and 92 per cent students respectively from the treatment and control groups told that CNG was very common vehicles in their locality. Among other existing local vehicles, cycle, rickshaw, rickshaw-van, motor cycle, mini-bus and battery vehicle were responded by more than 50 per cent students in the treatment group. The details were shown in Table 15.

Students sometimes received knowledge on road safety from different sources. In this regard, the study found that most of the students (about 94 per cent and 98 per cent students respectively from the treatment and control groups) received knowledge from their parents. The teachers were their second choice of learning on how to use road. However, the relative sources of student s' knowledge regarding road safety were shown in Table 15.

Table 15. Introduction of vehicles and road safety with the students

Indicators and Answers		% of Respondents	
		Treatment Group	Control Group
Local vehicles	Cycle	68.89	74.44
	Motor cycle	75.93	69.44
	Rikshaw	84.81	86.67
	Baby taxi/tampu/maxi/nosimon korimon/mahindra	35.56	54.45
	Car	30.37	38.33
	Minibus	58.89	62.78
	Bus	24.81	50
	Rikshaw-van	51.11	47.22
	Lori	44.07	28.89
	CNG	93.7	91.67
	Battery vehicle	50.74	60.56
	<i>Thela gari</i>	0.37	0
	Chander gari	7.04	0
Sources of students' knowledge for road use	Parents	94.44	97.78
	Teachers	52.22	51.11
	Friends/neighbours	17.41	15.56
	Brothers/sisters	20.37	17.22
	Others	6.67	7.22
Communication vehicles to reach at schools	Cycle	19.26	9.44
	Motorcycle	4.07	5
	Rikshaw	26.67	33.89
	On foot	60.37	70.56
	CNG	8.89	6.11
	Battery vehicle	16.67	8.33
Regarding the road safety, whom do you discuss with	School bus	9.26	0
	Parents	65.93	75.00
	Teachers	15.93	33.33
	Friends/neighbours	38.89	31.11
	Don't do discuss	10.00	10.56
Regarding the road safety, participation in NGO/local/political or any other meeting	Others	4.81	2.23
	Yes	8.52	4.44

In the project areas, most of the students (about 60% and 71% students respectively from the treatment and control groups) used to go to school on foot. Otherwise, Rikshaw was the first choice of the students to go to the school followed by about 27 per cent and 34 per cent students respectively from the treatment and control groups. Among other vehicles, the students used battery vehicle, cycle, motorcycle, CNG and school bus (Table 15).

For the discussion partner, students mostly preferred their parents whom they discussed with. About 66 per cent and 75 per cent students respectively from the treatment and control groups discussed on road safety issues with their parents. Friends or neighbours were the

second choice of the students whom they discussed with about the matter (Table 15). Only 9 per cent and 4 per cent students respectively from the treatment and control groups participated sometimes in a meeting related to road safety issues.

3.3.3 Road accident points, reasons and precaution measures

Students were asked to tell about the vulnerable points of the road where the accidents usually took. In this regard, the highest about 75 per cent and 88 per cent students respectively from the treatment and control groups told that the accident was mostly happened at broken road or bridge (Table 16). Bend of the road and Bazaar area of the road are other major vulnerable places for road accident where around 60 per cent students in both groups agreed with the statement.

In case of highway accident, most of the students (about 75 per cent and 80 per cent respectively from the treatment and control groups) blamed CNG as the most accountable for accident. According to the students, Rickshaw was the second highest responsible agent for road accident (Table 16).

As the reasons of road accident, students thought that the high speed of the vehicles was the main reason to accelerate the accident. In this regard, about 54 per cent and 71 per cent respondents respectively from the treatment and control groups agreed the statement. On the other hand, a major portion of the students, about 50 per cent from both groups told that peoples' lack of knowledge about using the road rules was an important reason for road accident.

To reduce the road accident, students' importance was given to the repairing of the road where necessary. Almost 60 per cent students from both groups were agreed on repairing the broken road. In reducing road accidents other important issues raised by the students such as making aware of the children and drivers on traffic rules, laws and techniques of road use.

In reducing road accident, most of the students (about 72% and 76% respectively from the treatment and control groups) had given an importance to the drivers who should be given first priority to make them aware. In the next to the drivers, students thought that the pedestrians and they should be aware of the traffic rules and how to use road (Table 16).

In the process of building road safety awareness, most of the students (about 34% and 65% respectively from the treatment and control groups) thought that the relevant poster could be a better campaigning. In other ways, reforming the formal school syllabus, arranging local meeting or discussions and hanging billboard could be demonstrated to ensure the road safety awareness of the people (Table 16).

