

**FACTORS INFLUENCING HIGH RATE OF TAXI
MOTORCYCLE ACCIDENTS IN KASIPUL KABONDO
CONSTITUENCY, HOMABAY COUNTY**

BY

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UNIVERSITY OF NAIROBI
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**A RESEARCH PROJECT REPORT SUBMITTED IN FULFILLMENT OF THE
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF A MASTER OF ARTS IN
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DECLARATION


This research project report is my original work and has not been presented for any other academic award in any University.

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DEDICATION

This research project report is dedicated to my beloved wife Alice Odhiambo and children: Darsy, Gift and Leon for their moral support and patience to see me through my studies.

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LIST OF ABBREVIATIONS AND ACRONYMS

KSI	:	Killed and Serious injury
PC	:	Pedal Cyclist
TBI	:	Traumatic Brain Injuries
PPE	:	Personal Protective Equipment
ICC-U	:	Injury Control Centre-Uganda
ROWV	:	Right of Way Violation
U.K	:	United Kingdom
U.S.A	:	United States of America
CCPPP	:	Conflict with Current Projected Policies and Programmes
CBT	:	Compulsory Basic Training
OCS	:	Officer Commanding Station
OCPD	:	Officer Commanding Police Division
CADD	:	Campaign against Drinking and Driving
RDD	:	Riding with a Drunk or Drugged Driver
DUI	:	Driving under the Influence
ID	:	Identity Card
MS	:	Marital Status

ABSTRACT

Chapter one of this study presents the background of the study, statement of the problem that necessitated the research and the purpose of the research. The research was conducted to investigate factors influencing high rate of taxi motorcycle accidents in Kasipul Constituency of Homabay County. Motorcycles are a fast service that is flexible but subjects travellers to risks of accidents. Taxi motorcycle accidents are becoming a common phenomenon in this country with escalations in Kasipul Kabondo constituency as witnessed by the number of casualties that keep increasing by the day. The Rachuonyo South District Hospital puts their figure at 10-12 cases admitted daily while the traffic police figures are at 15 cases a day. Many fatal accidents are alleged to be as a result of short training time, poor terms of service, poor road conditions, abuse of drugs and substances, role of traffic police and riding experience. This study was purposely to determine factors that influence taxi motorcycle accidents. The five factors as spelt out in the five objectives of this study are as follows: to determine the influence of drug and substance abuse on high rate of taxi motorcycle accidents, to establish how road conditions influence high rate of taxi motorcycle accidents, to investigate how terms of service influences high rate of taxi motorcycle accidents, to assess how experience of riders influences high rate of taxi motorcycle accidents and to explore the role of traffic police and how this influences high rate of taxi motorcycle accidents. The research questions from the objectives are as follows: to what extent does drug and substance abuse influence high rate of taxi motorcycle accidents in Kasipul-Kabondo constituency? To what level does road condition influence high rate of taxi motorcycle accidents in the constituency? How far does the experience of riders influence high rate of taxi motorcycle accidents in Kasipul Kabondo constituency? To what extent does terms of service influence this? And lastly what is the role of traffic police on high rate of taxi motorcycle accidents in Kasipul Kabondo? It was hoped that the study would explain what needs to be done to curb increasing frequency of taxi motorcycle accidents. A descriptive survey technique was thus used to collect data that was used to get answers to the research questions under study. Structured questionnaires were used with a target population of 2720 boda boda riders with a sample size of 272 riders and an additional 26 medical personnel as well as traffic police. The riders together with medics and traffic police formed a target population of 2746, making a sample size of 298 respondents. Majority of riders take drugs because they want to wish away frustrations and most of them began this in trade. Moreover, roads were pathetic thereby reducing their efficiency as they were full of potholes with few road signs. In addition poor terms of service were revealed to contribute to overloading, over speeding. Again inexperience aggravated accidents and the police played a little role in reducing accidents. Campaigns against drug abuse, frequent repair of roads, better terms of service and stepped up surveillance by police were recommended as a way forward to reducing the high rate of taxi motorcycle accidents.

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Motorcycles have been used as a mode of transport for a long time but, in the recent years; between 1980 to date they have been used in taxi business as a way of supplementing other modes of transport. This is because access to public transport in the developing world has become more and more tenuous, Ayodele (2009). However, as Cervero, (2001) puts it, this form of transport is dangerous.

Motorcycle taxis contribute to traffic accidents majorly in Jakarta, Indonesia and Rio de Janeiro in Brazil, Joewono and Kubota, (2007). In Bangkok, by 2007 there were more than 73,000 motorcycle taxis and it was discovered that their service was the fastest and flexible, but the travellers using them found themselves trading off their safety with less travel time according to Golub, (2007)

In the U.S.A as Vuchic, (2007) puts it, it was found out in 2004 that while about 15 cars out of 100,000 ended up in fatal crashes; the rate of motorcycle crashes was 69.3 per 100,000. It is said that there has been little study on the causes of such accidents, but the Hurt report performed around 1980 in the Los Angeles concluded that the major cause was; the failure by the motorists to detect and recognize motorcycles in traffic, that either the driver of the other vehicle involved in collision with the motorcycle did not see the motorcycle until too late to avoid the collision, Cervero, (2001)

In Sweden, Cervero, (2001) notes that by around 1994 to 1995, there were several motorcycles working as taxis in Stockholm. Currently, one company in Sweden offers tours using two Chang Jiang' side car motorcycles and like in USA, collision with oncoming vehicles is a major cause of motorcycle fatalities there, Moss (2000)

In UK, motorcyclists make less than 1% of vehicles traffic, yet riders suffer 14% of the total deaths and serious injuries on Britain's roads. Chesham et al, (1993) assert that their killed and serious injury (KSI) rate in UK per million vehicle kilometers is approximately twice that of pedal cyclists (PC) and over 16 times that of car drivers and passengers. DETR, (2000) adds that in 1990, a motorcyclist was 35 times more likely to be killed or seriously injured than a car driver and the figures have improved over the last 10 years on the roads in Great Britain.

In 1999, in New Zealand it was discovered that motorcycle riders accounted for 20% of fatalities and 25% of hospitalizations for road traffic accidents as a whole but motorcycles represented only 5% of licensed vehicles while they accounted for only 1.4% of estimated total vehicle mileage in that country (Reeder et al, 2009). Riders aged between 15-24 years accounted for 69% of motorcycle accident fatalities (Moss, 2000)

In Africa, motorcycles are also in use as taxis. In Nigeria, they are called Okada or Achaba. Okada began to gain popularity in the late 1980's when jobless youths began to use them for commercial purposes. Unfortunately, the increase of Okada was accompanied by increased levels of high risk behaviour and accidents on Nigerian roads (Tromp, 2006). Ayodele, 2009, adds that Okada's have a higher risk of crippling and fatal accidents per unit distance than other automobiles. A 1998 study at the Awolowo Teaching Hospital showed that motorcycle injuries to limb occurred in 79.3% of patients who reported at the emergency department of that hospital. It was further revealed that Personal Protective equipment (PPE) was practically non-existent among most Okada riders (Cervero, 2001).

In Ghana, motorcycles are the most popular means of transportation in northern Ghana, and their accidents are a major cause of loss of life and limbs (safety Net, 2009). Sekondi, (2012) says that Bolgatanga municipality loses about \$1.2 million annually due to motorcycle crashes.

Wycombe, (2002) says that scarcity of resources can be assumed to continue to plague road safety in Zambia. He adds that the attorneys in Zambia regularly handle cases of motorcycle accidents due to dangerous riding.

In Uganda, 4-6 traffic fatalities occur per week on the Entebbe-Kampala road. Uganda Traffic Police reported in 2006 that 12,158 were seriously injured in that year where 42% were passengers, 33% were pedestrians and 14% were motorcyclists (Uganda police traffic department report 2005/2006). It was reported in Injury Control Centre Uganda in 2006 that traumatic brain injuries were the cause of 50% of motorcycle fatalities while a recent survey in Uganda revealed that 1 out of 300 boda boda users had formal training (Reeder et al, 1996).

In Kenya, Githinji, (2011) attributed the increase of motorcycles on roads because of the waiver by the then finance minister Uhuru Kenyatta of duty in 2009 to the increase in road accidents. He adds that boda bodas have emerged top killers as reflected in health facilities and police stations countrywide. In 2010 alone, deaths associated with motorcycle accidents were 200, a figure that could be higher because not all motorcycle accidents are reported.

Prof Minning, (2011), the head of Immunology Department of Moi School of Medicine reported that every day in Uasin Gishu, thirty cases of motorcycle inflicted fractures are reported in health facilities in the North Rift. He adds that averages of six people are booked for minor or major injuries in hospitals.

Traffic report covering the year 2009 to 2011 in Kasipul-Kabondo indicates that fatalities have increased from 28 in 2009 to 54 in 2011. Due to the increase in injuries and deaths, The Rachuonyo South District Hospital has designated a Ward for taxi motorcycle victims (Rachuonyo South District Report, 2011). Records at Rachuonyo South OCPD's Office indicate that motorcycle accidents are three times more than those of motor vehicles (Rachuonyo Police Headquarters, 2011).

1.2. Statement of the Problem

A survey conducted on 26th April, 2012 at Oyugis by the Ministry Of Health personnel placed the use of reflector jackets by cyclists at 5%; meaning that 95% lacked them, use of hand gloves at 0%; meaning that none of the riders had them and the riding boots were also at 0%. Helmets stood at 30% meaning that 70% were not using them (Ministry Of Health, 2012). All these happen even after Parliament of Kenya enacted a law that requires cyclists to use helmets on roads (Githinji, 2011). So despite efforts by traffic police to enforce traffic rules on our roads, it is still evident that traffic rules are flouted with impunity thus exposing motorcycle riders to grave danger of being victims of accidents (Ipara, Nakuru OCPD (2010). Ipara, (2010) decried lack of Protective Gears like helmets, reflector jackets, boots and hand gloves among many cyclists. The Rachuonyo South Traffic Police Department on the other hand reported in 2011 that 30%-40% of taxi motorcycle riders are not keen on helmets. The laws of the country recommend that road safety measures should be undertaken, but still witnessed on the roads are fatal accidents which are quite prevalent on Kenyan roads. Therefore this study sought to investigate factors influencing high rate of taxi motorcycle accidents in Kasipul Kabondo constituency.

1.3. Purpose of the Study.

The purpose of this study was to investigate factors influencing high rate of taxi motorcycle accidents in Kasipul Kabondo constituency.

1.4. Objectives of the Study.

This study was guided by the following five objectives.

1. To determine how drug and substance abuse influences high rate of motorcycle taxi accidents in Kasipul Kabondo constituency.
2. To establish the extent to which road conditions influence high rate of taxi motorcycle accidents in Kasipul Kabondo constituency.

3. To investigate the influence of terms of service on high rate of taxi motorcycle accidents in Kasipul Kabondo constituency.
4. To assess how experience of riders influences high rate of taxi motorcycle accidents in Kasipul Kabondo constituency.
5. To explore how the role of traffic police influences high rate of taxi motorcycle accidents in Kasipul Kabondo constituency.

1.5. Research Questions

The study was guided by the following research questions which were drawn from research objectives:

1. To what extent does drug and substance abuse influence high rate of taxi motorcycle accidents in Kasipul Kabondo constituency?
2. To what level does road condition influence high rate of taxi motorcycle accidents in Kasipul Kabondo constituency?
3. How far does experience of riders influence high rate of taxi motorcycle accidents in Kasipul Kabondo constituency?
4. To what extent does terms of service influence high rate of taxi motorcycle accidents in Kasipul Kabondo constituency?
5. What is the role of traffic police on high rate of taxi motorcycle accidents in Kasipul Kabondo constituency?

1.6. Significance of the Study.

It was hoped that someone would find this study handy at some point and use it to develop necessary measures needed in all parts of Kenya to curb high rate of road accidents particularly those caused by taxi motorcycles. The study was therefore meant to provide insights into the kind of projects that people who felt there was need to have operation-zero accidents taxi motorcycles could embark on to ensure that high rate of taxi motorcycle

accidents were no more on our roads and that projects initiated by them may be of good help to all kinds of motorcycle riders, be they young or the old. It is further hoped that the study would help in transforming people's perspective of the taxi motorcycle business and make people start seeing this means of transport as a safe mode of transport viewed as reliable at all times. Hopes were pegged that the results of this study were to help in filling the existing information gaps, and thus would contribute to knowledge in the area of major causes of motorcycle accidents; information that even the Traffic Police may find the study handy when enforcing laws governing our road users all over the country.

1.7. Limitations of the Study.

These are factors that were anticipated to limit the goodness of the research. A number of aspects were expected to influence the research negatively. They were bad weather, incompletely filled copies questionnaire, procrastination by respondents, literacy level of respondents and condensed research duration. Bad weather may prevent some research assistants from accessing some parts of the constituency. In addition, when respondents have not completed filling copies of questionnaire, analysis becomes difficult. Furthermore, when respondents promise to hand in feedback later and fail to do so, the researcher is hindered from beating the deadline. Misinterpretation of questions by illiterate or semi-illiterate respondents may also give inappropriate feedback. Lastly, the sample size may be too big if the research duration is so condensed thus making research assistants fail to tackle the whole sample. All these may be mitigated by setting adequate time-frame, studying weather patterns in the constituency and conducting research during fair weather and making follow-ups to curb cases of procrastinating respondents, advising research assistants to interpret questions for respondents and advising research assistants to adhere to time-frame and use multiple sourcing of the same information to limit misleading responses.

