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Road Safety Problems in Bangladesh: Achievable Target and Tangible Sustainable Actions

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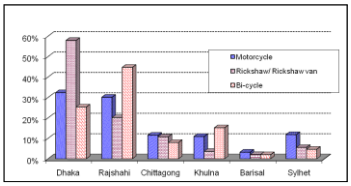
Graphical abstract



Abstract

In spite of great progress in international traffic safety works, traffic accidents still cause a large and increasing number of fatalities and severe injuries particularly in developing countries like Bangladesh. Sustained declining trends of road fatalities in the developed countries have been attributed to concerted efforts in many sectors including effective coordination, community involvement, well researched road safety initiatives, road safety good practices and improved targeting of resources. The statistics revealed that Bangladesh has one of the highest fatality rates in road accidents with over 50 fatalities per 10,000 on-road motor vehicles. In this paper, it is trying to show in detail the magnitude and impact of road traffic injuries using evidence at global and national levels with particular importance of regional variance. This evidence shows how serious the problem of road traffic injuries is at present and indicates that it will become worse if no appropriate action is taken now. This paper also briefly discusses the factors that play a part in accident generation process in interaction with road environment, road-user and vehicle and outlines some target oriented priority actions to prevent this recurrent loses.

Keywords: Bangladesh road safety; road safety target; road safety action

1.0 INTRODUCTION

Road Safety is an issue of immense human proportions, it's an issue of economic proportions, it's an issue of social proportions, and it's also an issue of equity [1]. In spite of great progress in international traffic safety work, traffic accidents still cause a large and increasing number of fatalities and severe injuries particularly in developing countries like Bangladesh. Worldwide, the number of people killed in road traffic crashes is estimated at almost 1.3 million and at least 50 million are injured each year. More than 85 percent of these casualties including 96 percent of child deaths occur in low and middle income countries [2]. It is predicted that the number of people killed on roads will rise by at least 80 percent over the next 20 years in developing countries like Bangladesh whereas it is expected to decrease by 30 percent in high income countries [3]. Sustained declining trends of road fatalities in the developed countries have been attributed to concerted efforts in many sectors including effective coordination, community involvement, well researched road safety initiatives, road safety good practices and improved targeting of resources. In developing countries like Bangladesh major considerations of such approaches are required with due urgency and commitment.

Several studies conducted by Hoque *et al*., using the police reported accident database, revealed that Bangladesh has one of the highest fatality rates in road accidents with over 50 fatalities per 10,000 on-road motor vehicles [4, 5]. Those studies also pointed out that Vulnerable Road Users (VRUs) viz. pedestrians, children, bicyclists, cycle rickshaw occupants and pullers are the worst affected victims and account for nearly 80 percent of road traffic accidents fatalities in Bangladesh.

In this paper, at very outset, the magnitude and impact of road traffic injuries both in globally and nationally using different published literature were discussed. These evidences delineated the seriousness of the problem at present and will indicate the trend if no appropriate action is taken now. The paper also briefly talked about the factors of traffic accidents and resulting injuries. Finally, the paper outlined some target oriented priority actions to tangible and sustainable benefit as well as to prevent this recurrent loses.

2.0 GLOBAL ROAD SAFETY PROBLEM

Data provided by the World Health Organization (WHO) and the World Bank were used for the statistical analyses that form the basis of the Global status report on road safety: time for action, 2009 [6], the World report on road traffic injury prevention, 2004 [7]. In summary, these data showed that, in 2009:

- Worldwide, the number of people killed in road traffic accidents each year is estimated at almost 1.3 million while the number of injuries could be as high as 50 million - the combined population of five of the world's large cities.
- Every day, more than 3,500 people are killed (one person in about every 25 seconds) in road crashes worldwide; 137,000 more are injured or disabled.
- Worldwide, road crashes are the leading cause of death for young people aged 10 - 24 and a global killer on the scale of malaria or tuberculosis.
- Road crashes are one of the top three causes of death for 5 to 44 year olds.
- Road traffic injuries were the 11th leading cause of death worldwide and accounted for 2.1% of all deaths globally. Furthermore, these road traffic deaths accounted for 23% of all injury deaths worldwide.
- Low-income and middle-income countries have the highest burden and road traffic death rates: Most (91%) of the world's fatalities on the roads occur in low-income and middle income countries, which have only 48% of the world's registered vehicles where 5098 million people or 81% of the world's population live. Approximately, 62% of reported road traffic deaths occur in 10 counties.

