

**THE COST OF MOTORCYCLE'S ACCIDENT IN DAR ES SALAAM
'A CASE STUDY OF KINONDONI MUNICIPALITY**

By:

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**A Dissertation Submitted For Partial Fulfillment for Award of Postgraduate
Diploma in Logistics and Transport Management (PGLTM) of National
Institute of Transport (NIT)**

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CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by National Institute of Transport (NIT), a dissertation entitled: **The cost of motorcycle's accidents in Dar es Salaam**, in partial fulfillment of the requirements for award of the Postgraduate Diploma in Logistics and Transport Management (PGLTM).

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because “ALONE I CAN SAY BUT TOGETHER WE CAN SHOUT” That the beauty of friendship and classmate we have.

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DEDICATION

This work is dedicated to my lovely family especially my mother Mrs. Honorata Mtembei and my adorable husband Ridhiwani Salum Nyantaba for their support and encouragement during my studies. Also I would like to dedicate this work to all stake holders in in the growing transport industry.

ABSTRACT

Understanding the cost of the road traffic accidents has been of interest to many scholars and policy makers for a long time, Motorcycle injuries constitute a major but neglected emerging public health problem in developing countries (Tanzania being among them) and contribute significantly to the overall road traffic injuries. However, motorcycle accidents which cause injuries and death have not received the adequate attention they deserve as the situation is worsening. The general objective of the study was to examine the cost of motorcycle accidents in Kinondoni Municipality.

Case study research design was used in the methodology. A sample size of 70 respondents was involved. Data collected were descriptively analyzed using Statistical Package for Social Sciences (SPSS).

The respondents argued that, motorcycle accidents mainly due to driving a motorcycle without formal training (70%). However, motorcycle accidents deprived people of their social status (70%) and caused marriage separations to those who were seriously affected by the accidents and motorcycle accidents necessitated the presence of permanent dependence to relatives of the victims as reported by (75%) of the respondents. The cost associated with motorcycles accident was found to be on medical treatment, repair of motorcycles and in general life to the victims.

The study concludes by arguing for the need to enforce laws to those who violate the rules by being fined or withholding their licenses to alleviate motorcycle accidents in kinondoni municipality. However, the researcher argues for the enhancement of drivers' skills on the road through continuous training while honoring other users of the road by adhering to laws and changing the driver's behaviors.

ABBREVIATIONS AND ACRONYMS

GDP	Gross Domestic Product
GOC	General Officer in Command
MDGs	Millennium Development Goals
MHSM	Master of Health Systems Management
NIT	National Institute of Transport
PGDLTM	Postgraduate Diploma Logistic and Transport Management
PGDs	Postgraduate Diploma students
SPSS	Statistical Package for Social Sciences
SUMATRA	Surface and Marine Transport Regulatory Authority
TPDF	Tanzania Peoples Defense Forces
TRA	Tanzania Revenue Authority
URT	United Republic of Tanzania

TABLE OF CONTENTS

CERTIFICATION	i
DECLARATION AND COPYRIGHT	ii
COPYRIGHT	ii
ACKNOWLEDGEMENTS	iii
DEDICATION	v
ABSTRACT	vi
ABBREVIATIONS AND ACRONYMS	vii
TABLE OF CONTENTS	viii
LIST OF TABLES	xii
LIST OF FIGURE.....	xiii

CHAPTER ONE: PROBLEM SETTING

1.0 Introduction	1
1.1 Background of the Problem	1
1.2 Statement of the Problem	4
1.3 Research Objectives	5
1.3.1 General Objective.....	5
1.3.2 Specific Objectives.....	5
1.4 Research Questions	5
1.5 Significance of the Study	5
1.6 Justification of the Study.....	6
1.7 Scope of the Study	6
1.8 Structure of the Study.....	6

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction	7
2.1.1 Theoretical Literature Review.....	7
2.1.2 Definitions of Terms	7
2.1.3 Theoretical Reviews.....	8

2.1.4 Causes of Motorcycle Accidents.....	12
2.2 Empirical Literature Review	13
2.3 Conceptual Framework	15

CHAPTER THREE: RESEARCH METHODOLOGY

3.0 Introduction.....	17
3.1 Research Design.....	17
3.2 Study Area.....	17
3.3 Population and Sample Size.....	18
3.3.1 Sampling Procedures.....	18
3.3.2 Purposive Sampling	18
3.3.3 Stratification Sampling	19
3.4 Data Collection Methods	19
3.4.1 Primary Data Collection Methods.....	19
3.4.2 Secondary Data Collection Methods.....	20
3.5 Data Analysis	20
3.6 Ethical Consideration	21

CHAPTER FOUR: PRESENTATION AND DISCUSSION OF RESEARCH

FINDINGS

4.0 Introduction.....	22
4.1 Response Rate	22
4.2 Respondents' Background Information	22
4.3 Factors that Contribute to Motorcycle Accidents in Kinondoni Municipality	26
4.3.1 Poor Responses by Other users of the Road.	26
4.3.2 Failure to use Protective Tools.....	27
4.3.3 Individual Capacity and Desire to Expose Competences	27
4.3.4 Use of Devices while Driving.....	28
4.3.5 Motorcycle Driving as a Career Being a Stressful Work.....	28
4.3.6 Poor compliance to safety rules	29
4.3.7 Motorcycle Defects	29
4.3.8 Intoxication	30

4.3.9 Human Carelessness.	30
4.3.10 Poor Infrastructure.	31
4.3.11 High Speed.	31
4.3.12 Driving Without Formal Training.	32
4.3.13 Traffic officers' irresponsibility and corruption.	32
4.3.14 Substandard Motorcycles Imported From China.	33
4.4 Motorcycle Accidents Lead To Cost Of Life Arise After The Accident To The Victims And Dependents	34
4.4.1 Mental Disabilities.	35
4.4.2 Reduction of Working Capacity.....	35
4.4.3 Marriage Separations.	35
4.4.4 Psychological problems	36
4.4.5 Segregation and Stigmatization.....	36
4.4.6 Physical Disabilities	37
4.4.7 Permanent Dependence	37
4.4.8 Deprivation of Social Status.....	37
4.4.9 Family conflicts between the Driver and the owner of the Motorcycle.....	38
4.4.10 Loss of Life.	38
4.5 Cost of in Hospital for Treatment Of Victims	39
4.6 Repair Costs	40

**CHAPTER FIVE: SUMMARY, CONCLUSION AND
RECOMMENDATIONS**

5.0 Introduction	41
5.1 Summary	41
5.2 Conclusion	42
5.3 Delimitation of the Study	43
5.4 Recommendation and Policy Implication	43
5.4.1 Recommendations	43
5.4.2 Policy Implications	43
5.4.3 Need for Further Research	43
REFERENCE	44

APPENDICES 47

LIST OF TABLES

TABLE 4.1 RESPONDENTS' AGE	23
TABLE 4.2 RESPONDENTS' GENDER	24
Table 4.3 Marital Status of the Respondents	24
TABLE 4.4 OCCUPATION	25
Table 4.5 Estimated Incomes per Month of the Respondents.....	26
Table 4.6 Poor Responses by Other Users of the Road	27
Table 4.7 On the Use of Protective Tools	27
Table 4.8 Individual Capacity and Desire to Expose Competences	28
Table 4.9 Use Other Devices While Driving.	28
Table 4.10 Driving of Motorcycle is a Stressful Work.....	29
Table 4.11 Poor Compliance to Safety Rules	29
TABLE 4.12 MOTORCYCLE DEFECTS	30
TABLE 4.13 INTOXICATION	30
TABLE 4.14 DRIVERS CARELESS.....	31
Table 4.15 Poor Infrastructure	31
Table 4.16 High Speed of the Motorcycles.....	32
Table 4.17 Driving Without Formal Training.....	32
Table 4.18 Traffic Officers' Irresponsibility and Corruption.	32
Table 4.19 Substandard Motorcycles Imported From China.	33
Table 4.20 Mental Disabilities.	35
Table 4.21reduction of Working Capacity.....	35
Table 4.22 Marriage Separations.	36
Table 4.23 Psychological Problems.	36
Table 4.24 Segregation and Stigmatization	36
Table 4.25 Physical Disabilities.....	37
Table 4.26 Permanent Dependence.....	37
Table 4.27 Deprivation of Social Status.....	38
Table 4.28 Family Conflicts Between the Driver and the Owner Of the Motorcycle.....	38
TABLE 4.29 LOSS OF LIFE.	38

LIST OF FIGURE

Figure .1: Conceptual Framework.....	16
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CHAPTER ONE

PROBLEM SETTING

1.0 Introduction

This chapter stated briefly the cost of motorcycle's accidents as alarming incidences. It describes the background of the problem; states the problem, research objectives and questions, the significance, justification, scope and structure of the study.