1.8. Delimitation of the Study.

Motorcycle mode of transport is fast growing in the constituency with 162 taxi motorcycles in 2008 and currently registered taxi motorcycles stand at 2,720 as compared to Nyakach constituency with 2,040 and Karachuonyo constituency with 2,390. Secondly, taxi motorcycle accidents were on the upward trend in Kasipul Kabondo as was reflected in the Traffic Report covering between 2009 and 2011. The number has risen from 28 fatalities to 54 fatalities unlike in Karachuonyo where fatalities declined from 45 fatalities down to 31. In Nyakach, the rate of increase was not enormous since it moved from 26 fatalities to 29. A Ward has been designed for taxi motorcycle accident victims at the Rachuonyo South District Hospital, the same way it was done at Kisii level 5 hospital of the neighboring Kisii Central District in 2008. This signifies that taxi motorcycle accidents are a problem worth giving attention in Kasipul Kabondo. The number of taxi motorcycle accident victims stood at 5,320 in 2011 up from 3,865 in 2010 as compared to Nyakach Constituency which had 3,502 in 2011 and Karachuonyo constituency which had 3,890. On average, each home has one motorcycle either used privately or as a taxi. Against this backdrop, this study was only targeting taxi motorcycles. The premise for this was because they are frequently on roads, many days of the month, if not all days of the month. So the study was purely meant to target boda boda operators in Oyugis town, Kadongo, Ringa, Chabera, Kosele, Ramula, Miruka, Ombek, Nyangiela, Nyalenda, Kochola, Nyapalo and Orembe.

Thirdly, the study was also limited to riders between the age 18 years and 45 years as it was discovered that they form the bulk of this business; 18 years because they have personal identification cards (ID) and can be licensed to ride and be permitted by the municipal councils to operate motorcycles. In Kasipul Kabondo, boda bodas are organized into bases, making it easier to trace them by their numbers and number of their bases while privately owned motorcycles cannot easily be traced to their owners as boda bodas.

1.9. Scope of the Study

This study was restricted to Kasipul Kabondo constituency. Research assistants targeted only taxi motorcycle riders, police officers and medical personnel in towns and major market centers like Oyugis town, Kadongo, Ringa, Chabera, Kosele, Ramula, Miruka, Ombek, Nyangiela, Nyalenda, Kochola, Othoro, Nyapalo and Orembe. All these were organized into four groups by Ngware Association as Oyugis Bases, Ringa Bases, Kadongo Bases and Kosele Bases.

1.10. Basic Assumptions of the Study

As the researcher started this research, it was generally assumed that all the respondents cooperated with the research assistants and they objectively and honestly filled the questionnaires. In addition, it was also assumed that the sample drawn was representative of the target population. Furthermore, it was also assumed that data collection instruments were valid and reliable in measuring the expected outcome.

1.11. Definition of significant terms in the Study

- Right of Way Violation** : Denying another motorist the right to pass.
- Pillions** : Passengers carried on a motorcycle.
- Drug and Substance Abuse:** Using drugs for pleasure rather than for medical reason
- Boda boda** : Passenger bicycle or motorcycle in Kenya and Uganda.
- Okada** : A name used to refer to motorcycle taxi in Nigeria.
- Base** : A unit of motorcycle operators organized into one group.
- Road Condition** : State of roads; either good or bad.
- Riding experience** : Skills of maneuverability and years of operation.
- Terms of Service** : Condition of employment and mode of payment.
- High rate** : Prevalence of accidents in terms of numbers.

1.12. Organization of the Study

The study was organized into five chapters: Chapter one featured background of the study, statement of the problem, purpose of the study and objectives of the study. Outlined too, in this chapter were; research questions, significance of the study, basic assumptions of the study as well as limitations of the study. Moreover, delimitations of the study and definition of significant terms used in the study were also captured.

Chapter, two was organized into: introduction, governments' policies on traffic safety of taxi motorcycle riders, influence of drug and substance abuse on high rate of taxi motorcycle accidents, influence of road conditions on high rate of motorcycle accidents, influence of experience of riders on high rate of taxi motorcycle accidents, influence of terms of service on high rate of taxi motorcycle accidents, influence of role of traffic police on high rate of taxi motorcycle accidents, theoretical framework, conceptual framework, operationalization of the variables, summary of literature review and lastly knowledge gaps.

Chapter three was organized into: research methodology, research design, target population, sample size, sample selection table, research instruments, pilot testing of research instruments, validity of research instruments. These were further followed with reliability of research instruments, data collection methods, data analysis, ethical considerations and lastly operationalization table.

Chapter four was used to present: the results from the data analysis, presentation, interpretation and discussions, while chapter five presented findings of the study, conclusions and recommendations made. The same chapter also had suggestions for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

In research terms, literature review means the analysis of textbooks or manuscripts. “The literature” means the works the researcher consulted in order to understand and investigate the research problem as Kombo and Tromp, (2006) assert. Mathoko and Mathoko, (2007). This chapter has introduction of literature review, governments’ policies on motorcycles, drug and substance abuse on taxi motorcycle accidents, road condition on taxi motorcycle accidents, terms of service, experience of riders and role of traffic police on taxi motorcycle accidents. The chapter also has theoretical framework of the study, conceptual framework and summary of literature review.

2.2. Governments’ policies on traffic safety of taxi motorcycle riders.

In UK, it was discovered that the number of motorcycles on road were fewer, approximately 1% but their riders suffer 14% deaths and serious injuries. The government of UK stepped up safety measure campaigns. They resolved that safety and accident avoidance by motorists must be of paramount importance according to Clarke et al, (2004). The U.K government instituted strict licensing for riders in the 1990s that contributed to the fall in motorcyclists’ casualties. They also went ahead and brought changes in motorcycle training which too served to reduce the number of riders and the number of motorcycle casualties as was noted by Moss, (2000). However, this trend has reversed in the recent years because of increase in the sales of moped and scooters. Clarke et al, (2004) asserts that number of motorcycles, scooters and moped that were newly registered more than doubled between 1991 and 2001, with over 177,000 being registered in 2001 unlike 59,000 in 1993.

This research indicated that very little research has been done in UK on types of crashes experienced by motorcyclists. Killed and seriously injury (KSI) casualties in UK peak

through 20-39 rider age bands and motorcycles are over-represented in right of way violation (ROWV) accidents. According to Scotland road safety framework to 2020, debated with UK ministers and officials, there is statutory role to reduce the number and severity of road accidents through education training and publicity policies and programmes. They are aimed at some goals to advice the government and contribute to consultation on road safety policy and identification of achievable national targets. Secondly, they are also aimed at seeking national recognition for road safety issues particularly where there may be conflict with current projected policies and programs (CC PPP). Lastly, they are also aimed at commissioning and contributing to research into behavioral aspects of road accidents and working with the government to develop national road safety campaigns.

The UK developed a highway code which applies to England, Scotland and Wales. This code says that if one has a motorcycle license, he/she must satisfactorily complete a compulsory basic training (CBT) course. This can then allow him/her ride on public road with 'L' plates and in Wales, either the 'D' plates, 'L' plates or both for up to two years. For one to obtain a full motorcycle license one must pass a motorcycle theory test and then a practical test law MV (DL) R reg.16 and 68. One who has a full car license may be allowed to ride up to 125cc and 11kw, power output, with 'L' plates and or 'D' plates in Wales on public roads, Sashoo, (2012).

According to Falayi, (2011), in Nigeria the government has banned the use of Okada in towns like Abuja, Adamawa, Enugu, Kaduna and Kano. Though the ban was aimed at reducing taxi motorcycle accidents, many argued that this would increase crime rate because many of Okada riders would miss a source of livelihood as Oluwadiya, (2004) asserts.

Mannering (1995) says that in India, taxi motorcycles are a licensed form of transport in Goa, but there is a policy that only allows a lone passenger to carry only a backpack as a luggage. By law, in some parts of the state, the rider is expected to wear a helmet but the

pillion rider is not. The taxi motorcycles in India are normally identified using their yellow and black coloured paint, (Clerke et al, 2004).

Indonesian law also requires motorcycle riders to wear helmets. However, quite often, only the riders do so (Mannering, 1995).

In Thailand, licensed taxi motorcycle operators wear orange vests and in compliance with Thailand's helmet law, many but not all carry a spare helmet to offer to passengers.

In Kenya, in 2010, Kenya's parliament enacted a law that requires all cyclists to use helmets on roads. The law also recommended that road safety measures be undertaken with an aim of accommodating bicycle lanes, safety programmes, skills training and visibility enhancement measures for cyclists. It was further emphasized that, as a passenger you have a duty to guide your boda boda rider while on the journey lest you let him ride the pair of you into a hospital bed. Because of the worrying trend of taxi motorcycle accidents in 2010, the then minister of transport in Kenya introduced new rules for motorbikes. He said "A person shall not ride a motorcycle of any kind, class or description without wearing a helmet and a reflector jacket". He also added that the rider shall provide the passenger with a helmet and a reflector jacket and shall only carry one pillion passenger at a time (Githinji, 2011).

The Traffic Act in Kenya also requires that all riders of motorcycles attend a registered driving school to be trained and be issued with a license from the traffic department before being allowed to ride on Kenyan roads. However, these laws are highly floated and ignored by many motorcyclists, including those not involved in boda boda. It is quite a phenomenon to find motorcyclists without a class 'F' and 'G' license as required by the law.

Since the rules are there and are not followed, the question is, why are the safety rules floated? Where is the weakness? Just as other parts of Kenya where we see, riders without helmets, protective jackets with reflectors, hand gloves and boots, so is the case for many riders in Kasipul Kabondo constituency commonly seen not wearing helmets, carrying two or

three pillion passengers and not wearing protective reflector jackets. Furthermore, it is common to see boda boda operators who themselves are not licensed, training others at different places in the constituency and to make matters worse, the newly trained even risk going to roads after few hours of training, others even carrying two pillions (Rachuonyo South OCPD, 2012).

2.3. Drug and Substance Abuse on high rate of taxi motorcycle accidents.

Cycling under the influence of alcohol and drugs is one of the deadliest impairments. Alcohol and drugs always make people do just the opposite of what sober people would do on roads, (Sashoo, 2012).

Robert and Dupoint, (2011) say that in the UK, there is the campaign against drinking and driving (CADD) which provides support for the families of victims killed and injured by the drunk and drugged motorists. It has been noted that rates of drugged driving have surpassed rates of drunken driving among the youths. However, riding with a drunk and or drugged driver (RDD) is a risk behaviour that has received very little attention in spite of its potential dangers. In fact, very little research has been done to assess the impact of drug and substance abuse in the UK but the UK government has been ensuring that there is awareness campaign that is intensive about the high prevalence of RDD. This is done on the belief that lack of awareness is related to the acceptance of RDD among young people, (Preusser, 1995).

In Sao Paulo, Brazil, drinking and driving is considered a traffic crime. In a health behaviour model, it is suggested that much of the young people's risky behaviour is not planned; drunk and drugged driving inclusive (Pinsky et al, 2004).

In Congo, Kinshasa, Equatorial Guinea, Gabon, Rwanda, Nigeria, drug abuse is high among taxi motorcycle riders as reported by SafetyNet, (2009). Motorcyclists in these countries are more prone to crashes and a comparative study showed that young riders are at

a high risk of getting involved in accidents unlike older riders because many of them indulge in drug and substance abuse.

Irwin, (1993) asserted that driving under the influence (DUI) of drugs is increasing in the USA but little is known about the differences based on their patterns of use and abuse of alcohol and other drugs. The University of California students have been urged to avoid impaired riding at all times.

In Uganda, it was reported that 43% of 2009 motorcycle riders who died in crashes had alcohol content of 0.08 and above thus campaigns urging people like “Drive sober or get pulled over” and “Buzzed driving is drunk drinking,” were used, (Vuchic, 2007).

In Kenya, the sight of as many as four pillion passengers on boda boda are familiar and drunken riding rate is too high as Githinji, (2011) puts it. He says that this could be the reason as to why road traffic injuries represent as much as 60% of all admissions to surgical wards. In fact in 2010 the police traffic department reported that motorcycles had overtaken matatus as bearing the greatest traffic responsibilities for accidents. The police say that the rising deaths and boda boda accidents have raised fears that the risks associated with this tremendously expanding yet inadequately regulated means of transport could be a national disaster.

That drunk and drugged riding is a major cause of accidents has been scantily researched on in various countries as Sunderstrom, (1999) asserts and thus this presents a good opportunity for any researcher to explain it in depth. Rachuonyo South District hospital has dedicated an emergency Ward for motorcycle casualties and they report that more than half either get accidents when the rider is drunk or gets involved in a collision with a drugged rider of which a majority are between the ages of 18-35 years. The Ngware association of Oyugis officials also seem to agree on the same and do urge that any Ngware rider seen drunk be advised to leave the motorcycle until he sobers up to avoid “many things”.