While a decrease in deaths has been recorded in high-income countries, current and projected trends in low-income and middle-income countries foreshadow a large escalation in global road traffic mortality over the next 20 years and possibly beyond. WHO and the World Bank both predict the following scenario for 2020 compared with 1990 [7]:

- Road traffic deaths are predicted to increase by 83% in low-income and middle-income countries (if no major action is taken), and to decrease by 27% in high-income countries. The overall global increase is predicted to be 67% by 2020 if appropriate action is not taken.
- South Asia will record the largest growth in road traffic deaths, with a dramatic increase of 144% between 2000 and 2020. If the low-income and middle-income countries follow the general trend of the high-income countries, their fatality rates will begin to decline in the future, but not before costing many lives.
- Road traffic injuries will rise in rank to fifth place as a major cause of death worldwide.
- Road traffic injuries will rise to become the third leading cause of Disability Adjusted Life Years (DALYs) lost.
- Road traffic injuries will become the second leading cause of DALYs lost for low-income and middle-income countries.
- Road traffic deaths will increase worldwide, from 0.99 million to 2.34 million (representing 3.4% of all deaths).
- DALYs lost will increase worldwide from 34.3 million to 71.2 million (representing 5.1% of the global burden of disease).
- Global Status Report on Road Safety: Time for Action, 2009 shows that road traffic injuries are predicted to rise from ninth place in 2004 to fifth place by 2030 as a contributor to the global burden of diseases [6].

3.0 ROAD SAFETY PROBLEMS IN BANGLADESH

Road traffic accidents have now become a great social concern in Bangladesh and the situation is deteriorating. The annual economic wastage occasioned by traffic accidents is estimated to be in the order of 2 to 3 percent of the Gross Domestic Product (GDP). Each year, there are at least 3,000 fatalities and 3,000 grievous and simple injuries from around 3,500 police reported accidents on Bangladesh roads. Other sources estimated the fatalities as high as from 12,000 to 20,000 per year [8]. Thus, the safety problem is very severe by international standards with some 60 to 150 fatalities per 10,000 motor vehicles in Bangladesh compared to around 25, 16, 2 and 1.4 in India, Sri Lanka, the USA and UK respectively [9].

Motor vehicle ownership has increased steadily in Bangladesh, at present it is about 2 to 10 vehicles per 1,000 persons [10]. However, despite large growth in the number of motor vehicles, the country's transport demand is still predominantly met by non-motorized modes, particularly walk and rickshaws, and its level of motorization is still far below compared to the levels of other countries, such as around 12, 25, 426 and 765 motor vehicles per 1,000 persons for India, Sri Lanka, UK and the USA respectively [9]. Such growths together with other complementary urban hazards have resulted in substantial road traffic safety problems.

3.1 Vulnerable Accident Involved Groups

Pedestrian: In Bangladesh, with a low level of motorization, the role of walk mode is quite significant. Indeed walking appears to be a major contributor to sustainable transport strategy. It is the motorists, not pedestrians, who normally receive much attention and a greater share of priority. Pedestrians deserve and need protection in the form of facilities by ensuring their legitimacy, safety and convenience. Pedestrians, being physically unprotected, are thus considered to be the most vulnerable user group and demand a priority consideration in road safety strategies.