1.1 Background of the Problem

Motorcycle accident had resulted a major problem in developing countries and contributes significantly to the overall road traffic injuries (Peden *et al*, 2002). Motorcycle injuries are among the leading causes of disability and deaths and the main victims are the motorcyclists, passengers and pedestrians in their young reproductive age group (Peden, 2004; Solagrebu *et al.*, 2006). The problem is increasing at a fast rate in developing countries due to rapid motorization and other factors (Galukande *et al*, 2009). It is estimated that 3,000 people die and 30,000 are seriously injured on the world's roads every day with the majority of the casualties coming from what the World Bank classifies as low and middle-income countries like Tanzania being among them (Afukaar, 2000).

While there is a general decline in the number of fatalities in industrialized countries the opposite is true elsewhere (Peden, 2004). Motorcycle users are vulnerable on the road and represent an important group to target for reducing road traffic injuries (Solagrebu *et al*, 2006). Even in developed countries with low morbidity and mortality rates from motorcycle injuries, the risk of dying from a motorcycle crash is 20 times higher than from a motor vehicle crash (Peden, 2004; Solagrebu *et al*, 2006). The reasons are that motorcyclists tend to over-speed and over load their motorcycles for quick returns. It is because of that recklessness, indiscipline and lack of respect for other road users by the motorcyclists who are mainly youths, are the major cause of road related injuries. The majority of the motorcyclists 'don't wear any protective gears, hence aggravating the risks of getting severe head injuries (Naddumba, 2004).

Motorcycles are becoming an increasingly popular means of transportation. They are appealing to a broader range of riders than ever before, including older adults and more affluent individuals. Their popularity is attributed, in part, to the low cost of maintaining one and they are typically much more fuel efficient than cars and trucks (Banyikwa, 2005). The motorcycle, commonly called “bodaboda” in Uganda and Kenya (Naddumba, 2004, Galukandeet *al.*, 2009) and „okada“ in Nigeria (Oluwadiyaet *al.*, 2004; Solagrebuet *al.*, 2006), has recently become increasingly popular in Tanzania as a means of commercial transport but their operation is characterized by non-helmet use by riders and their passengers, passenger overload, lack of certified driver training and valid licensing, over speed and reckless driving, poor regulation and law enforcement and possible use of alcohol and drugs (Museru and Leshabari, 2002). The popularity of this mode of transport in Tanzania can be due to the following reasons; they are a quick means of transport especially for short distances in cities and towns, they are efficient in mitigating traffic jam delays in the cities and they are available throughout the day and night hours (Chalyaet *al.*, 2010). The negative side of motorcycle as a means of transport is the risk of injury as reported in other studies (Naddumba, 2004; Galukandeet *al.*, 2009) and they constitute a major public problem in major cities in developing countries like Tanzania (Museru and Leshabari, 2002).

Haonga (2010) stated that 52% of all the patients who came to Muhimbili national hospital were road accident victims who were either injured or got dead due to motorcycle accidents; most of them being young men. This state of affair has caused incapacitations to many patients who stay in the hospital for long periods of time to undergo surgery and receive medication resulting into cost burdens to their families as well as national health resources. The young male preponderance agrees with findings reported elsewhere (Naddumba, 2004; Okeniyet *al.*, 2005; Solagrebuet *al.*, 2006; Galukandeet *al.*, 2009). High occurrences of motorcycles accidents among this group have been attributed to a wide range of activities engaged in by this class of people. They are more likely to have reasons to move from one place to another. They represent the active group that partake in high risk-taking activities such as recklessness riding, over-speeding and overloading their motorcycles, riding under

the influence of alcohol and riding without wearing any protective gears. Males are more often exposed to traffic as drivers; they travel longer distances to work and are more often involved in use of automobile as leisure activities (Akinpeluet *al.*, 2007). Motorcycle riding in this area is almost exclusively men, most of whom do it for commercial purposes. Since cost of life is reflected in per capita income of the country and its Gross Domestic Product (GDP), the proportion of costs due to loss of life is evident. Because of a scarcity of good rehabilitation care facilities and lack of assistance for the disabled, road crash victims suffering permanent disability would suffer greater due to lack of poor economic activities and poor access to employment opportunities (Banyikwa, 2005). Owing to lack of welfare functions provided by the state and health care facilities, families of injury victims have to spend much more time looking after injury victims. This causes greater time and economic losses overall (Henry, 2000). The rapidly increasing number of motorcycle accidents has a negative impact on the economy and society of Tanzania. Road traffic accidents cost the government about Tsh. 230 billion per year. This huge financial liability is four times the government's health budget (URT, 2005).

The people who are affected by motorcycle accidents are mostly in their most productive years (15-44 years). These deaths are a huge drain on the country's human resources. Also, when a head of household dies or is seriously injured in a road traffic accident, the whole family is plunged into poverty and psychological torture. Motorcycle accidents are, therefore, a big problem to the government and the society of Tanzania. Yet, road traffic accidents are made. While defective vehicles and bad roads account 26% of all road traffic accidents, the human factor (dangerous driving and excessive speeding) accounts for 74% of all the road traffic accidents (URT, 2005). Dangerous driving and excessive speeding are sustained by the transformation of the built environment from a habitat for cars and other vehicles.

Accidents are observed to hinder individual development and reduce national economic intensification against expectations of Millennium Development Goals (MDGs). The presence of users of motorcycles and the associated accidents influx offer a unique challenge in view of inadequate manpower which is frequently lost.

This obviates the need for this presentation and further actions in order to reduce the magnitude of accidents (Chalyaet *al.*, 2010). Therefore, this study examined the cost associated with motorcycle's accident in Dar es Salaam order to come out with adequate measures to rectify the situation

1.2 Statement of the Problem

Road transport is the dominant mode of transport in Tanzania. It accounts for more than 80% of passenger traffic and over 70% of freight traffic in the country (URT, 2002). Increased economic performance and investments in roads transport infrastructures have resulted into increased levels of motorization in the country in general, and in the urban centers, in particular. But, increased motorization has also been accompanied by an unprecedented increase in road traffic accidents (URT, 2005). It was through adjusting the environment in order to ease existing hardships in transportation, that has guided producers to manufacture motorbike as the best model in moving people using two wheels and especially for off roads where cars cannot go. It is obvious that those who buy motorcycles, majority had never seen tragic accident. They drive without prior notion in their mind of accidents, hence risking their lives through driving while unprotected or under the influence of excessive alcohol. Therefore such practice is solving the problem via creating other problems (Chalyaet *al.*, 2010).

Road traffic accidents are a major worldwide problem. In developing countries the trend has reached an alarming state, but very little attention is paid to the problem (Oderoet *al.*, 1997). In recent years, there has been a significant increase in the number of motorcycle accidents in Kinondoni Municipality in parallel with increasing use of motorcycles as a commercial means of transport. Injuries related to motorcycle contribute significantly to the number of road traffic injuries seen at Muhimbili Hospital, taking out a significant number of lives and resources including consumables and the health worker time, in general Course loss of money to the country. Despite the burden of the problem and all ongoing implemented road safety initiatives in Kinondoni Municipality motorcycle accidents which course injuries and death have not received the adequate attention they deserve as the situation is

worsening. Since the majority of motorcycle injuries are preventable; contributing factors, implications to inhabitants and safety measures can be addressed for the establishment of preventive strategies for the purpose of eliminating the problem. Therefore, there was a need to research on these issues and come out with solutions for the betterment of the users of motorcycles

1.3 Research Objectives

The objectives of this study were divided into two main categories, that is; general objective and specific objectives as itemized here below.

1.3.1 General Objective

The general objective of the study was to examine the cost of motorcycle's accidents in Kinondoni-Dar es salaam municipality

1.3.2 Specific Objectives

- i.To examine the factors contributing to motorcycle accidents in the municipality
- ii.To explore the cost of lives after motorcycle accidents to the victim
- iii.To examine the cost of treating the motorcycle's accident victim in the hospitals in the municipality
- iv.To examine cost used to repair the motorcycles after the accident

1.4 Research Questions

- i)What are the factors contributing to motorcycle accidents in the municipality?
- ii) What are the costs of life after the accidents?
- iii) What are cost of treating the motorcycle's accident victim in the hospitals in the municipality?
- iv) What is the cost used to repair the motorcycle?