Table 16. Road accidents and reasons as perceived by the students

Indicators and Answers		% of Respondents	
		Treatment Group	Control Group
Vulnerable points in road for road accident	All places	8.15	10
	Road without footpath	17.41	16.11
	Junction	21.11	26.67
	Sleeper of bridge	6.67	12.22
	Bridge	10.74	6.11
	Broken bridge/road	74.82	87.77
	Bazaar	57.78	69.44
	Round about	22.96	18.33
	Bend of the road	58.89	60
	Others	7.03	9.46
Vehicles in highway are blamed for accident	Cycle	35.93	49.44
	Motorcycle	47.41	59.44
	Rikshaw	62.96	63.33
	Baby taxi/ <i>tampu</i> /maxi/ <i>nosimon korimon</i> /mahindra	31.86	32.78
	Car	7.78	10.56
	Minibus	8.89	12.22
	Bus	14.81	8.89
	Rikshaw-van	28.52	32.22
	Lori	11.48	7.78
	CNG	75.19	80
Reasons for accident in local road	Battery gari	40.37	56.67
	Don't know the rules on walk on road	48.15	52.22
	Don't know the rules how to drive	35.56	43.33
	Don't know the rules on crossing the road	33.33	41.11
	Limited space adjacent to road	26.3	32.78
	High speed of vehicles	54.07	71.11
	Speed breaker at intersection of roads	3.33	11.11
	No road side indicators/directions	8.89	11.67
	Broken road	17.78	5.56

(Table 16 continued....)

(...continued Table 16)

Indicators and Answers	% of Respondents			
	Treatment Group	Control Group		
Necessary steps should be taken for reducing road accident	Make aware children	48.52	40.56	
	Make aware drivers for road safety	45.93	36.67	
	Establishment of footpath	29.26	43.33	
	Make aware drivers for traffic laws	34.07	54.44	
	Establishment of speed breaker in front of school/college	30.37	40.56	
	Set up signals/indicators in road where necessary	12.59	17.78	
	Establishment of speed breaker at intersection	3.33	5.56	
	Repairing road where necessary	60.74	57.22	
	Who should be given first priority to make them aware in reducing road accident	All	44.81	45
		Pedestrians	50.37	56.11
Elder people		15.19	15	
Children		42.22	45	
Students		52.96	64.44	
Business men		2.96	6.11	
Drivers		71.85	75.56	
What processes may be suitable through the people to make them aware	Others	0.37	1.12	
	Formal school syllabus	30.37	37.78	
	Informal school syllabus	7.41	5	
	Video show	10	6.11	
	Local meeting/discussion conducted by NGO or related institutions	31.48	42.78	
	<i>Tampu</i>	65.93	63.33	
	Private car	15.93	32.78	
	Poster	34.44	65	
	Billboard	22.59	17.22	
	<i>Gono natok</i>	3.7	3.89	
	<i>Potho natok</i>	5.93	5.56	
Television	3.33	9.44		
Others	4.81	3.36		

3.3.4 Student knowledge on road safety issues

The study showed the status of road safety knowledge of the students. In this regard, some key issues had been focused in relation with the road safety. However, over the matter, about 36 per cent and 42 per cent students respectively from the treatment and control groups had knowledge about the vulnerable points of road for promoting the road accident. Similarly, about 37 per cent and 28 per cent students respectively from the treatment and control groups had knowledge about the walking rules when there was no footpath. About

30 per cent students from both groups had knowledge about how to cross the road safely. About only about 13 per cent students from both groups had knowledge about the safe places of the road to cross the road (Table 17).

Table 17. Summary of students' knowledge on some key issues of road safety

Indicators and Answers		% of Respondents	
		Treatment Group	Control Group
Vulnerable points in road for road accident	Have knowledge	36.11	42.08
Walking on right side when there is no footpath	Have knowledge	36.67	28.33
How to cross the road safely	Have knowledge	30.0	30.68
Safe places of the road to cross the road	Have knowledge	12.02	13.18

3.4 Assessment of the community people (summary of findings based on FGDs and KIIs)

The study conducted in two spots of different districts in Bangladesh. Assessment of the community people includes drivers, shop owners, teachers, village leaders or the people aged at least 20. Both in interview and FGD session, participants were willing to join and shared their experiences and thoughts on road safety issue. By sex, participants were both male and female as an average of 60 per cent and 40 per cent accordingly in all sessions. The findings are grouped into the following three themes:

Addressing the concern about road safety of the community people: 16 groups of FGDs (100%) and 14 interviews out of 16 (88%)

Based on the discussion with community people, it was found that people were not self driven aware on the issue. Most of the people did not participate in any rally, meeting, conference or other initiatives that need to be undertaken by the community. This indicates that the community was not much aware of the road safety issues. They usually did not know about the rules and regulations which were necessary to maintain road safety. In this regard, few local people had shown their interest to know about the traffic rules that would be practically applicable in the context of local road.