Pedestrians accounted for 49 percent of all reported fatalities in the accident database. In urban areas pedestrians represent 62 percent of road accident fatalities. Current statistics revealed a deteriorating situation in metropolitan Dhaka, with pedestrians as a proportion of road crash deaths increasing from 43 percent in 1986-87 to 74 percent in 1998-2010. In urban areas 50 percent pedestrian casualties occur during crossing the road, but in rural areas 52 percent pedestrian casualties occur while walking along the roadside. On the other hand, grievous and simple injuries are the highest for passengers (63%) [9].

Children: Road accident statistics of Bangladesh revealed a serious threat to children. The incidence of child involvement in road accident casualties and fatalities are around 16 percent and 20 percent respectively. Of this fatality 78 percent represents as child pedestrian. This involvement of children up to15 years of age in road accident fatalities in Bangladesh is much higher than those in other developing countries. Worldwide, road traffic injuries are the second leading cause of death for 5 to 14 years of children. It is important to note that compared with industrialized countries, the proportion of fatalities to under 15 years of age in developing countries is approximately two and a half times higher [4].

Heavy Vehicles: Heavy vehicles (trucks and buses) are major contributor to road traffic accidents accounting about 58% of vehicular involvement in accidents. Some striking features of heavy vehicles accidents are as follows:

- Involvement in all accidents – 71%
- Involvement in fatal accidents – 71%
- Involvement in pedestrian accidents – 63%
- Involvement in pedestrian fatal accidents – 65%
- Involvement in casualties – 53%
- Involvement in fatalities – 54%
- Involvement in pedestrian casualties – 67%
- Involvement in pedestrian fatalities – 70%[9]

3.2 Regional Significance of Road Safety Problem

In Bangladesh road safety is not only a national problem but also a regional problem.Inside the country, with the variation of the local users' characteristics, socio-economic status, level of education and awareness, professional and biological multifariousness's and above all environmental, ecological and natural diversities of a particular area, the patterns, characteristics, dimensions as well as factors of road safety problems are varied accordingly [11]. In Bangladesh, according to the police reported accident statistics, occurrence of accident in the rural areas including rural sections of highways is almost double than the urban areas and in case of fatalities, this figure is three times higher. Apart from this, different areas show different spectacular characteristics of accident. Some brief descriptions of road traffic accident characteristics in Bangladesh with emphasis on local variance are given below using the police reported Microcomputer Accident Analysis Package (MAAP) database, year 1998 to 2012:

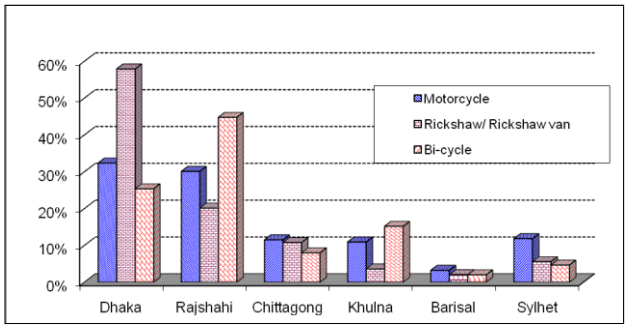


Figure 1 Involvement of Light Vehicles in Accident in Divisional Region [11]