1.5 Significance of the Study

This study examined the cost of motorcycle accidents in Kinondoni Municipality and alerted all stakeholders to take urgent steps to solve the challenges created also bring

awareness among stakeholders regarding the causes, expenses and safety measures to be taken for the purpose of conducting further studies as to overcome the challenges associated with them. The data obtained in this study could be used by the road safety authorities for planning and evaluating road safety measures as well as being utilized by the health authorities in Kinondoni Municipality.

1.6 Justification of the Study

The study introduced and evaluated the facts regarding the cost of motorcycle's accidents and developed possible solutions which gave directions towards the development of effective measures for better service provision by the motorcyclists to their passengers.

1.7 Scope of the Study

The study focused the motorcyclists, passengers/victims, traffic officers, health officers and Tanzania Revenue Authority (TRA) officers. The study examined the cost of motorcycle accidents in the municipality.

1.8 Structure of the Study

The research consisted of five chapters. The first chapter was the Introduction and background information. The second chapter presented the Literature Review, the third chapter highlighted the Research Methodology used, the fourth chapter focused the Presentation and Discussed the Research findings and the fifth chapter presented the Summary, Conclusion and Recommendations. It ends with the list of bibliography and appendices attached with this report

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviewed literatures of other studies in order to provide a theoretical framework which guided the development of the study on which analysis of data for the study was based. It is based on theoretical literatures, empirical review and the conceptual framework.

2.1.1 Theoretical Literature Review

This provided an account of what has been published on a topic by accredited scholars and researchers with the purpose of conveying knowledge and ideas established and what their strengths and weaknesses are.

2.1.2 Definitions of Terms

Motorcycle

A motorcycle (also called a motorbike, bike, motor or cycle) is a two or three wheeled motor vehicle. Motorcycles considerably vary with their intended task; e.g., long distance travel, navigating congested urban traffic, cruising, sport and racing, or off-road conditions. Motorcycles are one of the most affordable forms of motorized transport and, for most of the world's population; they are the most common type of motor vehicle (Odelowo, 1994).

Cost of motorcycle's accidents

These are the cost incurred by the victims of motorcycles accidents, in terms of medical cost, Repair cost and Cost of life to the victims and their dependents.

Traffic officer

A traffic officer is a person whose job is to make sure those cars and motors are properly driven safely for the purpose of safeguarding all users of roads (Komba, 2006).

Motorcycle accident

This is an accident caused by a motorcycle with other causative agent related to that accident. Motorcycle accidents are caused by a number of different factors. As a result, motorcycles are more vulnerable to careless drivers and common driving hazards. Motorcycle accidents are often caused by drivers in passenger cars who fail to check their side-view mirrors before changing lanes. Motorcyclists themselves may cause crashes by exceeding the speed limit, weaving dangerously between lanes of traffic, driving while intoxicated, or driving in severe weather (Paden, 2004)

Health officer

The name of an officer invested with power to enforce the health laws. The powers and duties of health officers are regulated by local laws (Galukandeet *al.*, 2009)

Health care provider

A health care provider is an individual or an institution that provides preventive, curative, promotional or rehabilitative health care services in a systematic way to individuals, families or communities. An individual health care provider (also known as a health worker) may be a health care professional within medicine, nursing, or allied health professions. Health care providers may also be a public/community health professional. Institutions (also known as health facilities) include hospitals, clinics, primary care Centre's, and other service delivery points (Galukandeet *al.*, 2009).

2.1.3 Theoretical Reviews

Muhradet *al* (2005) gave the explanations of the systems theory which is based on man-environment adjustments and maladjustments. The components of the theory are the environment, the means of transport (vehicles) and the behavior of man. The environment component comprises of the natural and the built environments and transport networks (Krug *et al*, 2000).

The means of transport component comprises of the volume and quality of vehicles on the modes of transport. The behavior of man component comprises of

demographic characteristic of road users (age, sex, education, socio-economic status, stage in life cycle), people's perceptions of risk and people's general behavior on the streets (Hauer, 1995). Integrated in the systems theory is a system of highway codes and enforcement mechanisms designed to ensure that road users adhere to the controls and regulations of traffic flow for maintaining road traffic safety. Available literature identifies traffic accidents in a place which has been caused either by physical factors in the road system (environment), the vehicle or behavior factors, and how they interact with enforcement regulations in unique settings (Banyikwa, 2005). Studies done on drivers after being involved in motor accidents reported that although alcohol is the most prevalent source of driver's impairment, other drugs or substance abuse can also contribute to the problem (Violent *et al.*, 1996) Driving under the influence of alcohol or other drug abuse is known to impair the driver's ability to judge and control the vehicle (Orsayet *al.*, 1994).

Excessive speed is also mentioned as the major contributing factor on road crashes and subsequent injure rates of person injured (Shibata *et al.*, 1994). Similarly property doge appears to be linked to the vehicle's speed at impact the driver's age is also known to be an important factor contributing to occurrence of accidents.

Available literatures show that adolescents or young drivers are frequently involved in traffic accidents than other age groups (Banyikwa, 2005). Violent *et al.*, (1996) have also shown through their various studies that young drivers are more frequent involved in accidents caused by inappropriate speed and loss of control of the vehicle compared to other age group of drivers. Leon *et al* (1996) observed that reckless driving in adolescents has been associated with increased risk of crashes. The problem with young drivers is that they like risk taking behavior; also they lack driving skills (Zhang *et al*, 1998).

The problem of young drivers is also mentioned as an important variable contributing to high fatalities or injuries. Under the vehicle factors including its design, lighting system, break system and its use are significant contributors to road traffic accident (Odero, 1995). According to Jørgensen and Abane (1999) a mixture

of different type of vehicle including motorcycles and bicycles operating at different speeds is more widespread in urban areas. This influences the system risk due to the risk of crashes or collisions between various types of vehicles (light, heavy or overloaded) with various speed levels and non-motorized road users. Defects in design or manufacture of vehicle can threaten occupants' safety. Improvement of the interior of the vehicle tends to increase the safety of the occupants.

The environmental factors including design of road, its geographic location, season, weather, and visibility, time of day and traffic regulations contribute to road accidents (Bjornskauet *al*, 2000). Well-designed roads with separate lines for pedestrians and cyclists are much safer than those without such facilities. Sometimes barriers to discourage pedestrians to motor roads reduce the rate of injuries. Modern roads are safe because they are well designed with all important signs.

The road signs should be clear by themselves and should convey an unmistakable message to the driver. Activities along the road side such as petty trading, increases exposure risk to traffic accidents according to Shibata *et al* (1994) at the same time improved road quality may lead to behavioral adjustments in terms of more risk prone driving. Regulations by traffic signaling systems, speed limits and speed controls as well as the existence of police patrols and checkpoints can lead to some reduction of accidents by influencing the road user's behavior.

Jorgensen and Abane (1999) also argued in their study in Ghana that traffic regulation schemes are not systematically implemented and the police service is generally less well trained, equipped and motivated to enforce moving violations as are evident in cities in developed countries. Tripop (1994) found that riders with helmet had an 85% reduction in their risk of head injury compared with those without a helmet. The effectiveness of the helmets in pedal cyclists and motor cyclists is paramount. Mandatory use of helmets in Sweden showed the same good effects (Kent 1991). The effectiveness of helmet use is dependent up on the speed of the motorcyclist. It is more protective at low speed of 50km per hour but less effective at higher speeds.

Promotion of road safety through the use of targeted media campaigns at community level can effectively reduce motor traffic accidents (Chalyaet *al.*, 2010). Alcohol usage causes carelessness and loss of concentration as well as over speeding and neglecting to use safety equipment such as helmet (Nzegwuet *al.*, 2008). Chalyaet *al* (2010) in their study in Mwanza stated that motorcyclists constituted the majority of motorcycle injury victims which resulted into physical and mental disabilities to the injured. In most cities in developing countries pedestrians signs are either absent or not observed by pedestrians or drivers and this has been responsible for high rate of fatality among pedestrians (Komba, 2006).

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2.1.4 Causes of Motorcycle Accidents

A good control of the vehicles on the road depends very much on the behaviors (which is very complex) and skill on the driver (Muhlradet *al.*, 2005). Driving is a complex system in which a large number of variables are interacting with each other but also with varying degree of dependence. Accident may be due to judgment errors, ignorance, incompetence, rule violation, lapses or carelessness, all of which are human errors (Leeming, 1969).