2.4. Road condition on high rate of taxi motorcycle accidents

In most of developed countries, like in the UK, USA, Sweden and Canada, bad roads are not a major contributor to the motorcycle accidents. However, major motorcycle accidents are attributed to other causes like right of way violations (ROWV), overlapping between lanes or lack of oncoming motorists to detect oncoming motorcycle (Cervero, 2001)

In developing countries like Nigeria, Tanzania, Zambia, Uganda and Kenya, bad roads contribute to up to 12.5% motorcycle accidents as noted by Chalya, (2009). In Nigeria for instance, most taxi motorcycle accidents occur because of the poor state of Nigerian roads which are typically riddled with potholes, (Ayodele, 2009). It is said that severity of road traffic accident injuries in Africa is higher because of very bad road conditions which contribute to increased motorcycle injuries. Because of bad roads and negligence in repairing them, number of taxi motorcycle accidents continues to increase and this is blamed on the gaping potholes and abandoned debris; most of Nigerian state roads are actually in a horrific condition, (Chalya, 2009).

In Tanzania, motorcycle injuries form a major but emerging public health problem and bad roads constitute one of the causes of this. In a research involving 384 motorcycle injury patients; 69.5% patients were males, motorcyclists accounting for the majority at 55.2%, passengers 33.9% and pedestrians 10.9%. Most of those interviewed blamed this on bad state of roads, (Keller, 2011)

In Ghana, the use of rumble strips and speed bumps have reduced road crashes in major hot spots like, Suhum junction. Traffic crashes were reduced by 35% and serious injuries by 76% between January 2000 and April 2001 (Oluwadiya, 2004). This means that road bumps can have a significant impact on rate of accidents.

In Zambia, the government was blamed for poor road network and failure to provide adequate road signage. As Smyth, (2004) puts it, Zambia roads are the worst to say the least

with little or no maintenance at all. He attributed the road deaths to poor roads littered with potholes all over.

In Kenya, just like Zambia, Tanzania and Nigeria, bad roads contribute to 12.5% of taxi motorcycle accidents. Githinji, (2011) says that motorbikes are able to maneuver the poor rural roads albeit with difficulty. The bad roads with potholes sometimes pose a major challenge to riders, with some of them failing to control the motorcycle thus the numerous taxi motorcycle accidents (Keller, 2011). It was therefore necessary to study the extent to which bad roads influence taxi motorcycle accidents and come up with requisite safety measures.

2.5. Experience of riders and high rate of taxi motorcycle accidents

Sashoo, (2012) in a report called SafetyNet of 2009 relates PTW rider accidents to age and experience. The report says that young riders have a higher risk than older riders and that, riding condition, rider motivation and riding style contribute to accidents thus extensive training and testing serves to lower accidents.

Inexperienced and unskilled riding is definitely a major cause of accidents on our highways. Cyclers who do not even have a licensed permit to use public roads are seen all over and tend to dominate on all the highways. Some of them do not have the least knowledge of how highways operate yet they insist on using them and thus causing most fatal accidents on roads (Githinji, 2011).

Clerke et al, (2004) talked about experience and habits of riders in which 14% respondents to a questionnaire indicated how long they had held a motorcycle license and the type of license they held. The report revealed that those involved in motorcycle accidents had held those licenses for one year thus confirming that inexperience is a factor that causes accidents in the U.K and U.S.A. Furthermore, when the respondents were asked if they had any gaps in their motorcycling experience, 95% of them said they had started riding as soon

as they acquired their license but 43.8% said there had been a period when they had not ridden; 40% with a gap of one year or less while 38% had a gap of three years or more (Clerke et al, 2004). It is thus possible that inexperienced and unskilled riding had something to do with road accidents.

In Nigeria, Ayodele, (2009) says that most accidents involving motorcyclists are caused by unlicensed and untrained riders. He found out that in some parts of Nigeria, Okada riders make their debut after a few hours of training session and it is common to see underage Okada riders on Nigeria roads.

In Zambia, a report revealed that most of motorcycle riders have just bought their driver's licenses yet they know very little about Highway Code. This points to inexperience among riders and this can orchestrate road fatalities.

Githinji, (2011) explains that some Kenyans exploit people willing to learn riding in informal training places where an average of Kshs.200 is used to offer one training for one hour after which a recruit is ready to hit the road, safety of the rider notwithstanding. As a result of the little training, most riders flout the traffic rules thereby exposing themselves to danger, (Odera, 2009).

Inexperienced riding is thus a major concern because many fatalities can occur because of it. In Kasipul Kabondo, the cases highlighted above are not any better and a lot more needs to be found out.

2.6. Terms of Service on high rate of motorcycle accidents

In U.K booking for motorbike rides must be done in advance. This happens in London where there are a number of tour companies that offer this mode of transport (Rome de Liz, 2006). The same situation also prevails in America where people prefer use of taxi motorbikes to make tours round cities that are near each other. The riders are thus assured of monthly pay and this has proved a good source of employment with steady income.

Researchers aver that this could explain the order that is witnessed on roads in UK and USA (Rune et al, 2009).

In Indonesia, there are organized companies which invest in cities in taxi motorcycles. They always look forward to investing in cities with sound public policies (Rome de Liz, 2006). The operators here are called Jitney operators and it's reported that they vie for the best terms of service. In India where they are called boda boda, taxi motorcycle touring is considered risky so tourists book reservations for them by paying 100% of tour package amount. In Thailand, motorcycle travelers pay more than they pay for air conditioned taxi vehicle ride for the same distance (Samaha et al, 2007).

In African states, this business is informal. In Nigeria, where they are called Okada or Achaba, many taxi motorcycles are owned by their riders. They are given motorbikes as debt then the motorcycle association of Nigeria (ACOMORAN) retains original documents until they pay full debt before they can obtain original documents (Odera, 2009). Again owners of motorcycles who hire riders only allow them to keep Saturday's collections as their commission, (Samaha et al, 2007).

In Rwanda, one has to pay entry fee in order to operate a taxi motorcycle because by 2007, 16% of Rwanda's total road accidents were due to motorcycle accidents while in Uganda and Tanzania only 7% of total accidents were due to motorcycle accidents (KNBS, 2010)

In Kenya, terms of service is thought to be a major cause of: lack of concentration on riding, overloading, over speeding, overlapping on lanes, (Clerke et al, 2004). Many riders in Kenya decry poor pay packages, poor terms of service, a fact that can easily lead to reckless riding as they try hard to get more money, (Odera, 2009).

This is common in Nyanza where employers expect the riders to bring them Ksh.300/= on daily basis. In such a situation, the riders will want to make the required amount and try

harder to get another Ksh.300/= for their daily upkeep, an attitude that will definitely make them over-exhaust themselves, (Oyugis OCS, 2012).

2.7. Role of Traffic Police on Motorcycle Accidents

Graft and corruption has been mentioned as one of the causes of taxi motorcycle accidents. In developed countries like Canada, USA, UK, Sweden law enforcement is taken seriously, (West, 1993) but in developing countries like Zambia, Nigeria, Uganda, Tanzania and Kenya traffic police corruption is rife. In Nigeria, a number of accidents are blamed on graft and corruption among road safety officials and Nigerian police who are easily induced into condoning traffic misdemeanors (Ayodele, 2009). In Zambia, from Mumbwa to Lusaka, one can see overloaded trucks without lights on, moving on roads, but when they reach Lusaka West checkpoint, they just bribe the police, but these trucks frequently cause accidents. In Tanzania, corruption in traffic police has made taxi motorcycle accidents to be 20 times more than those in Sweden. Aloyce, (2010) reported in JUSTA-AFRICA that he knows of a young man who trained for five days and was given a class 'C' license for driving all vehicles. In Uganda, 2300 people die yearly for accidents due to traffic police corruption. In Kenya, traffic police often ignore motorcycle operators breaking traffic laws, when they stop them; they only take bribes (Moss, 2000).

Corruptible licensing system was found to be a sub-factor under law enforcement; while on the road, bribery and corruption is a sub factor under defective motorcycles and vehicles (Mwanachingwala, 2011)

In Zambia, one policeman is reported to have seen a motorcyclist drinking and the policeman only had the guts of asking for his bribe as the man continued enjoying himself, Mwanachingwala, (2011) adds.

In Kasipul Kabondo, corruption by traffic police is just as high as in other towns and traffic rules are flouted even as the police watch without taking any action. It is common to

see unroadworthy motorcycles without insurance or even licenses let alone helmets, yet they pass roadblocks without being stopped.(Medical Department Report, Rachuonyo South, 2012).

2.8. Kasipul Kabondo; Historical Perspective of Motorcycle Taxi Business

Motorcycle taxi business is an informal type of business that gained currency in this constituency in 2006. Though in other countries like Indian, Indonesia, Cambodia, Nigeria, Uganda, and Ghana the business became popular in the 1980s, stiffer taxation measures delayed Kenya upto around 2002 (Oluwadiya, 2004)

Many young boys became curious and wanted to know how to ride them, a number of them were former riders of boda boda bicycles commonly known in the constituency as 'Ngware': a name that has since moved with them to 'Ngware motorcycles'. It was noted that some of them did not know the intrigues of handling a machine. At around this time, motorcycle accidents were so many but the numbers of motorcycles were few, less than 30 in the whole constituency. Currently according to records of the Rachuonyo South District hospital, about 10-12 cases of taxi motorcycle victims get admitted daily while the traffic police department puts the cases at 15 per day. So, as the number of motorcycles increased so were the cases of motorcycle accidents.

2.9. Theoretical Framework

This research was informed by one of the theories of accident causation which was advanced by Heinrich H.W, (2010) called human factors theory. This theory attributes accidents to a chain of events that leads to human error; meaning that human errors can cause accidents. Such human errors can be categorized as over-load, inappropriate worker response, and inappropriate activities. Overload is a case where the work task is beyond the capability of the worker. Here accidents occur because of workers capacity like: natural ability, training, state of mind, fatigue, stress, physical conditions; environmental factors like: noise, climatic

conditions, lightning and destructions can also cause overload that can lead to accidents. Other forms of overload are internal factors: like personal problems, emotional stress and worry; and situational factors like: level of risk, unclear instructions and novelty. Secondly, inappropriate responses can also lead to human errors that can cause accidents which can be in form of: one ignoring a suspected hazard, disregarding established safety procedures, circumventing safety devices. Thirdly, inappropriate activities like performing a task without requisite training and misjudging of degree of risk,(Heinrich,2010).

The human factors theory fits in this study in that, some taxi motorcycle accidents are as a result of overload where riders carry two or more passengers. Others are caused by inappropriate responses like over speeding, ignoring road signs, disregarding of safety procedures like use of helmets and reflector jackets; ignoring of suspected hazards like potholes, bad roads and road signs. Sometimes, cyclists engage in inappropriate activities by performing task without required training which is common with inexperienced riders, drinking and riding, overlapping on lanes, overtaking on bends, speeding on bends. It is alleged that several taxi motorcycle accidents are caused due to human errors that may arise from management failure, personal failure, and systems failure. However, this theory seems to have been formulated with industrial environment in mind and so it may not address all the factors that may increase the rate of traffic accidents, specifically motorcycle accidents. This study sought to establish the compatibility of this theory with five objectives under study.

2.10. Conceptual Framework

A concept is an abstract or a general idea inferred or derived from specific instances (Orodho, 2002). It is a word or phrase that symbolizes several integrated ideas (Smyth, 2004). A conceptual framework is a set of broad ideas and principles taken from relevant fields of inquiry used to structure a subsequent presentation (Reichel and Ramey, 1987). A conceptual framework as a research tool assists a researcher to develop awareness and understanding of the situation scrutiny and communicate this.