- Analysis of all bicyclists involvement in Bangladesh showed that 45 percent of total bicycle accidents are taking place in the Rajshahi region which is significantly higher than any other division in Bangladesh (Dhaka 25 percent, Chittagong 8 percent, Khulna 15 percent, percent, Barisal 2 percent and Syllhet 5 percent) (Figure 1).
- Other studies also show that the child fatalities are significantly high in the Rajshahi Metropolitan city accounting for about 22 percent of the total fatalities in comparison to an average of 18 percent of the total fatalities for the six metropolitan cities [4, 11].
- Motorcycle related accidents and injuries statistics show the disproportionately higher rate in the North-East and South Bengal including Sylhet, Pautakhali, Barguna in recent years, 2006 to 2012 (Figure 1).
- The accident problem on the national highway network in Bangladesh is a serious and growing concern to the community. Of the total reported accidents nearly 37 percent occurred on national highways in Bangladesh. Most of the reported accidents of the highways are fatal, accounting for about 73 percent of the total highway accidents. A study on the Identification of Hazardous Road Locations on National Highways revealed that accidents and fatalities on national highways are characterized as clustering on selected sections, identified as Hazardous Road Locations (HRLs), nearly 40 percent of accidents concentrated on around 2 percent of the highway network [12].
- Like many other developing countries in Asia and the Asia-Pacific region, in Bangladesh Vulnerable Road User (VRUs) viz. pedestrians, bicyclists, rickshaws, motorcyclists and other non-motorised transports and non-formal para-transits are particularly at risk and constitute a large share in the total traffic fatalities and their involvement varied between 37 and 73 percent of the road accident fatalities in the metropolitan areas with an average of 65 percent. It should be noted that, the percentage of pedestrian fatalities has significantly increased from 57 percent in 1998 to 66 percent in 2006 in urban areas. Pedestrian also accounted for nearly 56 percent in non-metropolitan urban areas. Further analysis revealed that most of the pedestrians' fatalities occur while crossing the road (41%) and is closely followed by walking on the road (39%) [11].
- Though, pedestrian is the mostly affected road user in all over the country, they are significantly higher in city areas, particularly in Dhaka city. In Dhaka Metropolitan city, almost 75 percent of road fatalities are pedestrian alone and the share of pedestrian deaths has been increasing in recent years. Current statistics revealed a deteriorating situation in metropolitan Dhaka, with pedestrians as a proportion of road crash deaths increasing from 43 percent in 1986-87 to 74 percent in 1998-2010 [11].
- The distribution of road fatalities across road user groups for urban and rural areas represent that nearly 80 percent of road fatalities are attributed to VRUs (viz. pedestrian, bicycles, cycle rickshaws and motor cycles) in urban areas with pedestrian being by far the largest user groups in road traffic fatalities. They are also the dominant group in rural fatalities, accounting for 65 percent. Their shares varied markedly between metropolitan cities, 60 to 85 percent [13].
- The distribution of reported road traffic accidents and fatalities in urban and rural areas for the period of 1998-2006 is shown Tables 1 and 2. In the period of 1998 to 2006, at least 11472 accidents occurred in urban areas accounting for 35 percent of total accidents in the country. These accidents resulted in 6519 fatalities and 8471 injuries. Around 25 percent of the total fatalities occurred in urban areas. The data reported by the police shows some possible reporting inconsistencies in the distribution of urban-rural accidents which require further investigation4. For detailed description, please see the research paper on Dealing with Vulnerable Road User (VRU) Safety and Mobility in Urban Areas of Bangladesh: A Critical Sustainable Transport Development Challenge by Hoque *et al.* [4]. Aspects of urban accidents are examined in the following sections.

Table 1 Trends of accidents in urban and rural areas (Reported Accidents by Police)

	Urban		Rural	
YEAR	**No**	**%**	**No**	**%**
1998	1754	50.2	1743	49.8
1999	1499	38.1	2439	61.9
2000	1504	38.0	2451	62.0
2001	960	33.0	1948	67.0
2002	1366	34.8	2557	65.2
2003	1413	34.7	2662	65.3
2004	1079	30.7	2435	69.3
2005	854	26.3	2394	73.7
2006	1043	30.1	2418	69.9
TOTAL	11472	35.3	21047	64.7

Table 2 Trends of Fatalities in Urban and Rural Areas (Reported Fatalities by Police)

	Urban		Rural	
YEAR	**No**	**%**	**No**	**%**
1998	795	34.1	1534	65.9
1999	733	25.4	2152	74.6
2000	775	25.4	2276	74.6
2001	593	24.9	1785	75.1
2002	752	24.8	2283	75.2
2003	826	25.0	2476	75.0
2004	697	22.4	2416	77.6
2005	580	20.0	2321	80.0
2006	768	24.9	2313	75.1
TOTAL	6519	25.0	19556	75.0