The human factor contributes to the majority of road traffic accidents. A study done by Odero (1995) in Kenya reported that human factors were responsible for 85% of all causes. Jorgensen and Abane (1999) note that concerning road traffic behavior, one can distinguish between driving skills (knowledge and training) and driving style which reflects attitudes and traffic risk perception. Training of drivers increases their driver's skills. A study done by Asongwa (1992) in Nigeria has revealed that a sizeable proportion of drivers who possesses driving licenses never showed up in any driving school or went through a driving test but simply bought their licenses.

Untrained drivers, not unexpectedly, often result in high accident rates. In emergence conditions, stopping distance is also important. However, this depends very much on the driver's reaction time, speed of the vehicles, quality of tyres, and the condition of the road (Lemming, 1969). Odero (2009) identified the following factors that increase the risk of motorcycle crashes and injuries such as; a) lack of certified driver

training and valid licensing; b) speed and reckless driving – moving between lanes and vehicles; c) poor regulation and law enforcement; d) non helmet use by riders and their passengers; e) nonuse of conspicuity measures - wearing of reflectors, daytime headlights; f) overload – carrying 2 or more passengers and g) possible use of alcohol and drugs.

2.2 Empirical Literature Review

Komba (2006) in his research revealed the pattern and trends of motor traffic accidents in Kibaha district from 2001 to 2004. It showed that the accident occurrence was increasing every year, passengers and pedestrians were always at highest risk of being injured or killed on the road and young males were highly prone to motor traffic accidents. Males were more involved in road accidents than females; the risk of dying in an accident during the night was significantly higher than during the day, especially when it was raining.

On the other hand the collision between motorcycle and motor vehicle was the most common mechanism of injury followed by collision between motorcycle and pedestrians. Similar trend was also reported by Solagrebuet *al.* (2006) and Twagirayezuet *al.* (2008). According to Oderoet *al* (1997) there is sufficient evidence in support of high incidence of day time casualties in developing countries. In their view this can be explained by greater traffic volume during the day resulting to greater risk of traffic accidents involvement as people travel to work, children go to school and commercial enterprises are open for business. They also found out in their study on

Road traffic injuries in developing countries that more than 50% of the weekly traffic injuries occur on Friday, Saturday and Sunday, with a high peak on Saturdays. Oderoet *al* (1997) also revealed that in Papua New Guinea for example, studies have shown that nearly 60% of the weakly traffic injuries are reported to occur during this period and it is likely that, a greater proportion is alcohol related. These are important and interesting observations concerning traffic accidents risk in developing countries. However, the studies could not examine the factors contributing to

motorcycle accidents in the respective countries. Chalyaet *et al.*, (2010) stated that the most common complaints were loss of consciousness, headache and confusion.

Skull X-ray performed in 67 cases showed fractures in eight cases only (six mild head injury and two moderate head injury), and was normal in all cases. Computed tomography (CT) scan of the brain performed in 36 cases revealed positive findings in 15 cases; most common findings were cerebral oedema (9 cases), linear fracture (8 cases), and extradural haematoma (5 cases). All patients with severe head injuries did not wear helmet at the time of injury. Motorcycle helmets have been reported in literature to reduce the risk of death and head injuries (Brandt *et al.*, 2002; Keng, 2005). However, studies have shown that helmet use in developing countries is low (Oluwadiyaet *et al.*, 2004). In the study, helmet use was recorded in 22.7% which is higher than that reported in Uganda (Galukandeet *et al.*, 2009; Nzegwuet *al.* (2008) and in Benin City.

Nigeria reported that all motorcyclists and their passengers did not use helmets. The same trend of non-usage of crash helmet was demonstrated in Lagos and in Kampala (Andrews *et al.*, 1999). Catherine *et al.* (2008) in Victoria reported high incidence of helmet use in 53% of patients. These differences in the rate of helmet use reflect differences in awareness of factors contributing to crash occurrence and injury severity related to motorcycle accidents between these countries and poor enforcement of traffic laws. The differences in helmet use may also imply different attitudes to helmet wearing between these countries.

The reasons for non-compliance were not specifically studied but may include the cost of the helmet, ignorance, a cultural disposition toward lawlessness, fatalism, insufficient educational campaigns, and/or recreational drug use, which has been associated with non-compliance (Sauteret *et al.*, 2005).

Other arguments that have been advanced in opposition to helmet use include impaired rider vision, attenuation of critical traffic sounds, rider fatigue and increased neck injuries in the event of a collision (Solagrebuet *et al.*, 2006). However,

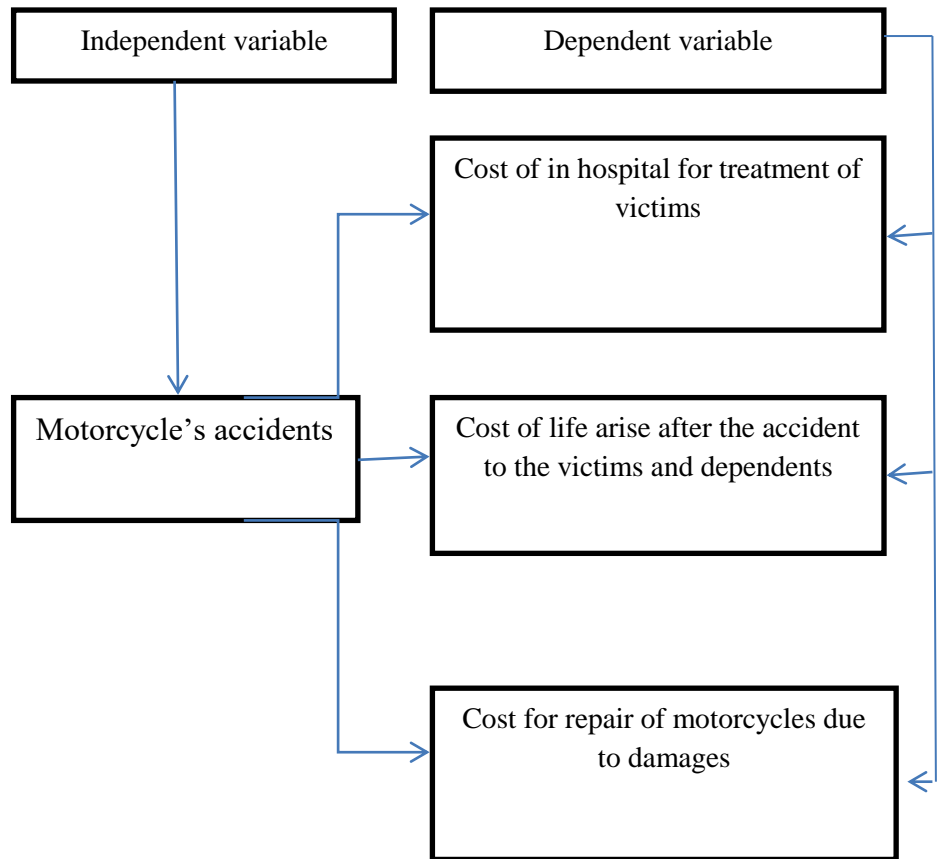
their studies could not explore the motorcycle accidents' implications to the inhabitants of their specific areas. Komba (2006) identified qualitatively that the technical element of the highway construction, corruption, irresponsibility, poor management, driving while using cell phone, driving without training, failure to respect and obey traffic regulations, bad condition of vehicles, age of the vehicles and poor condition of service as the major risk factors associating to the cause of traffic accidents in Kibaha district. Banyikwa (2005) states that several studies regarding improvement of road safety in Tanzania were carried out in the past ten years, but the implementation of the recommendations is quit minimal. Those studies indicate that 16% to 20 % of all accidents in Tanzania are caused by faulty vehicles.

The present influx of vehicles in the country, the laxity in the control of quality of vehicles coupled with poor maintenance has led many people to believe that the condition of the vehicle may determine whether an accident will occur given the presence of the contributing factors. Moreover, a research done by Komba (2006) indicate that, road traffic accidents in communities living along the highways in Tanzania including Kibaha district is very high, there is a gap of knowledge as to exactly what is the source and what should immediately be done, there is no specific agent (institutional wise) to be blamed, locals feel irresponsible, risk and impact accelerate poverty. The innocent passengers and pedestrians become victims. The study by Komba (2006).

2.3 Conceptual Framework

Figure 2.1 provides the conceptual framework. This is defined as an abstract idea or a theory used to develop new concepts or to reinterpret existing ones (Kothari, 2004). It gives the relationship between the independent and dependent variables. From the figure the dependent variable is the motorcycle's accidents while the independent variables include; Cost used in hospital for treatment of victims, Cost of live arise after the accident to the victims and dependents and Cost of repair the motorcycles.

Figure 2.1: Conceptual Framework



CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter provided a blue print to be adopted in the study under the following parts namely; research design; study area; population and sample size; sampling procedures; data collection methods; and data analysis.