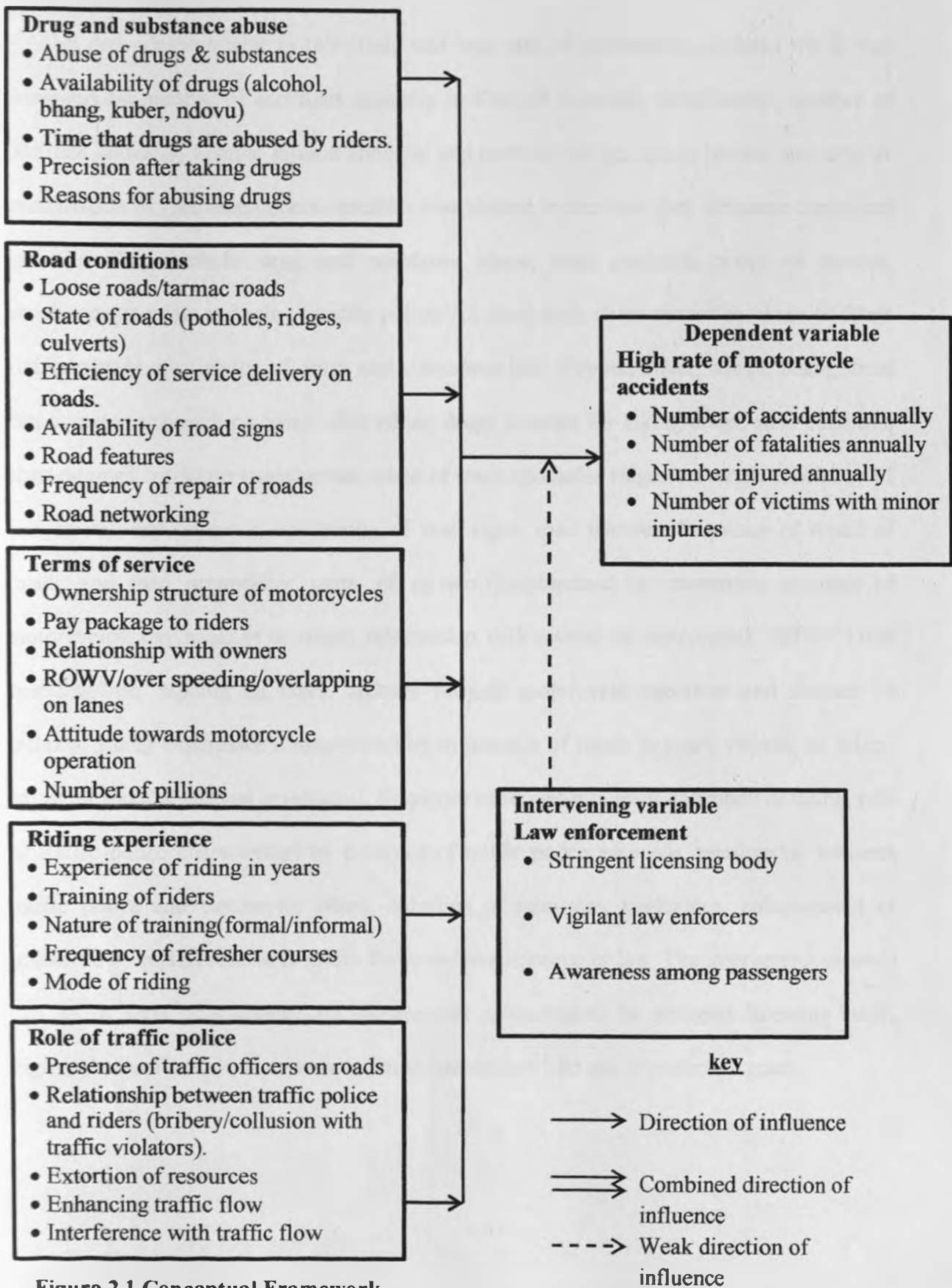


Figure 2.1 Conceptual Framework

Source: Author

2.10.1. Definition of the variables

The dependent variable in this study was high rate of motorcycle accidents which was measured by number of accidents annually in Kasipul Kabondo constituency, number of fatalities annually, number injured annually and number that get minor bruises annually. A combination of five independent variables was studied to see how they influence dependent variable. They include: drug and substance abuse, road condition, terms of service, experience of riders and role of traffic police. All these were characterized by abuse of drugs and substance, availability of drugs and substances like: alcohol, kuber, ndovu, bhang, time that drugs are abused, precision after taking drugs ,reasons for taking drugs; road condition characterized by: loose roads/tarmac, state of roads (potholes ridges culverts), efficiency of service delivery on roads, availability of road signs, road features, frequency of repair of roads, and road networking; terms of service characterized by: ownership structure of motorcycles, pay package to riders, relationship with owners of motorcycles, ROWV/Over speeding/over lapping on lanes, attitude towards motorcycle operation and number of pillions; riding experience characterized by experience of riders in years, training of riders, nature of training (formal or informal, frequency of refresher courses and mode of riding; role of traffic police characterized by presence of traffic police on roads, relationship between traffic police and motorcycle riders, extortion of resources, negligence, enhancement of traffic flow, interference with traffic flow, and maintenance of law. The intervening variable can be in form of stringent law enforcement characterized by stringent licensing body, vigilant law enforcers and awareness among passengers like use of protective gears.

2.11. Summary of Literature Review

Literature review of this project had definition of literature reviews as highlighted by various scholars. This was followed by a review of how various countries in the world have policies on safety of motorcycles. These policies were looked at with global perspective followed by regional perspective and national perspective before seeing district perspective and in essence Kasipul Kabondo constituency. Governments' policies on safety was followed by drug and substance abuse on high rate of taxi motorcycle accidents then followed by road conditions on high rate of taxi motorcycle accidents, experience of riders and motorcycle accidents, followed by terms of service on high rate of taxi motorcycle accidents, then, role of traffic police on high rate of taxi motorcycle accidents.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1.Introduction

This chapter presents research methodology used in study. It also highlighted research design, target population, sample size, and sample selection, data collection instruments, piloting, instruments validity, reliability, data collection procedure, data collection techniques, as well as methods of data analysis.

3.2.Research Design

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the purpose with economy in procedure. The design is the conceptual structure within which research is conducted; it constitutes the blueprint for collection, measurement and analysis of data (Kothari, 2004). Kerlinger, (1986), also adds that research design expresses both the structure of the research problem and the plan of investigation used to obtain empirical evidence on relations of the problems.

3.2.1.Descriptive Survey Research Design

In this study a descriptive survey research design was used. The study aimed at collecting information from respondents on factors influencing high rate of taxi motorcycle accidents. The tool that was employed in the initial identification process was a door to door survey. The researcher used both primary and secondary data. Primary data was collected using questionnaires while secondary data was obtained from the internet, journals and books.

3.3.Target Population

According to chamber of commerce and industries, Rachuonyo South chapter, (2011), boda bodas are organized into bases designated from A to Z totaling to 26 bases in Oyugis region. Kadongo has 15 bases, Ringa has 8 bases while Kosele has 14 bases. The target population of the study was 2,720 motorcycles that have been officially registered for taxi

business. The same record was also obtained from Ngware Association offices at Oyugis town. That target population was categorized into four regional blocks covering Kosele, Kadongo, Ringa and Oyugis. Medical personnel and Police were 26, thus forming a total population of 2746.

3.4. Sample Size and Sample Selection

3.4.1. Sample Size

Sample size refers to a number of people that can be selected to give information needed in a research. This is the group that is targeted with questionnaires or interview schedules. According to Mugenda and Mugenda, (2003), 10% to 30% of the total accessible population is quite appropriate for the study depending on the population size targeted. The research endeavored to use random sampling procedure to come up with the sample size. In this study 10% of 2,720 was used to come up with a sample size of 272. The researcher came up with the number of target respondents according to the four regional blocks. The sample size given was also added to 16 traffic police officers in the constituency and 10 health practitioners thus leading to a total sample size of 298.

3.4.2. Sample Selection Procedures

The researcher used random sampling procedure to come up with 272 motorcyclists and picked all the 16 traffic police officers in the constituency as well as all medical practitioners who deal with emergencies. The target was stratified on the basis of three strata, that is, the boda boda operators, the health practitioners and the traffic police.

The table that follows illustrates the sample size needed.

Table 3.1 Sample size and sample selection table

Region	Total population	Sample %	Sample size
Oyugis	909	10%	90.9
Kadongo	560	10%	56
Ringa	611	10%	61.1
Kosele	640	10%	64
Traffic police & medics	26	100%	26
Total	2,720	10%	298

Source: *Ngware Association South Rachuonyo; 2,720 is the target population and 10% of it is 272*

- *Traffic Records and MoH records*

Since the traffic police in the whole constituency are only 16, the researcher picked all of them. This too applied to the medical practitioners dealing with emergencies who were also 10 in total. This brought the sample population to 298.

3.5. Research Instruments

The researcher used structured questionnaires to collect information from the respondents. Structured questionnaires were used because they are easier to administer and faster. Primary data was collected using questionnaires while secondary data was gathered from books, internet, journals, records at the chamber of commerce and industries Rachuonyo chapter, MOH, Rachuonyo, the Ngware association and OCPD's office.

The researcher developed questionnaires predominantly using closed ended and open ended questions. Questionnaires structured in closed ended and open ended forms were all aimed at getting answers to prove or disapprove the research questions. The questionnaires were preferred because they are easy to administer, cheaper, faster and less time consuming.

3.5.1. Pilot Testing of the Research Instruments

Pilot testing is basically the idea of pre-testing the instruments that the researcher intends to use for study. It focuses on accuracy. According to Mugenda and Mugenda, (2003), a pretest sample should be between 1% to 10%. The researcher thus used 5% to pretest the instruments which translated to 14 questionnaires with one boda boda base in Oyugis town that was selected randomly and were administered until accuracy was achieved. After successful piloting, the researcher then gave the instruments to all the selected participants (sample population)

3.5.2. Validity of Research Instruments

Validity is the accuracy and meaningfulness of inferences which are based on the research results. In other words, validity is the degree to which results obtained from the analysis of the data actually represent the phenomena under study (Mugenda, 2003)

The researcher used 14 copies of questionnaire for the management. The items reflected five objectives and the research questions. The items were also based on themes as enumerated in the literature review. All the items in the instruments were related to the research topic. The questions were structured in simple English to make them easy to understand and to ensure they are valid. The instruments were presented in advance and then a letter of transmittal accompanied each questionnaire assuring the respondents of confidentiality.

3.5.3. Reliability of the Instruments

Mugenda, (2003) defines reliability as a measure of the degree to which a research instrument yields consistent results after repeated trials. In research, reliability is influenced by random error. As random error increases, reliability decreases. Random error is the degree of deviation from a true measurement due to factors not effectively addressed by the researcher (Kombo and Tromp, 2006). In this study, split half method was used because it requires only one testing session. Reliability was then made possible through pretesting while using test re-retest method (Williams et al, 1979)

3.6. Data Collection Procedures

Data collection began as soon as the proposal for this research was approved by the supervisor. The researcher then sought permission from the relevant authorities in order to be allowed to collect data. Once permit was obtained, field work began. Actual fieldwork began after piloting activity had been successfully carried out.

The researcher then made a trip to the study area and dropped questionnaires to respective respondents for piloting and later revisited the respondents for collection of the same at an agreed date.

After successfully piloting, the researcher distributed copies of the questionnaire to all selected participants (sample population) for study. Thereafter, coding of questionnaire started immediately the data collection instruments were received back for purposes of data analysis.

3.7.Data Analysis Methods

After collection of data, the response items from the questionnaires were coded and scored to yield qualitative responses to assist the researcher in generating answers to the research questions. The responses from the questionnaire were then analysed, aggregated and

frequencies worked out and thereafter, the information obtained was summarized and then statistics was got.

Data analysis was done both qualitatively and quantitatively. Quantitative data was analysed using simple descriptive statistics like frequencies and percentages. On the other hand, qualitative data was analysed according to the narrative form.

3.8. Ethical Consideration

As this study proceeded, the researcher endeavored to follow all the ethics of carrying out a research. The researcher made sure that an official consent was sought to be allowed to carry out a research. The researcher then made sure that the purpose of the study was explained to the respondents. Further to this, the respondents were also assured of confidentiality of all information they volunteered. In fact, this was done by the respondents not writing their names in the questionnaires as a first step to maintaining privacy of the participants. The respondents' rights were also explained to them and no one was forced to give information, indeed, the researcher sought to ensure the respondents' voluntarily participated in the research and that anyone who wanted to withdraw had his or her decision respected. Integrity and honesty was also maintained. Before commencement of the research, the researcher trained the research assistants and briefed them on ethical issues and advised them to ensure they debrief all participants well and avoid deceiving the subjects by deliberately misleading them on the research.

Table 3.2: Operationalization Table

Objectives/research questions	Type of variable	Indicator	Measure	Level of scale	Data collection method	Approach of analysis
a) To determine how drug and substance abuse influences high rate of taxi motorcycle accidents in Kasipul Kabondo	Drug and substance abuse (Independent)	<ul style="list-style-type: none"> - Abuse of drugs and substances - Availability of drugs (Alcohol, bhang, kuber, Ndovu) - Time drugs are abused by riders - Precision while on drugs - Reasons for abusing drugs 	<ul style="list-style-type: none"> - Ratio of abusers to non-abusers - Presence of drugs - Efficiency or inefficiency 	<ul style="list-style-type: none"> - Ratio - Nominal 	<ul style="list-style-type: none"> - Descriptive survey - Questionnaire 	<ul style="list-style-type: none"> - Quantitative/qualitative
	High rate of motorcycle accidents.	<ul style="list-style-type: none"> - Number of motorcycle accidents annually - Number of motorcycle fatalities - Number of motorcycle injuries 	<ul style="list-style-type: none"> - Number of accidents - Number of deaths annually - Total number of injuries 	<ul style="list-style-type: none"> - Nominal 	<ul style="list-style-type: none"> - Descriptive survey - Questionnaire 	<ul style="list-style-type: none"> - Quantitative/qualitative
b) To establish the extent to which road conditions influence high rate of taxi motorcycle accidents in Kasipul Kabondo	Road conditions (Independent)	<ul style="list-style-type: none"> - State of roads - Type of roads - Efficiency on roads - Availability of road signs. - Road features - Frequency of repair - Road networking 	<ul style="list-style-type: none"> - Ratio of loose roads to tarmac roads - Number of bad roads to good roads - Presence of physical features - Number of feeder roads 	<ul style="list-style-type: none"> - Ratio - Nominal 	<ul style="list-style-type: none"> - Descriptive survey - Questionnaire 	<ul style="list-style-type: none"> - Quantitative/qualitative
	High rate of motorcycle accidents (dependent)	<ul style="list-style-type: none"> - Number of motorcycle accidents annually - Number of motorcycle fatalities - Number of motorcycle injuries 	<ul style="list-style-type: none"> - Number of accidents - Number of deaths annually - Total number of injuries 	<ul style="list-style-type: none"> - Nominal 	<ul style="list-style-type: none"> - Descriptive survey - Questionnaire 	<ul style="list-style-type: none"> - Quantitative/qualitative
c) To investigate influence of terms of service on high rate of taxi motorcycle accidents in Kasipul Kabondo	Terms of service (Independent)	<ul style="list-style-type: none"> - Ownership structure - Pay package to riders - Relationship with owners - ROWV/overspeeding/overlapping on lanes - Attitudes towards work - Number of pillions 	<ul style="list-style-type: none"> - Ratio of self-owned motorcycles to hired ones - Amount paid to riders - Number of riders enjoying job - Ratio of more pillions to one pillion 	<ul style="list-style-type: none"> - Ratio - Nominal 	<ul style="list-style-type: none"> - Descriptive survey - Questionnaire 	<ul style="list-style-type: none"> - Quantitative/qualitative