- The data shows that urban accidents are concentrated in metropolitan areas. Of the total urban accidents of Bangladesh, 82 percent are metropolitan related accidents which contribute to nearly 75 percent of urban fatalities. It may be mentioned that nearly 30 percent of total accidents and 20 percent of total fatalities are metropolitan related, with 12 percent of the total population of Bangladesh in metropolitan areas [4].
- A study on Metropolitan Street accident shows that nearly 22 percent of all reported accidents in Bangladesh occurred in Dhaka Metropolitan City. Nearly 52 percent of all accidents occurred at only 9 percent (18 intersections) of the total 200 intersections where at least one accident occurred during 2001-2003 [11].
- It is found that the age group of young people from 25 to 59 years is most vulnerable, as compared to percentage of population percentage (57% Vs 36%). Though all the road accidents cause pain and suffering to the affected family, society and loss to the nation's resources, it is particularly more severe when the victims are young people [13].
- Of the total child fatalities, nearly 66 percent are male and 34 percent are female. The sex distribution of adult fatalities shows that 86 percent are male and 14 percent are female. This shows that female children are over represented and nearly 2.5 times higher than the adult female is [11].
- The temporal analysis of the police reported accident data reveals that 64 percent of accidents occurred during day time (6 am to 6 pm) and 36 percent at night (6 pm to 6 am) in urban areas whereas in rural areas day time share is 75 percent. It is found that accident and fatalities remained fairly evenly distributed in day times with the peak occurrence during 10 am to 12 noon. Accidents tend to occur more on Thursdays with fairly equal distribution among the week and weekend days. Accidents peaked in the months of January and March, accounting for 9.5 and 9.5 percent respectively [13].
- An analysis of the fatalities per million populations in different district per year shows that Dhaka, the capital of Bangladesh has concentrated the highest number of fatalities per million populations (50) followed by Narayanganj (47), Munshiganj (44.7), Syleht (43), Feni (40), Rajshai (38), Majikganj (37.9) and Faridpur (37.5) (Police Reported MAAP Database, 1998 to 2009) [1].

■4.0 CONTRIBUTING FACTORS OF ROAD TRAFFIC ACCIDENTS IN BANGLADESH

The Road-Traffic system is a complex interaction among three components e.g. road and road environment, vehicles and road users. It is seldom that an accident results from a single cause. There are usually several influences affecting the situation at any given time. These influences can be separated into three groups: the human element (usually as a driver of a vehicle, but also as a pedestrian or cyclist), the vehicle element, and the highway element. Researchers estimate that 85% of all causative factors involve the driver, 10% involve the highway and 5% involve the vehicle [14]. An accident is described as a failure in the interaction between these three components. For example, the driver may fail to obey a red light or to adhere to safe speed for the prevailing conditions; a vehicle's brake or steering system may fail; the road may fail to drain properly or a traffic light may malfunction. In all these cases, the direct cause of the accident appears to be a clear failure in one of the three components: road, vehicle and human. Brief descriptions of these factors are presented below:

4.1 Road Factors

Various studies comprising on-sight in-depth field investigation, systematic safety check and audit, comprehensive analysis of accident report, eyewitness and victim interview, drivers' observation and opinion survey as well as expert opinion survey have been conducted by different organizations, agencies or by individual to identify the causative factors of road accident in Bangladesh. Those studies revealed that the principal contributing factors of accidents are default land use and road network planning, adverse roadway roadside environment, poor detailed design of junctions and road sections [13].