3.1 Research Design

Case study research design was used in this study as it is an empirical enquiry that investigates a contemporary phenomenon within its real life context especially when the boundaries between phenomenon and context are not clearly evident (Yin, 2003). A case study research design is one of the several ways of doing social science research. Case studies are the preferred strategy regarding “when” “how” or “why” questions are being posed as argued by Schorr (1997) and when the investigator has little control over events and when the focus is on a contemporary phenomenon with the same real experiences/context (Silverman, 2000). Yin (2003) argues that case studies allow a researcher to retain the holistic and meaningful characteristics of real life events.

The most important with case studies according to Yin (2003) is to explain the causal links in real life intervention, describe the real life context in which an intervention has occurred and evaluate the intervention itself. The research design was allocated with exploratory and inductive approaches to seek for new insight by asking questions and assessing the phenomena in a new light.

3.2 Study Area

The study was conducted in Kinondoni Municipality focusing the cost due to motorcycle accidents. This area was selected because there have been increasing motorcycle accidents which have resulted into loss of peoples’ lives while others being left with injuries. The study assisted on collecting data on peoples’ opinions

regarding the motorcycle accidents in order to unveil the impact of these accidents in terms of cost in municipality

3.3 Population and Sample Size

The study population comprised of 100 participants in the municipality. For the statistical analysis, a sample size of 70 respondents (40 motorcyclists, 16 passengers/victims, , 5 traffic police, 5 health officers and 4 TRA officers) was selected from whom information required for the study was obtained.

Table 3 The Distribution of Respondents

RESPONDENT	SAMPLE SIZE	PERCENTAGE
Motorcyclist	30	42.8
Passengers	15	21.4
Police	4	6
Heath officers	5	7
TRA	3	4.2
Victim	13	18.5
Total	70	100%

Source: Researcher, 2016

3.3.1 Sampling Procedures

The study used two sampling procedures namely; purposive and stratification sampling.

3.3.2 Purposive Sampling

This method was used as it is a non-random sampling procedure in which personal experience of the respondent (regarding occurrence and incidences of motorcycle accidents in the municipality) was considered to be key derived from the position one held or the roles s/he played in relation to a particular activity. Thus, respondents were selected purposively in order to attain the above objectives.

3.3.3 Stratification Sampling

This method was used to focus gender (male and female) and age distributions as to obtain views regarding the topic. The reason according to Carmines and Zeller (1979) is that, stratification serves the distribution among heterogeneous population which needs to be incorporated for the purpose of gaining insights from it.

3.4 Data Collection Methods

Primary and secondary data collection methods were used to get information from respondents and other sources.

3.4.1 Primary Data Collection Methods

Primary data collection methods were used by the researcher to collect data from the field whereby interviews, questionnaires and observations were employed.

a) Interview

The researcher used interview to the passengers/victims, driving school owners/instructors, health officers and TRA officers in order to solicit information regarding the impact of motorcycle accidents in the municipality. According to Yin (2003) the interview tool is very important source of getting information and it is helpful in handling case study related matters as the research design indicate

b) Questionnaires

Questionnaires which were self-administered were used to obtain information from motorcyclists and traffic police officers. The information to be asked included; the factors contributing to motorcycle accidents, motorcycle accidents“ implications to the inhabitants in the municipality and different road safety measures taken by stakeholders to combat the challenges (Appendix 1). Copies of questionnaires were prepared based on the essentials of a good questionnaire, i.e. short and simple, and organized in a logical sequence moving from relatively easy to more difficult issues.

Technical terms, vague expressions and those affecting sentiments of the respondents were avoided. This complemented and supplemented information obtained under

interview, observation and documentary review. The reason was to obtain consistency of responses to the questions asked in repeated measurements (Carmines and Zeller, 1979).

c) Observation

The researcher used observation method (practical observation) to get rich information and awareness about a phenomenon through direct personal observation. This observation complemented information which was not obtained from the interview and questionnaires. The eye witness in real situation assisted the researcher to justify what was revealed from the interview and questionnaires while observing the behaviors of respondents while performing their activities. The reason for using this method was the ability to obtain faithful answers from the respondents exactly when performing their jobs and making sure that what was observed was what was reported (Bryman, 2004).

3.4.2 Secondary Data Collection Methods

The researcher used different documents in order to access accurate and reliable data. Documents comprised of personal profiles (for victims), guidelines and directives (circulars known to respondents regarding the impact of motorcycle accidents), policies and regulations (regarding road traffic accidents), books and journals (used as literatures) and performance reports (quarterly and annual reports) obtained from the hospital and police force.

3.5 Data Analysis

Data collected were analyzed both qualitatively (using content analysis) and quantitatively (descriptive statistics analysis). These data were summarized, coded and analyzed by Statistical Package for Social Science (SPSS). Frequency distribution and percentages were used to describe major variables.

Qualitative data from interviews and observations were analyzed using content analysis (by analyzing texts regarding authenticity or meaning from respondents" responses on "Who says what, to whom, why, to what extent and with what effect

3.6 Ethical Consideration

Respondents were assured on the basis that the information they provide, were basically academic and that there were no hidden agenda which would implicate them in the coming days. This was obvious to them as the questionnaire didn't demand their names. Participants were informed in advance on their freedom to provide information or not that means they had the mandate and discretionary powers to accept willingly or refuse

CHAPTER FOUR

PRESENTATION AND DISCUSSION OF RESEARCH FINDINGS

4.0 Introduction

This chapter presented and discussed the research findings. It highlighted the cost of motorcycle accidents in Kinondoni Municipality. It is presented and discussed under five main sections; the first section provides the response rate; the second section provides the respondents' background information

4.1 Response Rate

Primary data were obtained by using interviews, questionnaires and observation while secondary data being obtained from published and unpublished reports. In this research 45 questionnaires were spread among motorcyclists and traffic police while interview being conducted to passengers/victims, health and TRA officers in Kinondoni Municipality. All questionnaires were successfully filled while the expected interviewees were being reached something that allowed the researcher to code, summarize and analyses the data using SPSS computer software.

4.2 Respondents' Background Information

The respondents' background information included Age, gender, marital status, Occupation and Estimated income.

Age

The age distribution of the respondents involved those who had less than 18 years, those between 18 and 24 years, 25 and 34 years, 35 and 44 years and above 45 years as given in Table 4.1. Those who were less than 18 years were 2.7%, between 18 and 24 years were 37%, between 25 and 34 years were 41.1%, between 35 and 44 were 5.5% and those above 45 years were 9.6%. The age distribution of respondents influenced the study due to experience gained by Kinondoni Municipality inhabitants regarding motorcycle accidents. With that regard the respondents who were between

less than 18 years and 34 years identified the factors such as unreliable driving training to motorcyclists and improper testing when providing driving licenses as supported by Museru and Leshabari (2002). Moreover, those who were above 35 years could identify factors such as failure to use protective tools such as helmets, gloves and shoes as well as the availability of substandard motorcycles imported from China by unethical business persons causing dependency of the victim when it happens to have lost some of his/her body parts

Table 4.1 Respondents' Age

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
Below 18	2	2.7	2.9	2.9
18-24	27	37.0	38.6	41.4
24-35	30	41.1	42.9	84.3
35-44	4	5.5	5.7	90.0
45+	7	9.6	10.0	100.0
Total	70	95.9	100.0	
Missing System	3	4.1		
Total	73	100.0		

Source: Field data, 2016

Gender

The results revealed that out of 70 respondents, 64.4% were male and 31.5% were female. However, the opinions from both sexes were important regarding the impact of motorcycle traffic accidents in Kinondoni Municipality. While women could identify factors contributing to motorcycle accidents such as individual motorcyclist recklessness and poor compliance to safety rules which result into loss of life to many motorcyclists and passengers; men identified factors such as traffic officers' irresponsibility and corruption, intoxication and poor infrastructure which is in agreement with Galukandeet *al* (2009) as among the factors.

Table 4.2 Respondents' Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	47	64.4	67.1	67.1
Valid Female	23	31.5	32.9	100.0
Total	70	95.9	100.0	
Missing System	3	4.1		
Total	73	100.0		

Source: Field data, 2016

Marital status

The results from field indicated that 54.8% were married; 28.8% single; 6.8% widowed and 5.5% divorced. These findings suggest that marital status significantly influenced the study findings as most of those who were married could identify factors such as poor compliance to safety rules and high speed caused by drivers' errors leading to loss of manpower. However, the involvement of those who were single, widowed and divorced played an important part by highlighting factors such as use of devices while driving (e.g. cellular phones) and driving without being trained as supported by Banyikwa (2005) as among the factors.