	High rate of motorcycle taxi accidents (Dependent)	<ul style="list-style-type: none"> - Number of motorcycle accidents annually - Number of motorcycle fatalities - Number of motorcycle injuries 	<ul style="list-style-type: none"> - Number of accidents - Number of fatalities - Number of injuries 	- Nominal	<ul style="list-style-type: none"> - Descriptive survey - Questionnaire 	- Quantitative/ qualitative
d) To assess how experience of riders influences high rate of taxi motorcycle accidents in Kasipul Kabondo	Experience of riders (Independent)	<ul style="list-style-type: none"> - Experience in years - Training of riders - Form of training - Frequency of refresher courses - Mode of riding 	<ul style="list-style-type: none"> - Number of years since training - Presence of licenses - Ratio of keen to reckless riders - Number of refresher courses 	<ul style="list-style-type: none"> - Ratio - Nominal 	<ul style="list-style-type: none"> - Descriptive survey - Questionnaire 	- Quantitative/ qualitative
	High rate of taxi motorcycle accidents (Dependent)	<ul style="list-style-type: none"> - Number of motorcycle accidents annually - Number of motorcycle fatalities - Number of motorcycle injuries 	<ul style="list-style-type: none"> - Number of accidents - Number of fatalities - Number of injuries 	- Nominal	<ul style="list-style-type: none"> - Descriptive survey - Questionnaire 	- Quantitative/ qualitative
e) To explore how role of traffic police influences high rate of taxi motorcycle accidents in Kasipul Kabondo	Role of traffic police (Independent)	<ul style="list-style-type: none"> - Presence of police on roads - Relationship between riders and police - Extortion of resources - Negligence - Enhancing traffic flow - Interference with traffic flow - Maintenance of law and order 	<ul style="list-style-type: none"> - Number of road-blocks. - Amount they demand - Ratio reduction of accidents - Ratio of reduction of ROWV 	<ul style="list-style-type: none"> - Ratio - Nominal 	<ul style="list-style-type: none"> - Descriptive survey - Questionnaire 	- Quantitative/ qualitative
	High rate of taxi motorcycle (Dependent)	<ul style="list-style-type: none"> - Number of motorcycle accidents annually - Number of motorcycle fatalities - Number of motorcycle injuries 	<ul style="list-style-type: none"> - Number of accidents - Number of fatalities - Number of injuries 	- Nominal	<ul style="list-style-type: none"> - Descriptive survey - Questionnaire 	- Quantitative/ qualitative

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSIONS

4.1. Introduction

The main focus of this chapter is presentation of data, analysis and its interpretation. Data collected was analysed to determine the factors influencing high rate of taxi motorcycle accidents in Kasipul-Kabondo constituency, Homabay County. Descriptive statistics such as percentages and frequencies were used to analyze responses to various questionnaire items. The outcome of frequencies and percentages were then used to come up with interpretations that gave answers to research questions under study.

4.2. Response Return Rate

Since Mugenda and Mugenda, (2003) recommend that a response rate of 50% can be considered adequate for research analysis and that if a response rate of 60% is achieved it is seen as good and a response rate of 70% and above is rated as very good, the researcher saw a response rate of 95.588% as very good for analysis. In this research, 272 boda boda riders were issued with copies of questionnaires, but only 260 returned completed copies of questionnaire giving a response return rate of 95.588%. Moreover, all the 26 medical practitioners and traffic police filled their copies of questionnaire giving a return rate of a 100%. The riders return rate was not 100% because 12 of them could not be located where copies of the questionnaire were given to them.

This gave a return rate as illustrated in table 4.1

	Target population	Sample	Return rate		Total
			Males	Females	
Total	2746	298	274	12	286

According to table 4.1, out of 298 copies of questionnaire released to respondents, 12 (4.027%) copies were not returned, thereby giving a response rate of 286 (95.973%) from the sample size involving 272 riders, 10 medical personnel and 16 traffic police officers.

4.3. Demographic Characteristics of Respondents

This section features respondents' characteristics that were considered significant to the study. Such demographic features include: sex, age, region of operation, marital status and level of education. Demographic characteristics sought were; regions of operation, gender of operators, age bracket, marital status and level of education of respondents.

Out of 272 respondents (boda boda) riders 91 were from Oyugis 56 were from Kadongo 61 were from Ringa and finally 64 were from Kosele regions. The percentage return rate for the four regions were as indicated in Table 4.2.

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4.3.1. Regions of Operation and Return Rates

The respondents were required to give regions where they operate because this was thought to be significant in determining concentration of taxi motorcycle business in the constituency. This was captured as in table 4.2;

4.2. Operators, traffic police and medical personnel Return Rate Per Region

Region	Number returned	Percentage %
Oyugis	105	36.713
Kadongo	53	18.182
Ringa	61	21.329
Kosele	68	23.776
Total	286	100

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In terms of regions of operation, it was discovered that most boda boda operators ply their trade around Oyugis region 105 (36.713%). This could be because Oyugis town has many residents and is the biggest town in Kasipul Kabondo that has the highest human traffic.

4.3.2. Gender of the Respondents.

The respondents were asked to give details about their gender because gender could be used to determine the choice of work that one does. It was therefore investigated to see how true this is. The gender of target respondents (boda boda riders, traffic police, and medical personnel) is shown in table 4.3.

4.3. Sex of Respondents; Cyclists, Medics and Police

Sex of respondents	Number returned	Percentages %
Males	274	95.804
Females	12	4.196
Total	286	100

In terms of gender, this is a small business project that is dominated by males as illustrated by the table above. Males form the bulk of this business, 274 (95.804%). This may be because it requires use of muscles, haggling for customers and long hours of work, sometimes running into the night, something females are least prepared for.

4.3.3. Age of Respondents.

The respondents were also asked to give their age brackets since the researcher thought this would be crucial in determining entry into a particular economic engagement because it was believed that boda boda operators were relatively young persons. The age bracket of the respondents is as shown in Table 4.4.

Table 4.4. Age bracket of respondents (the riders)

Age bracket	Numbers of riders	Percentages (%)
Below 18	19	7.308
18-29	179	68.846
30-34	24	9.231
35-39	27	10.385
40 and above	11	4.231
Total	260	100

In terms of age, a majority of boda boda riders were falling between age 18-29, 180 (68.846%) This indicated that much younger people engage in this business. The above 40 years were only 11 (4.231%) which indicates that older people shy away from this business. This could imply that younger people easily join peer groups to start engaging in risky behaviors on the roads.

Table 4.5. Age bracket of Medical Personnel and the Police

Age bracket of traffic police and medical personnel in the constituency was also assessed to see if it has a bearing on service delivery to the public as indicated in table 4.5.

Age bracket	Number returned	Percentage %
Below 18	0	0.000
18-29	6	23.077
30-34	10	39.461
35-39	5	19.231
40 and above	5	19.231
Total	26	100

A majority of medics who handle accident cases and traffic police officers fall between the ages of 30-34, 10 (39.461%) hence they were considered younger too.

4.3.4. Level of Education of Respondents

Level of education was also considered as a factor that could determine the type of business or job engagement one chooses. It was assumed by the researcher that majority of boda boda riders had minimal levels of education. This can be illustrated by table 4.6.

Table 4.6. Level of Education of respondents

Level of education	Number of respondents	Percentage %
Primary	190	66.434
Secondary	64	22.378
Post-Secondary	32	11.188
Others	0	0.000
Total	286	100

In terms of level of education, a majority of motorcycle riders, 190 (66.434%) have been discovered to have only studied up to primary level. On the other hand all the 26 medical personnel and traffic police had Post-secondary qualifications making 26 (9.091%).

4.3.5. Marital Status of respondents

Marital status was also looked at as a factor that could drive one to boda boda business. The married and the singles were thought to go for the engagement as an opportunity available where there is no any other. Table 4.7. shows marital status of respondents

Table 4.7. Marital status of respondents.

Marital status	Number	Percentage %
Single	133	46.503
Married	123	43.007
Divorced	12	4.196
Widowed	18	6.294
Total	286	100

From the above it was discovered that a majority of riders are still single, 133 (46.503%) and few of them are divorced, 12 (4.196%). This could be a reason that increases rate of motorcycle accidents because peer influence can still take its toll on them.

4.4. Influence of drug and substance abuse on high rate of motorcycle accidents in Kasipul Kabondo constituency

Drug and substance abuse was thought to be a factor that would catalyze the occurrence of taxi motorcycle accidents since an impaired rider is likely to make a manipulation blunder while a sober one is likely to be steady on roads. This was analyzed by using various indicators identified in the conceptual framework. This was done on whether the respondents take drugs or not, time that they take drugs, reasons for taking drugs, the effect of drugs on them and when they started taking drugs. Table 4.8 shows the extent to which boda boda riders' abuse drugs.

Table 4.8. Drug and substance abuse among riders

Yes or No	Number	Percentage
Yes	161	61.923
No	99	38.077
Total	260	100

It was discovered that, 161 (61.923%) of riders abuse drugs while 99 (38.077%) don't. This could be attributed to poverty levels among the youth and peer pressure. The higher number of drug & substance abusers thus reflect on the higher number of motorcycle accidents. 89 (80%) of those who don't take drugs were doing so because of their religious affiliations and other reasons best known to them.

4.4.1. Time riders prefer to take drugs

Under drug and substance abuse, time that riders abuse drugs could determine whether they are likely to cause accidents while on duty or not. This could indicate whether they get predisposed to dangers inherent on roads or they are cushioned from such dangers by a

behavioral predisposition that ensures their sobriety while at work. The responses from riders on when they prefer taking drugs is shown in table 4.9 below

Table 4.9. Time that riders abuse drugs.

Time of taking drugs	Number taking drugs	Percentages
Before work	38	23.700
During work	88	55.000
Anytime	15	9.375
After work	19	11.875
Others	0	0.000
Total	160	100

It was discovered that many riders prefer taking drugs while on duty 88 (55%), 38 (23.7%) take them before work, 15 (9.375%) take them anytime, and 19 (11.875%) prefer taking them after work. This means that the risks of motorcycle accidents are increased by a total of 141 (88.125%). Such a figure thus associates high rate of motorcycle accidents with abuse of drugs & substances.

4.4.2. Analysis of reasons for abusing drugs and its effects on riders.

Under factor; drug and substance abuse, reason for abusing drugs was also considered a pointer to environmental factors that influence rider's behaviors. Again this was coupled with a close scrutiny of the effect of this on their accuracy on roads.

Table 4.10 Reasons for using drugs and precision after use

Reason for use of drugs	Number of abusers	Precision after use	No. of precision	percentage of abusers	Percentage of how precise after use
To be efficient on road	72	More precise	42	45.000	26.250
Gain courage	49	Precise	52	30.625	32.500
Wish away frustration	30	Less precise	63	18.750	39.375
Others	9	Others	03	5.625	1.875
Total	160		160	100	100

72 (45%) of riders believe that when they take drugs they are more efficient while 49 (30.625%) take them to gain courage and 30 (18.750%) to wish away frustrations. Others formed 9 (5.625%) attributed to peer influence and need to feel great while riding and thus increased rate of accidents.

4.4.3. Analysis of when riders start abusing drugs.

When riders begin abusing drugs can also be considered necessary for the study because it shows the dynamics of riders' behaviour change while in this business of taxi motorcycles.

Table 4:11. When riders began abusing drugs

Time started taking drugs	Number of abusers	Percentage showing when drug abusers started
Before joining motorcycle taxi	41	25.625
When in trade	98	61.250
Unable to tell	21	13.125
Total	160	100

As concerns when these people begin drug abuse, it was discovered that 98 (61.250%) began this when in trade while 41 (25.625%) began this before engaging in riding and 21 (13.125%) were unable to tell when they started. This proves that peer influence drive them into abusing drugs and thus explaining reasons for high rate of taxi motorcycle accidents

caused by them. Three quarters of respondents agreed that drug and substance is a major contributor to high rate of taxi motorcycle accidents. After taking drugs they over speed, violate traffic rules, ignore road signs, overload and these create risks of accidents.

4.5. Influence of road conditions on high rate of motorcycle accidents

The respondents were asked about road conditions because this was thought to be an important factor that would determine the increase or the decrease of taxi motorcycle accidents. The assumption was that, poor roads would be dangerous while superb roads would be risk free.