Hazards associated with roads and roadsides were particularly predominant. Adverse roadway elements contributing to highway accidents were substandard road way alignment or geometry, lack of shoulders and shoulder defects, absent or inappropriate pedestrian facilities, narrow and defective lanes and bridges/bridge approaches, roadside hazards, undefined pavement center and edge lines, poor sight distances and visibility, unmarked and inappropriate design of intersections, serious

delineation deficiencies along the route, haphazard bus shelters/stops, and others. In many of these cases "running-off-road" accidents involved vehicles leaving the carriageway and falling down the unprotected steep drops into ditches, accounting for nearly 60 percent of total, " running-off-road" and "out-of-control" accidents mainly due to the less surface friction/skid resistance capacity between road surface and vehicle tyre in particular wet weather condition. Roadside trees were involved in about 20 percent of these accident types [15].

4.2 Vehicle Factors

Vehicles may have defect in the brake system, the steering system, the lighting system along with smooth tyres etc. Studies carried out in developed countries have indicated that between 2 to 8.5 percent of accidents are directly caused by faulty vehicles [16, 17, 18].

The most common defects of vehicles in Bangladesh are worn out tyres, loose wheels, overloaded axle, faulty brake and indicator lighting system etc. A physical condition survey was conducted on large sized vehicles at roadside and terminals in and around Dhaka city using a prescribed survey form in 2007. Total sample size was 500. The study revealed that only 42 percent of trucks and buses observed had complete defect free lighting system and a night time survey on long distance buses found one thirds with one or no rear lights. Vehicle lighting is a very important safety aspect especially where street lighting, road marking and signs are inadequate and driving practice is poor [19].

4.3 Human Factors

Excessive speeding, overloading, dangerous overtaking, reckless driving, carelessness of road users, failure to obey mandatory traffic regulations, variety of vehicle characteristics and defects in vehicles and conflicting use of roads. In addition, driver incompetency, low level of awareness of the safety problems, inadequate and unsatisfactory education, safety rules and regulations and traffic law enforcement and sanctions are also the major cause of accident in Bangladesh. It is difficult to quantify what factors are responsible for how many accidents due to the fact that a large number of contributory factors which are not covered by the current accident reporting form of Bangladesh police. For Detailed, please see the report on Human factors for safe and efficient roadway design and operation by Hasan [20].

■5.0 SOLUTION APPROACH: INTEGRATED SAFETY MANAGEMENT

From the above description it is clear that accidents and injuries are a public concern and prevention methods come under the responsibility of several government sectors (urban and regional planning, road construction and maintenance, transport management, health, education, professional training, information, enforcement, etc.). Private actors, such as associations of road users, insurance companies, etc., can also get involved and may contribute valuable knowledge or action means. However, management approach should be taken in an integrated and multi-sectoral basis in which:

- the diagnosis of safety problems and accident factors should be performed on a multi-disciplinary basis, taking into account all possible ways of reducing accidents (all possible types of measures);
- priority targets for action should be decided upon jointly by representatives of all sectors responsible for action;
- the choice of the main courses of action should also be made jointly in relation to the problems to treat, and a budget is allocated or identified to allow for detailed design and implementation of the measures by the actors concerned;
- a coordinating body should be set up to check that measurement to complement each other are implemented according to schedule;
- evaluation of the program should be used as a basis of standard practice for preventive action [21].

In addition to such criteria set up for developing road safety policies, coordination among between larger scope policies (urban and transport planning, traffic planning) and road safety management needs to be ensured in order to make sure that current planning activities are compatible with the corrective interventions envisaged and will not generate new problems in the future.

Integrated safety management applies to the national or central level, where governments are responsible for the safety of the whole country and for initiating and conducting overall safety programs, and at the local level (and state level in federal countries) whenever local authorities have the means and power to conduct their own accident prevention policies, as, for example, in provinces or in large cities or metropolitan areas.