Table 4.3 Marital Status of the Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Married	40	54.8	57.1	57.1
Valid Single	21	28.8	30.0	87.1
Valid Widowed	5	6.8	7.1	94.3
Valid Divorced	4	5.5	5.7	100.0
Total	70	95.9	100.0	
Missing System	3	4.1		
Total	73	100.0		

Source: Field data, 2016

Occupation

According to the results; 11% of the respondents were peasants, 23.3% were civil servants (who included Police and TRA officers) and 61.6% were business persons (e.g. motorcycle drivers (*bodaboda*) and those who engaged in business while using motorcycles as means of transport). Peasants pointed out factors such as poor responses by other users of road, individual capacity and desire to expose competences. However, civil servants and business persons identified factors such as human recklessness and motorcycle defects as supported by Chalyaet *al* (2010).

Table 4.4 Occupation

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Peasant	8	11.0	11.4	11.4
Valid Civil servant	17	23.3	24.3	35.7
Valid Businessman/woman	45	61.6	64.3	100.0
Total	70	95.9	100.0	
Missing System	3	4.1		
Total	73	100.0		

Source: Field data, 2016

Estimated Income

The results given was showed that 64.4% of respondents had estimated monthly income ranging from 300,000 - 500,000/= Tanzanian shillings (Tsh); while 15.1% having estimated monthly income ranging from 500,001 – 700,000/= Tsh. Those who had estimated monthly income above 700,000/= were 16.4%. However, those who had estimated monthly income ranging from 500,000/= to 700,000/= pointed out factors such as use of devices while driving and stressful work as among the factors causing motorcycle accidents; while those who had estimated monthly income above 700,000/= identifying traffic officers’ irresponsibility and corruption as key factors causing accidents.

Table 4.5 Estimated Incomes per Month of the Respondents

Income per month

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
300,000-500,000	47	64.4	67.1	67.1
500,001-700,000	11	15.1	15.7	82.9
Above 700,000	12	16.4	17.1	100.0
Total	70	95.9	100.0	
Missing System				
Total	3	4.1		
Total	73	100.0		

Source: Field data, 2016

4.3 Factors that Contribute to Motorcycle Accidents in Kinondoni Municipality

The first objective of this study was to examine the factors contributing to motorcycle accidents in Kinondoni Municipality. According to the literature, the researcher identified fourteen factors which were considered to cause accidents. These included; poor responses by other users of the road, failure to use protective tools, individual capacity and desire to expose competences, use of devices while driving, motorcycle driving as a career being a stressful work, poor compliance to safety rules, motorcycle defects, intoxication, human carelessness, poor infrastructure, high speed, driving without formal training, traffic officers' irresponsibility and corruption and substandard motorcycles imported from China. To obtain information on the factors that contributed to motorcycle accidents, the researcher asked the respondents to identify relevant factors causing accidents (from Likert scale choices something which enabled the analysis to be done in terms of Yes or No responses).

4.3.1 Poor Responses by Other users of the Road.

The results from the research showed that, 56(80%) of the respondents highlighted human carelessness resulting from reckless driving and poor responses from other users of the road which result into non-users to provide either more space or reduce

the space needed by motorcyclists and others as among the factors that contributed to motorcycle accidents in Kinondoni Municipality as supported by Nzegwuet *et al* (2008). While 14(20%) they disagree with that.

Table 4.6 Poor Responses by other users of the Road

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	56	80.0	80.0	80.0
No	14	20.0	20.0	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

4.3.2 Failure to use Protective Tools

Failure to use protective tools reported by 67(95.7%) of respondents agree the statement, those tools like gloves, shoes and helmets were among the factors. It was reported by one of the respondents that “*helmets are normally worn to avoid being caught by traffic police and not about their own safety given the obvious risk of head injury should a collision occur*”. While 3(4.3%) said no.

Table 4.7 The use of Protective Tools

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	67	95.7	95.7	95.7
No	3	4.3	4.3	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

4.3.3 Individual Capacity and Desire to Expose Competences

Individual capacity and desire to express competences, 57(81.4%) of the respondents done as a prestige to many motorcyclists as factors that contributed too many accidents in Kinondoni Municipal, while 13(18.6%) disagree with it.

Table 4.8 Individual Capacity and Desire to Expose Competences

	Frequency	Percent	Valid Percent	Cumulative Percent
yes	57	81.4	81.4	81.4
No	13	18.6	18.6	100.0
Valid Total	70	100.0	100.0	

Source: Field data, 2016

4.3.4 Use of Devices while Driving

60(85.7%) reported the use of devices while driving such as cellular phones which result into less control of the bike by the driver and high speed driving which can cause drivers' errors as affirmed by 85% of respondents as among the factors. On the other hand 10(14.3%) they disagree with it.

Table 4.9 Use other Devices while Driving.

	Frequency	Percent	Valid Percent	Cumulative Percent
yes	60	85.7	85.7	85.7
No	10	14.3	14.3	100.0
Valid Total	70	100.0	100.0	

Source: Field data, 2016

4.3.5 Motorcycle Driving as a Career Being a Stressful Work

Motorcycle driving as a career perceived as a stressful work as drivers work under pressure while having inadequate time to rest as attested by 52(74.3%) of the respondents and supported by Solagberuet *al* (2006), and 18(25.7%) disagree with the statement.

Table 4.10 Driving of Motorcycle is a Stressful Work.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid yes	52	74.3	74.3	74.3
No	18	25.7	25.7	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

4.3.6 Poor compliance to safety rules

Poor compliance to safety rules such as driving on the opposite side, excessive cargo and others as affirmed by 68(97.1%) of the respondents were factors that contributed to motorcycle accidents as supported by Galukandeet *al* (2009)It is concluded that, is one of the most factor that leads to the motorcycles accidents. While 2(2.9%) which is low percent, they disagree with that.

Table 4.11 Poor compliance to Safety Rules

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid yes	68	97.1	97.1	97.1
No	2	2.9	2.9	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

4.3.7 Motorcycle Defects

Motorcycle defects such as break failure and tires bursts were reported by 55(78.6%) of the respondents as among the factors, that contributed to the occurrence of many motorcycles accidents in Kinondoni Municipal, on the other hand 15(21.4%) of the respondents they disagree with this.

Table 4.12 Motorcycle Defects

	Frequency	Percent	Valid Percent	Cumulative Percent
yes	55	78.6	78.6	78.6
Valid No	15	21.4	21.4	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

4.3.8 Intoxication

57(81.4%) of the respondents from the field reported intoxication from drugs or alcohol as a habit that has been developed by motorcyclists as factor that contributed too many accidents in Kinondoni Municipal, this is too dangerous. While on the other hand 13(18.6%) disagree with the statement.

Table 4.13 Intoxication

	Frequency	Percent	Valid Percent	Cumulative Percent
yes	57	81.4	81.4	81.4
Valid No	13	18.6	18.6	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

4.3.9 Human Carelessness.

The results from the research showed that, 56(80%) of the respondents highlighted human carelessness resulting from reckless driving is among the factor that contributed to motorcycle accidents in Kinondoni Municipality. While 14(20%) they disagree with that.

Table 4.14 Drivers Careless.

	Frequency	Percent	Valid Percent	Cumulative Percent
yes	56	80.0	80.0	80.0
Valid No	14	20.0	20.0	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

4.3.10 Poor Infrastructure.

The results from the field showed that, 58(82.9%) of the respondents pointed out the availability of poor infrastructure in various places in the municipality, which also contributes to the accidents, as many of the municipal's road are poor and maintenance is not done in time, on the other hand 12(17.1%) of the respondents they are not agree that poor infrastructure causes accidents.

Table 4.15 Poor Infrastructure

	Frequency	Percent	Valid Percent	Cumulative Percent
yes	58	82.9	82.9	82.9
Valid No	12	17.1	17.1	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

4.3.11 High Speed.

Most of the motorcycles accidents that occurs in Kinondon Municipal is due to the speed, as 63(90%) of the respondents agree with it, this is higher percent, so it seems speed is one of the most big factor that facilitate the occurrence of accident in this place. While 7(10%) disagreed.

Table 4.16 High speed of the Motorcycles.

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	63	90.0	90.0	90.0
Valid No	7	10.0	10.0	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

4.3.12 Driving Without Formal Training.

Specifically, the results showed that 49(70%) of the respondents identified driving a motorcycle without formal training while practicing informal training done in the outskirts of the town instead which necessitates accidents as one of the factor. And 21(30%) disagreed.