Table 4.12 Shows state of roads in Kasipul Kabondo

Condition of roads	Number of respondents	Percentages
Superb	0	0.000
Moderate	123	43.007
Pathetic	163	56.993
Total	286	100

All the respondents; the boda boda riders, medical personnel and traffic police officers admitted that roads in Kasipul Kabondo were not good. 163 respondents forming 56.993% said they were pathetic while 123 forming 43.007% said they were of moderate condition. This was attributed to the fact that all of them except the tarmac from Sondu to Ruga centre are loose roads which easily get washed away by rains. The ridges, furrows, potholes and deep struts can easily aggravate motorcycle accidents.

4.5.1. Analysis of effects of road conditions on service delivery

How road conditions could affect riders' service delivery was also looked at because the researcher thought that good roads render the riders efficient as the opposite negatively affect efficiency of service delivery.

Table 4.13. Influence of road conditions on service delivery

Service delivery	Number of responses	Percentage
Very efficient	12	4.196
Efficient	19	6.643
Less efficient	246	86.014
Indifferent	09	3.147
Total	286	100

It was noted from the responses that poor roads contribute to poor efficiency of riders on the roads. Since the roads in Kasipul Kabondo are pathetic: the riders, traffic police and medical personnel dealing with emergencies agreed that the riders become less efficient on them. 246 (86.014%) attributed poor road conditions to less efficiency while 12 (4.196%) attributed poor roads to more efficiency as 19 (6.643%) attribute pathetic road conditions to efficiency. When riders are less efficient, then this can increase rate of taxi motorcycle accidents.

4.5.2. Influence of road signs in Kasipul Kabondo and impact on high rate of motorcycle taxi accidents

The researcher considered road signs that would indicate road conditions. Presence of most of road signs would indicate that the roads are superb while their absence is likely to point that the roads are pathetic.

Table 4.14. Influence of road signs on high rate of taxi motorcycle accidents

Road signs	Number of responses	Percentage
Yellow lines	43	15.035
Bumps	243	84.965
Schools	0	0.000
Road meanders	0	0.000
Total	286	100

According to the table above, roads in Kasipul Kabondo have very few road signs. No respondent indicated having spotted signs indicating schools and pupils crossing, as well as road meanders. However, bumps had 243 (84.965%) respondents identifying their presence and yellow lines presence were only identified by 43 (15.035%) of respondents. Lack of enough road signs could be the reason for many ROWV and increased number of taxi motorcycles accidents. Over speeding and speeding on bends are attributed to lack of enough road bumps and thus high rate of taxi motorcycle accidents.

4.5.3. Common Road features in Kasipul Kabondo

Physical features observed on roads can also highlight state of the roads. Roads full of potholes ridges, furrows, and gullies may be considered pathetic, while those with culverts and bridges would be said to be in good condition.

Table 4.15. Features predominant on roads in the constituency

Road features	Responses	Percentages
Potholes	115	43.706
Ridges	29	10.140
Bridges	25	8.741
Culverts	25	8.741
Others (all the above)	82	28.672
Total	286	100

The table above helped the researcher discover that roads in the constituency are full of potholes which attracted 115 (43.706%) of responses followed by 82 (28.672%) of them saying all the features are seen on roads there. 29 (10.140%) picked ridges while 25 (8.741%) picked bridges and culverts. With less culverts and bridges, drainage is hampered and this could be a factor that contributes to bad state of roads. When roads are terrible, efficiency is compromised and thus high rate of taxi motorcycle accidents.

4.5.4. Influence of frequency of repair of roads in the constituency

The frequency with which roads are repaired may also be of assistance to the study because it is likely to indicate whether they are good or bad. Those repaired frequently, remain adequately good unlike those not repaired frequently.

Table 4.16 Rate of repair of Kasipul Kabondo roads

Frequency of repair	Number of respondents	Percentages %
More frequently	8	2.797
Frequently	30	10.490
Less frequently	208	72.727
Difficult to talk	40	13.986
Total	286	100

According to the table 208 (72.727%) said that the roads in the constituency are repaired less frequently while 40 (13.986%) said it is difficult to tell how frequently these roads are repaired. 30 (10.490%) said they are repaired frequently and 8 (2.797%) said that they are repaired more frequently. This was also tied to the fact that the 215 (75%) said that in terms of feeder roads they are moderate, meaning that only 71 (25%) said there are many feeder roads and few feeder roads. Since they are less frequently repaired they are bad and so poor roads as many respondents showed encourage the occurrence of many taxi motorcycle accidents. That there are moderate feeder roads could also explain the increase in number of taxi motorcycle operators and hence competition for customers and this could lead to over speeding, over-loading and right of way violation (ROWV).in this study many respondents agreed that poor roads contribute to high rate of taxi motorcycle accidents.

4.6. Influence of terms of service on high rate of taxi motorcycle accidents

Terms of service was considered an important characteristic that would highlight riders' attitudes towards this job they are engaging in. the motivation to give the job their best would be governed by how they are paid by their employers, how they relate with their employers

and how they consider themselves comfortable in the job or whether they do the job because of lack of other engagements.

Table 4.17 Ownership structure of the motorcycles in Kasipul Kabondo (whether self-owned or not)

Yes or No	Number of Responses	Percentages %
Yes	49	18.846
No	211	81.154
Total	260	100

From the table above, it was discovered that most of the motorcycles used for taxi business in Kasipul Kabondo are not owned by the people who operate them. In fact 211 (81.154%) are not self-owned. This implies that the riders rely on the commissions they get from the owners. This could be the reason for over speeding and overloading as they try to make more and get what the owners want as well as more for their survival. Over speeding and overloading here enhance the rate of taxi motorcycle accidents.

4.6.1. Ownership structure of taxi motorcycles in Kasipul Kabondo constituency.

Table 4.18 Terms of ownership structure of taxi motorcycles in the constituency

Ownership structure	Number of response	Percentages %
Group owned	34	13.077
Employed	142	54.625
Hired	73	28.077
Others (partnership)	11	4.231
Total	260	100

As per the table on terms of ownership structure of taxi motorcycles in the constituency, it was discovered that 142 (54.615%) of motorcycle operators are employed by other people. 73(28.077%) are hired by operators while 34 (13.077%) are group-owned and 11 (4.231%) are under partnerships. That majority are employed so they tend to care less about the conditions of motorcycles thus recklessness witnessed among them on roads which increases

the rate of taxi motorcycle accidents. Their attitudes towards maintenance of those motorcycles grow lower and so they render them un-roadworthy quickly and thus chances of un-roadworthy ones compounding high rate of taxi motorcycle accidents.

4.6.2. Influence of pay package received by taxi motorcycle operators in Kasipul Kabondo Constituency

Pay package offered to boda boda riders in the constituency was also investigated to see the bearing that it has towards the behaviour of the riders there. It was assumed that those paid well were likely to be composed; less frustrated and hence could be very keen on the roads. The other assumption was that the ones seriously underpaid were likely to get frustrated and thus would find themselves sometimes committing serious mistakes while on the roads and would easily engage in malpractices that deviate from traffic ethics like: overloading, over-speeding, bribery etc.

Table 4.19 Pay package received by taxi motorcycle operators in Kasipul Kabondo Constituency

Pay Packages	Number of Responses	Percentages %
Adequate	5	1.923
Average	11	4.231
Inadequate	191	73.461
Indifferent	42	16.154
Others (shared profit)	11	4.231
Total	260	100

The table shows that 191 (73.461%) felt they are inadequately paid 42 (16.154%) are indifferent while 11 (4.231%) felt the pay was average and a similar percentage said that they normally share the profits with the partner in trade. However, 5 (1.923%) felt the pay was adequate. Poor packages could explain their reason for overloading, over speeding because they could be speeding to go many trips and make more money and this becomes a risk factor for the high rate of taxi motorcycle accidents in Kasipul Kabondo. Overloading is also caused by “I must make more money” type of attitude. This reduces efficiency on roads in this constituency and hence increasing rate of taxi motorcycle accidents in the constituency.

4.6.3. Riders' relationship with the owners of motorcycles

How riders relate with owners of motorcycles they ride could easily reveal whether they feel motivated at work or they feel demotivated or frustrated. Frustrations would easily contribute to lack of concentration on roads and that would compromise safety of the riders, pillion passengers, pedestrians and other road users.

Table 4.20 How riders relate with their employers

Relationship with employer	Number employed	Percentages %
Very cordial	12	8.451
Cordial	25	17.606
Less cordial	56	39.437
Harsh	41	28.873
Other	8	5.632
Total	142	100

From the table it could be because of inadequate pay that the riders say they don't relate well with their employers. 56 (39.437%) said their relationship with employers was less cordial. In addition, 41 (28.873%) said their relationship with employers was harsh while 25 (17.606%) said it was cordial, but 12 (8.451%) said they relate very cordially with their employers and 8 (5.632%) were not sure. Less cordial relationship with employers could explain why most riders are reckless on the roads because they care less about the state of motorcycles. They may be lacking motivation and are thus frustrated, something that could easily increase the rate of taxi motorcycle accidents in the constituency.

4.6.4. Analysis of riders' preference for taxi motorcycle riding or other engagements

The researcher also sought to establish whether the riders prefer engaging in taxi motorcycle business to other forms of engagements that could be there. This was meant to gauge their commitment to duty.

Table 4.21. The riders perception of taxi motorcycle business and the alternative of another engagement (job)

Yes or no	Number of responses	Percentages %
Yes	33	12.692
No	227	87.308
Total	260	100

From the table it was discovered that most of motorcycle riders do not get satisfaction in that job. So 227 (87.308%) indicated that they prefer other engagements to riding but they are engaged in taxi motorcycle because they have not got other alternative engagements. This is a clear indication that they are not motivated and without motivation they are likely to lose concentration in their job and cause accidents. Secondly, this could explain the reason why a majority of them begin abusing drugs while in trade. Because of this attitude towards their work, they are likely to be careless on the roads which can easily increase rate of taxi motorcycle accidents.

Terms of service can then influence the rate of motorcycle accidents in that, with better terms of service, the riders will be composed, less frustrated, be observant and avoid many accidents. On the other hand, poor terms of service may lead to over speeding in an endeavor to get more customers, reckless riding, right of way violation (ROWV), speeding on bends, overlapping on lanes, frustrations and low self-esteem. All these can increase the rate of motorcycle accidents in the constituency. Furthermore, poor terms of service leads to rush for customers which makes many riders to ignore traffic rules and traffic signs. Sometimes they are forced to collude with traffic police who ignore their offences as they part with bribes; all

in the name of trying to make more money and in essence complicating the rate of risk of accidents which is compounded further.

4.7. Influence of experience of riders on high rate of taxi motorcycle accidents in Kasipul Kabondo constituency.

Experience of riders was also seen as crucial in the study. Experience could easily explain resilience among the most experienced riders and lack of resilience and patience among those deemed as in-experienced. Experience of riders can also show their mastery of the road signs and level of adherence to traffic ethics.

Table 4.22. Experience of riders in the constituency in terms of years they have taken in this business

Experience of riding (years)	Number of responses	Percentages %
Less than 1 year	62	23.846
1-3 years	120	46.846
4-6 years	56	21.538
7-9 years	14	5.385
Above 9 years	8	3.077
Total	260	100

According to the table, 120 (46.154%) of riders had between one to three years' experience while 62 (23.846%) of them only had less than one year experience. Moreover, 56 (21.538%) of them had between four to six years riding experience. But, 14 (5.385%) of them had between 7-9 years as 8 (3.077%) had above nine years of riding experience. It can be inferred that 182 (70%) of riders in Kasipul Kabondo lack experience because they have operated motorcycles for less than one year and between one to three years respectively. Since the problem of high rate of taxi motorcycle accidents has been noted, the table above clearly reveals that high rate of taxi motorcycle accidents has something to do with inexperience of riders. The less experienced riders tend to ignore road signs and fail to follow traffic rules as required. In addition, they are not quite precise because of fear and thus they increase risks of accidents. It is therefore inferred that the highly experienced riders tend to be

more accurate in manipulating the motorcycle and thus they rarely contribute to the increased rate of motorcycle accidents on roads in Kasipul Kabondo constituency.

4.7.1. Analysis of whether the riders are trained or not

Training was also seen by the researcher as a crucial indicator of awareness amongst the riders. The assumption is that those who undergo formal training will tend to be observant on roads; will tend to follow traffic rules and may accurately interpret road signs they come across. Those who trained informally may tend to be unaware of the significance of the road signs they see while riding; such may engage in various forms of ROWVs.

Table 4.23. Shows whether the riders underwent training

Trained	Number of responses	Percentages %
Yes	53	20.385
No	207	79.615
Total	260	100

The table above makes a follow-up on the experience of the riders. It was discovered that apart from inexperience on the part of the riders, 207 (79.615%) never went through a formal training while 53 (20.385%) went through formal training. This thus indicated to the researcher that a majority of the riders lack driving licenses and this explains why they rarely observe traffic rules. Moreover, this clearly indicated that the police are not enforcing traffic rules on roads in this constituency and this could be reason enough for the high rate of taxi motorcycle accidents.

4.7.2. Analysis on nature of training that riders in the constituency got

The form of training that riders underwent could also indicate how they are likely to be efficient on roads. The researcher thought that formal training could impart enough knowledge on the riders and thereby impacting positively on the roads by minimizing traffic misdemeanors. Informal training or grasping of skills on the job could impact negatively on the roads by increasing the number of injuries, fatalities and on the whole accidents.