■6.0 TARGETS AND PRIORITY ACTIONS

It is possible to significantly reduce the number of road accidents and casualties by implementing an effective and coordinated safety policy and actions which require significant improvements in the relevant sectors viz. better enforcement, better roads, enhanced vehicle safety standards and improved public education programs. Indeed safety will come from improving the system– the road way, vehicles, and road users– but it must start with political will [22]. The problem-specific targets (e.g. reduction of passenger deaths from fall down from roof top and freight top) are far more important than macro targets (e.g. fatalities per 10,000 motor vehicles) [23]. Our some of the achievable road safety targets and specific priority issues that should be addressed with due urgency includes the following:

6.1 Targets

- Eliminate head on collision on national highways
- Improve Vulnerable Road User (VRU) safety
- Eliminate passenger fall down from vehicle accidents
- 50 percent reduction in bus and truck collisions

6.2 Priority Actions

Measures that would achieve greater road safety target (likely to also improve traffic flow) and would also offer cost-effective solutions are listed below.

6.2.1 Road and Road Environment Improvement

- Low Cost Short Term Periodic Measures which include improvement of shoulder, removal of visual obstruction, access control, road side hazard and parking management, improving bus bay, passenger shelter and street lighting, surface

improvement, traffic sign improvement, drainage improvement, curve improvement, intersection improvement, pedestrian facilities improvement (walking along the road side and crossing), pedestrianization, speed management etc.

- Long Term Policy and Capital Intensive Measures which include planning & guideline, land use control, managing exposure to risk through transport and land-use policies, functional hierarchy, audit and assessment, access control, highway surveillance, bridge and bridge approach, increasing of divided highway, service or frontage road, grade separation interchange facility, grade separated pedestrian facility, additional space at junction etc.

6.2.2 Vehicles and Its Operational Improvement Measures

This measure includes vehicle modification restriction, compulsory use of seatbelts and helmets, setting and enforcing speed limits, standards vehicles, improved visibility of non-motorized vehicles (NMV), strict enforcement and random vehicle inspection, improve tire testing facility, computer based vehicle fitness checking, banning of rooftop railing and carrying passengers, increase awareness of vehicle owner, control excessive speeding and overloading, control non-standard vehicle etc.

6.2.3 Research, Education and Awareness Building

This measure includes advancing road safety research, strengthen accident data collection system, updating of existing police accident data reporting system, education, information and publicity, awareness development at different levels, mass media campaigns.

6.2.4 Delivering Post-Crash Care Services

This includes chain of help for patients injured in road crashes, improve emergency rescue services, modernized emergency unit, organization of trauma care, rehabilitation.

6.2.5 National Road Safety Management

This includes identify a lead agency, strengthening institutional capacity, setting target, assess the problem, policies and institutional settings, prepare a national road safety strategy and renew of plan of action, resource allocation, implement specific actions, strengthen NRSC.

■7.0 CONCLUSIONS & RECOMMENDATIONS

This paper was designed to analyze the road traffic safety situation in Bangladesh, and to identify targets and priority actions that would address areas in which the total harm caused by crashes can be substantially and readily reduced. The paper focused on two aspects of traffic safety in Bangladesh, characteristics and factors. The first part of the report provided a comprehensive analysis of the current traffic safety situation in the world as well as in Bangladesh. It was pointed out in this analysis that vulnerability of pedestrian and others unprotected users have increased both on highways and in urban areas during the past few years.

Human capacity to respond to this major public health concern is an important component of efforts to prevent road traffic injuries. Policy-makers, researchers and practitioners need information on effective prevention measures and how to develop, implement and evaluate such interventions. There is a need to train more specialists in road traffic injury prevention in order to address the growing problem of road traffic injuries at international and national levels. There is also need for close coordination and close collaboration between all public agencies as well as private agencies using a holistic and integrated approach across many sectors and many disciplines. Appropriate resources need to be allocated to improve safety which is currently far below than the magnitude of problems. Addressing road safety problem is a considerable challenge to the transport and road safety professionals in Bangladesh. Importantly, initiatives to improve the conditions would require renewed governmental commitment and considerable resources particularly trained local personnel, safety specialists and researchers to build up indigenous capacity and attain sustainability of effective road safety programs.

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