Table 4.17 Driving without formal training.

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	49	70.0	70.0	70.0
Valid No	21	30.0	30.0	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

4.3.13 Traffic officers' irresponsibility and corruption.

The results showed that traffic officers' irresponsibility and corruption practices reported by 67(95.7%) of the respondents done on the road or elsewhere to the motorcyclists. While 3(4.3%) of the respondents disagreed with that.

Table 4.18 Traffic Officers' Irresponsibility And Corruption.

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	67	95.7	95.7	95.7
Valid No	3	4.3	4.3	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

4.3.14 Substandard Motorcycles Imported From China.

Results from the field indicated that the availability of substandard motorcycles imported from China reported by 54(77.1%) of respondents is of low standards, this make as among the factor that contributes to the occurrence of motorcycles accidents. On the other hand 16(22.9%) of the respondents said no on it.

Table 4.19 Substandard motorcycles imported from China.

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	54	77.1	77.1	77.1
Valid No	16	22.9	22.9	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

The results showed that the majority of respondents were able to examine the factors by agreeing from their understanding on which factors contribute to motorcycle accidents in Kinondoni Municipality; while the minority of respondents disagreeing or being unable to examine the factors from various reasons such as little knowledge regarding the causes of motorcycle accidents as indicated above. The availability of substandard motorcycles imported from China by unethical business persons which are bought by innocent Tanzanians without knowing resulting into unnecessary accidents to them.

The results showed that the majority of respondents identified by agreeing with the safety measures taken by stakeholders to combat the challenges in the municipality; while the minority of respondents disagreeing or being ignorant due to little mass education provided regarding these safety measures as indicated above.

Specifically, the results showed that 75% of the respondents were in opinion of increasing the police force budget to assist the road safety activities, organizing road safety week campaigns and prosecuting in courts or penalizing without prosecution those who contravene road traffic rules and other related legislations as reported by

more than 80% of respondents and supported by Chalyaet *al* (2010) were road safety measures emphasized. However, more than 85% were in opinion of constructing bumps along crossing areas such as schools and market, and enhancing road safety committees with traffic safety activities in coordinating and organizing different activities relating to control and prevention of road traffic accidents as affirmed by more than 85% of the respondents.

Furthermore, the results showed that, a least of more than 89% of the respondents emphasized the enforcement of laws to those who violate the rules by being fined or withholding their licenses for a given time, 90% pointed out the proper use of standard helmets to both the driver and the passenger to save in case of injury and conducting frequent motorcycle inspection as reported by Naddumba (2004) as safety measures. Moreover, 92% of the respondents were in opinion of having regular repair and replacement of road signs while 95% of respondents emphasizing the need of education dissemination concerning road safety measures to pupils and various levels of education and communities. It is concluded that, 75% of the respondents were in opinion of increasing the police force budget to assist the road safety activities, organizing road safety week campaigns and prosecuting in courts or penalizing without prosecution those who contravene road traffic rules and other related legislations.

4.4 Motorcycle Accidents Lead To Cost Of Life Arise After The Accident To The Victims And Dependents

The second objective of the study was to explore the motorcycle accidents cost to the victim and dependents. From the literature, the researcher highlighted ten areas which have been visualized. These included; mental disabilities, reduction of working capacity, marriage separations, psychological problems, segregation and stigmatization, physical disabilities, permanent dependence, deprivation of social status, family conflicts between the driver and the owner of the motorcycle and loss of life. For that purpose, the researcher asked the respondents to identify/mention (in terms of Yes or No).

4.4.1 Mental Disabilities.

53(75.7%) of the respondents reported some mental disabilities for those accidentals from motorcycles' accidents, whose they got an accidents and affects their brains. While 17(24.3%) disagreed with that.

Table 4.20 Mental Disabilities.

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	53	75.7	75.7	75.7
Valid No	17	24.3	24.3	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

4.4.2 Reduction of Working Capacity.

Moreover, the results from the field showed that, 56(80%) of respondents reported the presence of the reduction of working capacity to the victims, and agreed that is one of the effect of accidents to the victims, while 14(20%) they disagreed.

Table 4.21 Reduction of Working Capacity.

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	56	80.0	80.0	80.0
Valid No	14	20.0	20.0	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

4.4.3 Marriage Separations.

The results showed that 49(70%) of the respondents agreed, that accidents causes marriage separations to those who were seriously affected by the accidents. On the other hand 21(30%) disagreed with it.

Table 4.22 Marriage Separations.

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	49	70.0	70.0	70.0
Valid No	21	30.0	30.0	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

4.4.4 Psychological problems

57(81.4%) of the respondents reported that psychological problems is the result of motorcycles accidents due to head injuries. While 13(18.6%) disagreed.

Table 4.23 Psychological Problems.

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	57	81.4	81.4	81.4
Valid No	13	18.6	18.6	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

4.4.5 Segregation and Stigmatization

60(85.7%) of the respondents reported to result into segregation and stigmatization from various people such as health officers who had to care for the victims in hospitals. While 10(14.3%) disagreed.

Table 4.24 Segregation and Stigmatization

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	60	85.7	85.7	85.7
Valid No	10	14.3	14.3	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

4.4.6 Physical Disabilities

Yet, 65(92.9%) of the respondents reported to have physical disabilities as supported by Banyikwa (2005) which cost their life long. On the other hand 5(7.1%) said no on it.

Table 4.25 Physical Disabilities

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	65	92.9	92.9	92.9
Valid No	5	7.1	7.1	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

4.4.7 Permanent Dependence

However, 53(75.7%) of the respondents reported that motorcycle accidents necessitated the presence of permanent dependence to relatives of the victims. While 17(24.3%) disagreed.

Table 4.26 Permanent Dependence

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	53	75.7	75.7	75.7
Valid No	17	24.3	24.3	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

4.4.8 Deprivation of Social Status.

The results showed that, motorcycle accidents deprived people of their social status as affirmed by 49(70%) of the respondents. While 21(30%) of the respondents disagreed.

Table 4.27 Deprivation of Social Status.

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	49	70.0	70.0	70.0
Valid No	21	30.0	30.0	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

4.4.9 Family conflicts between the Driver and the owner of the Motorcycle.

63(90%) of the respondents, said there was family conflicts between the driver and the owner of the motorcycle when the two parts agree to share the costs due to the damages or breakages envisaged but not honoring the agreement put. On the other hand 7(10%) disagreed.

Table 4.28 Family conflicts between the Driver and the owner of the Motorcycle.

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	63	90.0	90.0	90.0
Valid No	7	10.0	10.0	100.0
Total	70	100.0	100.0	

Source: Field data, 2016

4.4.10 Loss of Life.

67(95.7%) of respondents reporting loss of life as among the motorcycle accidents. While 3(4.3%) disagreed.

Table 4.29 Loss of Life.

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	67	95.7	95.7	95.7
Valid No	3	4.3	4.3	100.0
Total	70	100.0	100.0	

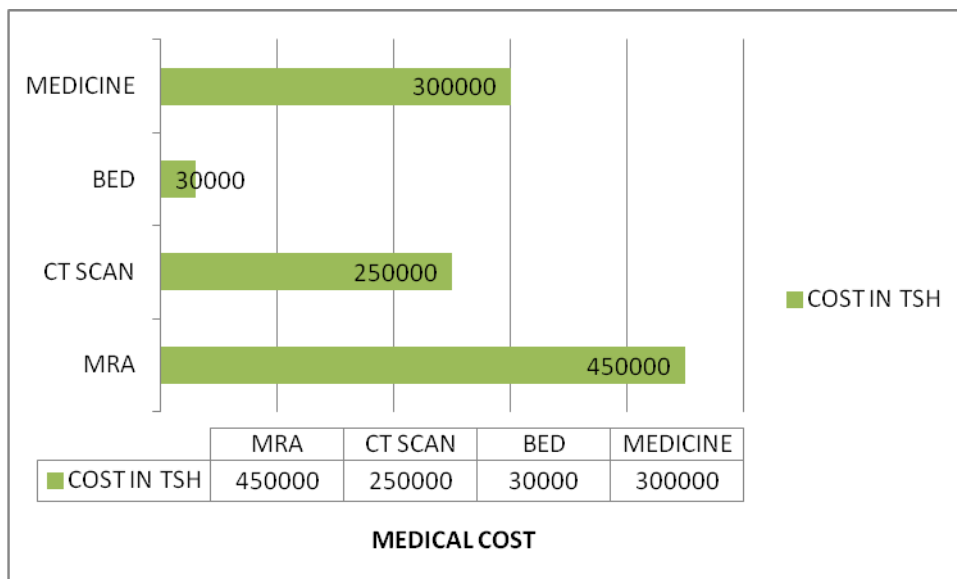
Source: Field data, 2016

The results above showed that the majority of respondents identified by agreeing (from their perception) with the areas where the cost of life to the victim and dependents; while the minority of respondents disagreeing or being unable to identify them due to the lack of information needed to be disseminated by health officers and police force as indicated above.