Table 4.24. Nature of training by riders in the constituency

Nature of training	Number of responses	Percentages %
Formal	53	20.385
Informal	86	33.077
On the job	109	41.923
Others	12	4.615
Total	260	100

The results indicated that most of riders learned how to ride on the job. 109 (41.923%) got the skills of riding on the job while 86 (33.077%) trained informally. 53 (20.385%) received formal training, meaning that only that percentage hold licenses but 12 (4.615%) indicated that they learned how to ride through trial and error; watching others riding. In this table, we are able to infer that a majority of taxi motorcycle riders lack requirements on the road and are ignorant about major road signs. This could be the reason for many traffic violations they engage in while on the road that mostly ends up causing many accidents.

4.7.3. Analysis of the frequency with which riders update themselves with changes in transport industry.

In order to know whether most of the riders attend refresher courses to update themselves with new changes in the transport industry, the frequency with which they undergo refresher training had to be assessed to see if they are conforming to dynamics of traffic ethics in the country. The researcher based an argument on frequency of training as a way of keeping oneself up breast with new road signs incorporated in the older ones. It is believed that those who frequently attend refresher training are conversant and competent in following road signs and traffic ethics. The reverse is true for those who hardly attend and those who don't attend.

Table 4.25. Shows responses for riders' frequency of training to update themselves with changes in transport industry.

Frequency of training	Number of responses	Percentage %
More frequently	9	3.462
Frequently	13	5.000
Less frequently	108	41.538
Others (not at all)	130	50.000
Total	260	100

From the table, it was clear that apart from many motorcycle riders lacking formal training and license, they hardly attend refresher courses to update themselves on changes in transport industry. This thus implies that most of the riders here are ignorant of so many traffic rules which could be the reason for them carrying more pillions, overlapping on lanes, overtaking without crossing the centre line, not indicating while negotiating a turn and speeding on bends. All the offences mentioned indeed increase the rate of taxi motorcycle accidents.

More than 208 (80%) of those who were targeted by this research admitted that experience of riders has some influence on the rate of taxi motorcycle accidents. When the riders do not have experience or have little experience, there is likelihood of them causing many accidents because they have not mastered the art of manipulating the motorbikes. However, when the riders have vast experience, they will tend to update their knowledge on new traffic requirements on the roads. Experienced riders according to the responses do not easily fall prey to Peer pressure; they are always patient and thus rarely engage in behaviors that can accelerate the occurrence of motorcycle accidents.

4.8. Influence of role of traffic police on high rate of taxi motorcycle accidents in Kasipul Kabondo Constituency.

The respondents were asked about the role of traffic police because it has some bearing on rate of taxi motorcycle accidents. When traffic police efficiently play their role as required they are likely to help in reducing the number of taxi motorcycle accidents. But, when they are negligent; collude with riders for purposes of extorting resources from them; they are likely to encourage traffic misdemeanors hence increasing the rate of taxi motorcycle accidents.

Table 4.26. Shows whether traffic police are on most roads in Kasipul Kabondo constituency

Presence of traffic police on roads	Number of responses	Percentages
Yes	90	31.469
No	196	68.531
Total	286	100

The table above shows the responses of riders, medical personnel and traffic police on the presence of traffic police on roads in Kasipul Kabondo constituency. The respondents indicated that traffic police are not common on most of roads in Kasipul Kabondo constituency with 196 (68.531%) saying this. But, 90 (31.469%) said that traffic police are seen on most of the roads in the constituency. This indicates that enforcement of traffic rules is not enhanced and so traffic violators can easily go unnoticed. This scenario could be the one encouraging riders to overload and over speed because they are not likely to be caught by traffic police. Violations of traffic laws occasioned by lack of traffic police on many roads can easily increase rate of taxi motorcycle accidents.

4.8.1. Role of traffic police officers on roads in Kasipul Kabondo.

The respondents were requested to ascertain the exact roles of traffic police officers on roads in this constituency, the researcher tried to find out whether they extort resources from riders, enhance traffic flow, interfere with traffic flow or maintain law and order.

Table 4.27. Role of traffic police on roads in this constituency

Role of traffic police officers	Number of responses	Percentages
Extortion of resources	103	36.014
Enhancing traffic flow	54	18.881
Interfering with traffic flow	107	37.413
Other (maintaining law & order)	22	7.692
Total	286	100

From the table it was revealed that 107 (37.413%) felt that the police only do interfere with traffic flow while 103 (36.014%) felt that the police only play the role of extorting resources from them. 54 (18.881%) had a feeling that the police play a role of enhancing traffic flow but, 22 (7.692%) felt that the police maintain law and order on the roads. These responses clearly reveal the riders attitudes towards the police. They therefore explain the reason why the police neglect traffic offenders hence creating a loophole that increases the rate of taxi motorcycle accidents.

4.8.2. What determines relationship of boda boda riders with traffic police officers.

The relationship between boda boda riders with traffic police was also considered in the study to know the riders perspective of the work the traffic police do. The researcher sought to know what determines their relationship on the following parameters: observance of traffic rules, bribery, maintenance of motorcycle conditions, and collusion with traffic police.

Table 4:28.Things that determine relationship of riders with police officers

Determinant of relationship with police	Number of responses	Percentage
Observing traffic rules	29	10.140
Bribery	177	61.888
Maintenance of motorcycle condition	32	11.189
Other collusion with traffic police	48	16.783
Total	286	100

From the above table, it emerged that bribery is the major thing that determines the relationship of riders with the police. 177 (61.888%) said that they relate with the police in terms of bribery. 48 (16.783%) said that they sometimes collude with police to violate traffic rules, but 32 (11.189%) said maintenance of motorcycle condition determines their relationship with the police and 29 (10.140%) talked of observing traffic rules.

That the police encourage bribery to be the order of the day compromises enforcement of traffic laws and hence leaving a leeway for more accidents to happen.

This study revealed that when the police condone bribery and collude with the riders they contribute towards the increase of accidents. On the other hand when they become vigilant in enforcing the traffic rules, the number of motorcycle accidents reduces substantially.

4.9.Summary of findings presentation interpretation and discussions

This chapter has highlighted findings based on drug and substance abuse in Kasipul Kabondo, road conditions in the constituency, terms of payment to riders in the constituency, experience of riders and role of traffic police. It emerged that many riders abuse drugs because of many reasons, ranging from gaining courage on roads, wishing away frustration and feeling efficient on roads. Furthermore, roads in the constituency were described as pathetic thereby compromising maneuverability. Terms of payment to riders were also discovered to be discouraging to them, making them lack commitment to duty. In addition, inexperience proved a factor contributing to high rate of taxi motorcycle accidents. Lastly, traffic police were few hence making their role insignificant.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

The purpose of this study was to investigate factors influencing high rate of taxi motorcycle accidents in Kasipul Kabondo constituency, Homa-bay County. This chapter discusses the major findings of chapter four which are then used to draw conclusions and then recommendations are made to reverse the trend of things in which the rate of taxi motorcycle accidents is very high in the constituency.

5.2. Summary of Findings

The first objective was to determine how drug and substance abuse influences high rate of taxi motorcycle accidents in Kasipul Kabondo constituency, Homabay Countys. Data analysis and interpretation of responses from respondents revealed the following major findings under this objective; a majority of boda boda riders participate in abusing drugs and substances. Most of the boda boda riders 161 (61.923%) admitted indulgence in drug and substance abuse, most of the operators also revealed that they do take drugs while on duty 88 (55%). Moreover, a majority of the riders 30 (39.375 percent) revealed that they take drugs to kill off frustration. It was discovered that 98 (61.250 percent) began abusing drugs while in trade. Such findings seem to confirm that abuse of drugs and substances is a risk behaviour that easily increases rate of taxi motorcycle accidents.

The second objective was to establish the extent to which road condition influences high rate of taxi motorcycle accidents in Kasipul Kabondo constituency. Data analysis and interpretation of responses from respondents revealed the following findings under this objective: that the roads in this constituency were in a pathetic condition where 163 (56.993 percent) decried the poor state of roads in the constituency. The respondents also went ahead and revealed that poor state of roads leads to less efficiency of riders on the roads, 246

(86.014 percent) admitted that pathetic roads highly compromise their efficiency on the roads and thus increasing cases of accidents. Furthermore, it was discovered that the road signs that could guide the cyclists were not common. The only ones that the riders admitted observing frequently are the bumps at 243 (84.965 percent). But in terms of physical features witnessed on roads, a majority of the riders identified potholes with 125 (43.706 percent) picking on it. Finally, in terms of frequency of repair of the roads in the constituency, many respondents 208 (72.727 percent) revealed that the roads in Kasipul Kabondo are repaired less frequently. To this end therefore, pathetic roads compromise efficiency on roads and when the road signs are fewer and pot holes are many, motorcycle accidents can be high.

The third objective was to investigate the influence of terms of service on high rate of taxi motorcycle accidents in Kasipul Kabondo constituency. Data analysis and interpretation of responses from respondents revealed the following major findings under this objective: that 211 (81.154 percent) of the motorcycles were not owned by the people who operate them and so 142 (54.615 percent) of the riders were employed by the owners of the motorcycles that are operated in the constituency. It was also revealed that most of the riders felt that the pay package was inadequate, 191 (73.461 percent) felt so. With a poor pay package then, the relationship between the riders and their employers could not be cordial, so 56(39.437 percent) revealed that their relationship with employers was less cordial and that given another engagement other than operating motorcycles 227 (87.308 percent) would opt for the alternative job and leave riding for the alternative job.

The fourth objective was to assess how experience of riders influence high rate of taxi motorcycle accidents in Kasipul Kabondo constituency. Data analysis and interpretation of responses from respondents revealed the following major findings under this objective: that 120(46.154 percent) has experience of between one year and three years and 62(23.846

percent) has less than one year's experience. This thus revealed that a total of 182(70 percent) had an experience of less than one year to three years.

It was also revealed that in terms of formal training 207(79.615 percent) of riders had no formal training on how to ride motorcycles. It was thus discovered that a majority of them only get skills of riding well while on the job 109(41.923 percent) and that they hardly attend training to update themselves with the continuous changes in the transport industry. In fact, 130 (50 percent) of them indicated that they have not attended any training to update their knowledge on new traffic ethics and requirements.

The fifth objective was to explore how the role of traffic police influences high rate of taxi motorcycle accidents in Kasipul Kabondo constituency. Data analysis and interpretation of responses from respondents revealed the following major findings under this objective: that not so many roads in the constituency have traffic police .In fact, 196 (68.531 percent) admitted that traffic police were not so common on roads in Kasipul Kabondo. They further revealed that on the roads where traffic police were found, instead of them enhancing traffic flow and maintaining law and order; they only ended up interfering with traffic flow; 107 (37.413 percent) revealed this. Moreover, it was also revealed that bribery 177 (61.888 percent) determines their relationship on the roads with traffic police.

5.3. Conclusion

This study investigated factors influencing high rate of taxi motorcycle accidents in Kasipul Kabondo constituency. This was in relation to the fact that the number of taxi motorcycle accidents in the constituency has continued to grow higher and higher and nothing seems to be trying to reverse it. The study specifically sought to know the factors that influence this high rate of taxi motorcycle accidents through studying and analyzing the following factors: drug and substance abuse among riders, road conditions in the

constituency, terms and conditions of service accorded to riders by employers, experience of riders and role of traffic police on high rate of taxi motorcycle accidents.

The study established that the higher the number of the taxi motorcycle operators who abuse drugs and substances, the higher the rate of taxi motorcycle accidents in the constituency. Again it was also discovered that the more the roads in the constituency remained in a pathetic condition, the higher the number of taxi motorcycle accidents increased in the constituency.

Furthermore, it also emerged that poor terms of payments to the riders contributed to their frustrations, rush for customers, overloading, violation of traffic rules, over speeding and thus lead to high rate of taxi motorcycle accidents in the constituency. Moreover, it was also discovered that experience of riders has something to do with the number of taxi motorcycle accidents; the higher the number of those who are highly experienced in riding the fewer the number of accidents but the higher the number of those who are inexperienced, the higher the rate of taxi motorcycle accidents. In Kasipul Kabondo a majority of riders are inexperienced and this increases the number of taxi motorcycle accidents. Lastly, it was also evident that traffic police in the constituency rarely play their role of curbing escalation of the number of accidents involving taxi motorcycles, but only engage in behaviors that encourage violation of traffic rules and hence more accidents occur.

The study therefore concluded that the five factors studied that is: drug and substance abuse, road conditions, terms of service, experience of riders and role of traffic police all have a direct influence on the rate of taxi motorcycle accidents in Kasipul Kabondo Constituency.