The study had have understanding on respondents' awareness of counting local road accidents, victim of road accidents and cooperation to the respective stakeholders. In all of these cases, people had not found with their high confidence level in these answers. By definition of road accident, respondents discussed on the right track as it was focused on either damage of vehicles or, the case of injured and death was the outcome of the situation. People were concern about the local vehicles, drivers' behaviour and road infrastructure as they think about these for the causes of road accident. But, they did not focus on the issues of community awareness on this manmade disaster and as a citizen they must have huge responsibilities to overcome the root of causes. About the issue, people were not familiar in the existing rules of road safety. In most of the cases, they could not say on the specific punishment in respect to the specific fault of them.

Addressing the ownership on road of the community people: 16 groups of FGDs (100%) and 12 interviews out of 16 (75%)

It could be good planning for ensuring the road safety gradually if the power of community is accessed in local road. That means community should hold the power on justice of violating road safety, so, that they can make them aware on the issue and participate actively in the community road safety programmes which include design and implementation of various actions to combat country's road safety issue. Under this theme, the study tried to find out the community's interest over the discussion with them. However, regarding community's ownership to maintain local road safety, people were not aware of this process. They only tried to blame government and the local administrative authority when they were asked about the maintenance of the local road. But they had shown interest to discuss on the issue that how to reduce the road accident locally.

Addressing how to reduce local road accident: 16 groups of FGDs (100%) and 15 interviews out of 16 (94%)

Respondents gave some good suggestions on the issue. The study conducted in two areas of the country and the recommendations of the respondents were in general for both places except few of especially for Teknaf area. All suggestions could be defined in the following key points:

- Adoption of the traffic rules among the community people.
- Capacity and awareness building of the community.
- Maintenance of local road, e.g. widening of local road, carpeting, shifting bazaar from road side etc.
- There were many trees that had seen in the middle of road located in Teknaf to Shamlā bazaar bus stand. Most of the local people blamed those trees for causing road accident due to its wrong positioning on the road. According to them, cutting of those trees must reduce local road accidents significantly.
- Drivers must be given training by the authority.
- Vehicles and drivers must receive license and other legal documents.
- Age restriction must be legalised at time of giving license and handover of vehicles.
- Traffic signs were not seen clearly on road side. Many of these had been damaged because of not maintained periodically. Some places were specially needed to mark with signs, but the traffic signs were absence in these places. Junctions were not maintained by the traffic sergeants properly.
- Make aware of the community people with existing traffic rules and regulations. In this case any necessary fine and punishment should be applicable when people violate the rules. This process can be accomplished after delivery of the traffic rules into the community.
- Drainage system of the road should be established with maintaining road safety guidelines.
- If broken road is not furnished immediately, then the side of broken road should marked by the respective sign. Speed breaker, zebra crossing and foot over bridge were not found in the study area even the necessity of these was found in those places. Most of the people were not aware of bus bay and road island as its impacts on road safety.
- Avoiding to receive mobile phone call and hearing songs during driving.

- Finding a path of how to build up awareness of pedestrians and change their behaviour is very significant for reducing road accident.

In the process of making aware of the community people the respondents suggested on some activities which include campaigning, billboard, rally, popular theatre, meeting and other relevant events. According to them, all kind of meetings might be considered in keeping of gender sensitivity in mind; possibly different meeting could be organised based on male and female participants. All respondents told about the road safety issues in the same way that the government should take part of the project firstly, and then the community people could be willing to cooperate the government to move towards zero fatal road accident.

Chapter 4.

Concluding remarks

Considering the community perception, the accidents are caused by many contributory factors such as variety of vehicles, speed of the vehicles, traffic regulations, poor education of pedestrians etc. and all of these are interrelated with the human attitude, behaviour and road conditions.

Furthermore, there is need to improve road infrastructure which is design bounded from site specific engineers. It is indicated by many priority based traffic measures vs. vulnerable road users. Non-main stream vehicles like rickshaw, van etc. are to be considered during the design of road infrastructures. Safety measures also focus on cost effective outcome for the road users. Here, it is shown some potential sources of safety measures that require improvements based on the community perception:

- Road infrastructure and road environment
- Vehicle improvement
- Traffic operation
- Different awareness programme on road safety
- Related education of the drivers
- Situation based care programme during accident
- Post accident care programme

In summary, awareness of road safety can be ensured gradually through some groups of people in the society, e.g. drivers and helpers of the bus, passengers, local union/word chairman/members, teachers, village leaders, traffic polices and all kinds of service holders. The medium of making awareness may be the following ways like meeting at different stages/groups/levels, announcement through radio/television and same kind of media, organising cultural event, school based programme, display of signboard/billboard, advertising in newspapers, street drama, guardian meeting, staged drama/popular theatre, sending mobile SMS/call and administrative approach.

Chapter 5.

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