4.5 Cost of in Hospital for Treatment Of Victims

The third objective was to examine the cost associated with treatment of victims in hospitals, medical costs constitute another proportion of the total costs of motorcycle accidents, the medical costs constitute the first and most tangible economic burden experienced by the victim and the immediate family members and friends. The figures 2 presents the total medical cost based on data estimates from the survey at Muhimbili Hospital. The results show that the medical costs per cyclist who is seriously injured translate into 1000000 Tanzanian Shillings. The data from Tanzania Police department between January-December 2015 in which 304 motorcyclists were reported to have been seriously injured as a result of motorcycle accidents in Kinondoni.

Figure 4.1 show the medical cost

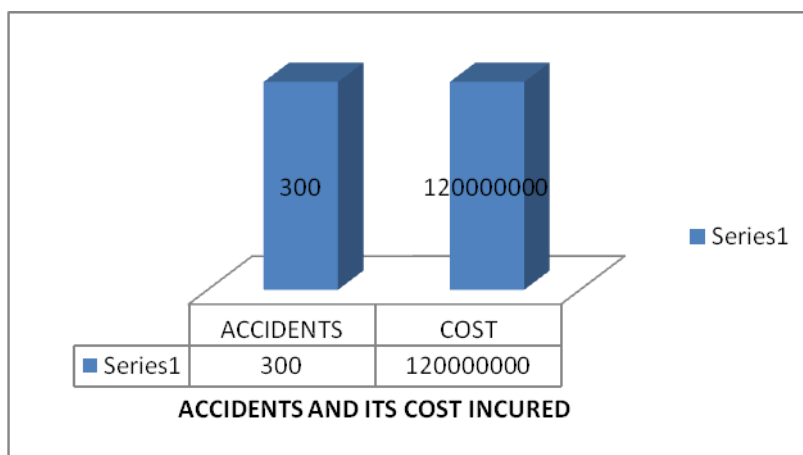


Source: Field data, 2016

4.6 Repair Costs

In the survey established the cost of repairs for those respondents who experienced motorcycle accidents. Results in figure 3 shows that on average bodaboda riders spend three times their daily incomes on motorcycle repairs (400000Tshs). Estimating the repairs costs based on 300 severe motorcycle accidents reported by Police data in 2014, the country lost approximately 2Bilion shillings in Repair costs.

Figure 4.2 The Repair cost on Motorcycles



Source: Field data, 2016

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter highlights the summary, conclusion and recommendations along with the policy implications and the need for further research. It starts with the summary proceeded by conclusion and recommendations, policy implications and the need for further research.

5.1 Summary

Accidents are observed to hinder individual development and reduce national economic intensification against expectations of Millennium Development Goals (MDGs). The presence of users of motorcycles and the associated accidents influx offer a unique challenge in view of inadequate manpower which is frequently lost.

In developing countries the trend has reached an alarming state, but very little attention is paid to the problem. The results from the study regarding the cost of motorcycle accident in Kinondoni Municipality showed that, 70% of the respondents identified driving a motorcycle without formal training, motorcycle driving being perceived as a stressful work 75% and the availability of substandard motorcycles imported from China reported by 77% of respondents were among the factors.

On the other hand, motorcycle defects such as break failure and tyre bursts was reported by 79% of the respondents, 80% highlighted human carelessness and poor responses from other users of the road, 81% reported intoxication from drugs or alcohol as a habit developed by motorcyclists, individual capacity and desire to express competences 82% done as a prestige to many motorcyclists and the availability of poor infrastructure in various places in the municipality caused motorcycle accidents as reported by 83% of the respondents.

Likewise, 85% reported the use of devices while driving such as cellular phones, high speed driving which can cause drivers' errors as reported by 90% of 48

respondents and traffic officers“ irresponsibility and corruption practices reported by 95% of the respondents done on the road or elsewhere as among the factors. Yet the failure to use protective tools reported by 96% of respondents such as gloves, shoes and helmets, poor compliance to safety rules such as driving on the opposite side, excessive cargo etc as affirmed by 97% of the respondents were factors that contributed to motorcycle accidents.

Furthermore, motorcycle accidents deprived people of their social status as affirmed by 70% of the respondents and caused marriage separations to those who were seriously affected by the accidents. However, 75% reported that motorcycle accidents necessitated the presence of permanent dependence to relatives of the victims while 76% reported to have mental disabilities. Moreover, 80% of respondents reported the presence of the reduction of working capacity to the victims, 82% reported to have psychological problems as the result of head injuries and 85% reported to result into segregation and stigmatization from various people such as health officers who had to care for the victims in hospitals. Likewise, 90% of the respondents had family conflicts between the driver and the owner of the motorcycle, 95% of the respondents reported to have physical disabilities which cost their life long and 95% of respondents reported the loss of life as among the motorcycle accidents all of these make a greater loss to economy of the country as well as individual economy especially the victims and his dependents.

5.2 Conclusion

Based on the empirical findings from the study, some major conclusions are drawn with regards to the effects of cost of motorcycle accidents in Kinondoni Municipality. Furthermore, as motorcycle accidents necessitate the presence of permanent dependence to relatives of the victims, the presence of the reduction of working capacity and psychological problems resulting from head injuries; steps need to be taken to eliminate the accident indicators for the betterment of the community at large. Moreover, enforcing laws to those who violate the rules by being fined or withholding their licenses would alleviate motorcycle accidents in Kinondoni Municipality.

5.3 Delimitation of the Study

Due to some difficultness the researcher is propose before conducting the research you should have well in financial and have enough time. The other researcher should prepare the open question rather than closed question this will aid the respondent to participate well.

5.4 Recommendation and Policy Implication

5.4.1 Recommendations

In light of the above findings, the researcher has proposed the following recommendations;

- a) It has been reported to have informal training to motorcycle drivers done in the outskirts of the town which necessitate many accidents because; those trainings don't provide skills relevant for perfect driving. Therefore, it is upon the concerned (drivers, police etc) to have continuous training of motorcycle drivers in order to alleviate unwanted accidents.
- b) Road safety measures need to be provided to every road user while traffic police conducting frequent motorcycle inspections for the purpose of safeguarding the consumers of that service.

5.4.2 Policy Implications

The researcher argues for the enhancement of drivers' skills on the road through continuous training while honoring other users of the road by adhering to laws and changing the drivers' behaviors.

5.4.3 Need for Further Research

The study examined the cost of motorcycle accidents in Kinondoni municipality; it is advised that further studies be done on the following issues;

- a) To what extent have road safety measures taken been able to minimize motorcycle accidents in Kinondoni Municipality?
- b) What are the challenges does the victim face after motorcycle accident and be out their jobs?

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APPENDICES

6.1 Appendix 1 Questionnaires

Topic; THE COST OF MOTORCYCLE’S ACCIDENTS IN KINONDONI

PART A: Characteristics of respondents

1. Age in years (*tick where appropriate*) (1) Below 18 () (2) 18 – 24 () (3) 25 – 34 () (4) 35 – 44 () (5) 45+ ()
2. Sex: (1) Male () (2) Female ()
3. What is your marital status?. 1) Married () 2) Single () 3) Widowed () 4) Divorced ()
4. Occupation: (1) Peasant () (2) Civil servant () (3) Businessman/woman () (4) Others (specify).....
5. What is your estimated income per month? 1) 300,000-500,000/= () 2) 500,001- 700,000/=() 3) above 700,000/= ()

PART B

6. Would you please mention contributing factors to the cost motorcycle accidents in the municipality? i).....
 ii).....
 iii).....
7. Do you think that among the mentioned items could the motorcycle accidents cost pose?

FACTOR OF COST	PERCENTAGE	PERCENTAGE
Mental disabilities		
Reduction of working capacity		
Marriage separations		
Psychological problems		
Segregation and stigmatization		
Physical disabilities		
Permanent dependence		
Deprival of social status		
Family conflicts between the driver and the owner of the motorcycle		
Loss of life		

6.2 Appendix 2: Interview guide

1. What are the costs associated to motorcycle accidents in kinondoni Municipality?
2. What are the areas doe's motorcycles accidents pose in kinondoni Municipality?
3. What are different road safety measures taken by stakeholders to combat the challenges?