5.4. Recommendations

It has been argued that all the five factors under study in this document influence high rate of taxi motorcycle accidents. They speed up, aggravate, and cause many accidents to happen instead of reducing them. Against this background, the following recommendations were made: since abuse of drugs and substance is a risk behaviour that enhances accidents there should be a campaign to make riders aware that they need to remain sober at all times that they are operating motorcycles on the roads in Kasipul Kabondo. Apart from the awareness campaign, the police should also step up their efforts and ensure they check all the motorcycles on road blocks to ensure their operators are not on drugs of any kind. Moreover, that the poor conditions of roads enhance accident occurrences seems to suggest that the Ministry of Roads and Public Works should strive to ensure that roads in the constituency are frequently repaired to better standards and that many relevant road signs should be erected where they need to be to help guide the riders and other road users. Further to this, it is also necessary to have many feeder roads all over the constituency to enhance free flow of traffic and thus minimize accidents. In addition, on terms of service, there should be frequent meetings organized between the owners of the motorcycles and the riders to bridge the gap between them to ensure the employers offer them better terms that will motivate them. This too will also go along way in changing the attitudes of the riders towards this job and that will make them professionally handle themselves on the roads in the constituency. Furthermore, to change the riders' attitudes to this job of riding motorcycles, it would be meaningful if owners of motorcycles formed Sacco societies that would ensure that the riders are paid monthly salaries fair enough to prevent frustrations among them. These Saccos will ensure that there is cordial relationship between employers and riders. In addition to these, it would also be necessary for awareness campaign on need for boda boda riders to all ensure they go to driving schools and receive the necessary skills and acquire driving licenses. This calls for

the establishment of formal driving schools geared towards ensuring this happens. Moreover, the police too should go on a mission of ensuring all riders on the roads are conversant with road signs and that each of them has a driving license. Lastly, the police should enforce laws required on the roads and ensure free flow of traffic on roads in the constituency. Accountability and transparency should be the hallmark of every traffic police officers duty. Constant checks need to be done to ensure road signs are not vandalized. The police should also organize constant meetings with the riders to help change their attitudes and culture on the roads. In addition, as stressed by organizers of National safety programme on 24th of October, 2012, all Kenyans must participate in “Toa sauti” to minimize road accidents. When a rider is over speeding, overloading and recklessly riding the pillion passengers must talk against that to moderate their behaviour that compromise people’s lives on the roads.

5.5. Suggestions for Further Research

The following areas have been suggested for further research:

- (i) Replication of a similar research but in a different constituency
- (ii) A study to find out whether ready availability of drugs in the constituency is what drives the riders to join abuse of drugs and substances in trade.
- (iii) A study on whether vandalism of road signs hampers free flow of traffic.
- (iv) A study on whether age is a factor that encourages peer influence among riders.
- (v) A study on whether lack of motivation among traffic police officers encourages lack of commitment among them.
- (vi) A study on whether extensive awareness among passengers can control rate of taxi motorcycle accidents.

5.6. Contribution to body of knowledge

From the study, the five objectives were analysed to see how they contribute to body of knowledge. This was highlighted according to table 4.29.

Table 4.29 Contribution to body of knowledge

Objectives	Contribution
1. To determine how drug and substance abuse influences high rate of taxi motorcycle accidents in Kasipul Kabondo Constituency.	1. Youths in Kasipul Kabondo engage in drug and substance abuse to wish away frustrations and gain courage on roads
2. To establish the extent to which road conditions influence high rate of taxi motorcycle accidents in Kasipul Kabondo constituency.	2. Roads in Kasipul Kabondo are pathetic and require frequent repair works. Road signs are hardly there save for bumps.
3. To investigate the influence of terms of service on high rate of taxi motorcycle accidents in Kasipul Kabondo constituency.	3. Poor terms of payment for riders leads to frustration hence they overload, over speed, ride recklessly to generate more money; something that increases risks of accidents
4. To assess how experience of riders influences high rate of taxi motorcycle accidents in Kasipul Kabondo constituency	4. Many Taxi Motorcycle Riders Rarely Go For Formal Training In Kasipul Kabondo. They prefer informal training which leaves them not fully equipped
5. To explore how the role of traffic police influences high rate on taxi motorcycle accidents in Kasipul Kabondo constituency	5. There are few traffic police officers in Kasipul Kabondo, so enforcement of traffic rules is difficult hence high rate of taxi motorcycle accidents.

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Appendix 1: Letter of transmittal

**THE UNIVERSITY OF NAIROBI,
DEPARTMENT OF EXTRA MURAL
STUDIES
P.O BOX 92,
KISII.**

Date: 18th April 2012

**TO NGWARE ASSOCIATION,
KASIPUL KABONDO CONSTITUENCY
P.O BOX
OYUGIS**

Dear Sir,

**RE: FACTORS INFLUENCING HIGH RATE OF TAXI MOTORCYCLE
ACCIDENTS IN KASIPUL KABONDO CONSTITUENCY**

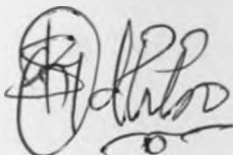
I am a postgraduate student in the University of Nairobi, pursuing a master's degree in project planning and management. I am conducting a study on factors that play a role for motorcycle accidents to occur. The research topic is to identify the factors that orchestrate high rate of taxi motorcycle accidents to see what needs to be done to curb the accidents.

I am hereby seeking your permission to obtain data that could assist me in the study.

No name shall be required from any respondent.

Thank you in advance.

Yours sincerely,



ODHIAMBO STEPHEN YOGO

b) Questionnaire

Appendix 2: Boda Boda Officials'/Boda Boda Riders' Questionnaire

This questionnaire seeks to obtain data on factors that influence high rate of motorcycle taxi accidents in Kasipul Kabondo. Indicate your honest responses by ticking/writing in the spaces provided. Note that your responses shall be used for academic purposes and will be treated in strict confidence.

Part A: Contextual and Personal Data/Demographic Characteristic of the Respondents

1. Tick the area where your boda boda operates:

Oyugis () Kadongo () Ringa () Kosele ()

2. Your sex: Male () Female ()

3. Your age: below 18 () 18-29 () 30-34 () 35-39 () 40 and above ()

4. State your marital status;

a) Single () b) Married () c) Divorced () d) Widowed ()

e) Others (specify).....

5. Indicate your level of education

a) Primary () c) Post Secondary ()

b) Secondary () d) Any other (specify).....

Part B to part F

Please indicate the correct responses by putting a tick where appropriate and giving your honest explanation on the five factors influencing rate of motorcycle accidents

Part B: Drug and substance abuse

1. Do you take drugs?

a) Yes []

b) No []

2. If yes, indicate the drug you take

- a) Alcohol []
- b) Bhang []
- c) Kuber []
- d) Ndovu []
- e) Other (specify).....

3. When do you prefer taking drugs?

- a) Before work []
- b) During work []
- c) Anytime []
- d) After work []
- e) Other (specify).....

4. What reason do you have for taking drugs?

- a) To be efficient on the road []
- b) Gain courage []
- c) Wish away frustrations []
- d) Other (specify).....

5. What is your riding precision when on drugs?

- a) More precise []
- b) Precise []
- c) Less precise []
- d) Other (specify).....

6. When did you start abusing drugs?

- a) Before engaging in motorcycle taxi []
- b) Introduced when in trade []

c) Unable to tell []

d) Other (specify).....

7. In your own opinion, explain the influence of drug and substance abuse on rate of motorcycle accidents

.....

Part C: Road conditions:

1. How can you describe the road conditions in Kasipul Kabondo Constituency?

a) Superb []

b) Moderate conditions []

c) Pathetic []

d) Other (specify).....

2. How do you associate efficiency of service delivery with road conditions in Kasipul Kabondo Constituency?

a) Very efficient []

b) Efficient []

c) Less efficient []

d) Indifferent []

e) Other (specify).....

3. Indicate the type of road signs that you commonly observe on roads in Kasipul Kabondo constituency.

a) Yellow lines []

b) Bumps []

c) Schools []

d) Road meanders []

e) Other (specify).....

4. Give common road features that are observed on roads in Kasipul Kabondo Constituency.

- a) Pot holes []
- b) Ridges []
- c) Bridges []
- d) Culverts []
- e) Others (specify)

5. How often do those roads get repaired?

- a) More frequently []
- b) Frequently []
- c) Less frequently []
- d) Difficult to tell []
- e) Others (specify)

6. Describe the general road networking in Kasipul Kabondo Constituency.

- a) Many feeder roads []
- b) Moderate feeder roads []
- c) Few feeder roads []
- d) Other (specify)

7. Explain the contribution of road conditions to rate of motorcycle accidents in Kasipul Kabondo Constituency.

.....

Part D: Terms of Service

1. Is the motorcycle you operate self-owned?

- a) Yes []
- b) No []

2. If No, indicate the ownership structure of the motorcycle you ride.
 - a) Group owned []
 - b) Employed []
 - c) Hired []
 - d) Other (specify).....

3. On the basis of the ownership structure of the motorcycle you operate, describe the pay package.
 - a) Adequate []
 - b) Average []
 - c) Inadequate []
 - d) Indifferent []
 - a) Other (specify).....

4. Describe your relationship with your employer.
 - a) Very cordial []
 - b) Cordial []
 - c) Less cordial []
 - d) Harsh []
 - e) Other (specify).....

5. Would you say that you prefer motorcycle taxi operation to other engagements?
 - a) Yes []
 - b) No []

6. If Yes or No, explain.....

7. In your own opinion, explain the influence of terms of service on rate of motorcycle accidents.....

Part E: Riding Experience

1. For how long have you been in Motorcycle taxi business?

a) Less than 1 year []

b) 1 – 3 years []

c) 4 – 6 years []

d) 7 – 9 years []

e) Above 9 years []

2. Are you a trained motorcycle operator?

a) Yes []

b) No []

3. If yes indicate the nature of your training.

a) Formal []

b) Informal []

c) On the job []

d) Others (specify).....

4. How frequently do you train to keep abreast with changes in transport industry?

a) More frequently []

b) Frequently []

c) Less frequently []

d) Other (specify).....

5. Explain the influence of experience of riders on rate of motorcycle accidents in Kasipul Kabondo Constituency.....

.....

Part F: Role of Traffic Police

1. Are there Traffic Police officers on most of the routes you ply?
 - a) Yes []
 - b) No []

2. How can you describe the role of traffic police officers on roads?
 - a) Extortion of resources []
 - b) Enhancing traffic flow []
 - c) Interfering with traffic flow []
 - d) Other (specify).....

3. What do you believe normally determines your relationship with traffic police officers?
 - a) Observing traffic rules []
 - b) Bribery []
 - c) Maintaining motorcycle conditions []
 - d) Other (specify).....

4. Explain how traffic police officers influence rate of motorcycle taxi accidents in Kasipul Kabondo Constituency.
.....

c) Questionnaire

Appendix 3: Traffic police officers' questionnaire

This questionnaire seeks to obtain data on factors influencing high rate of taxi motorcycle accidents in Kasipul Kabondo constituency. Kindly indicate your honest responses by ticking/writing in the spaces provided. Note that your responses will be used for academic purposes only and that your responses will be treated in strict confidence as deemed by ethical considerations.

PART A: Demographic Characteristics of Respondents

1. Tick area where you work as traffic police officer:

(a) Oyugis [] (b) Kadongo [] (c) Ringa [] (d) Kosele []

2. State your sex: (a) Male [] (b) Female []

3. Give your age bracket:

(a) Below 18 [] (b) 18-29 [] (c) 30-34 [] (d) 35-39 [] (e) 40 and above []

4. State your marital status: (a) Single [] (b) Married [] (c) Divorced []

(d) Widowed []

5. Indicate your level of education: (a) Primary [] (b) Secondary []

(c) Post-secondary [] (d) Other (specify).....

PART B: Drug and Substance Abuse

1. Do you think majority of taxi motorcycle riders abuse drugs? (a) Yes [] (b) No []

2. Which drugs do you think they abuse mostly?

(a) Alcohol [] (b) Bhang [] (c) Kuber [] (d) Ndovu []

(e) Other (speciy).....

3. When do you think they abuse drugs? (a) Before work [] (b) During work []
 (b) Any time [] (d) After work []
4. What do you think is their precision when on drugs?
 (a) More precise [] (b) Precise [] (c) Less precise []
 (d) Other (specify).....
5. In your opinion, explain what you think is the influence of drug and substance abuse on high rate of taxi motorcycle accidents in Kasipul Kabondo constituency_____
-

PART C: Road Conditions

1. According to how you see it, which is the state of roads in Kasipul Kabondo?
 (a) Superb [] (b) Moderate conditions [] (c) Pathetic []
 (d) Other (specify).....
2. State whether the state of roads you have identified makes the riders very efficient or less efficient. (a) Very efficient [] (b) Efficient [] (c) Less efficient []
 (d) Indifferent []
3. Which road signs are commonly witnessed on roads in Kasipul Kabondo constituency?
 (a) Yellow lines [] (b) Bumps [] (c) Schools [] (d) Road meanders []
4. Which physical features are likely to be observed in many roads in the constituency?
 (a) Potholes [] (b) Ridges and furrows [] (c) Bridges [] (d) Culverts []
5. At what frequency do these roads get repaired in the constituency?
 (a) More frequently [] (b) Frequently [] (c) Less frequently []
 (d) Other (specify).....

6. Explain how road conditions influence high rate of taxi motorcycle accidents_____

PART D: Terms of Service

1. In your own opinion, do you think the pay package to boda boda riders is adequate or inadequate? (a) Adequate [] (b) Average [] (c) Inadequate []

(d) Indifferent [] (e) Other (specify).....

2. Would you say that the riders in the constituency prefer taxi motorcycle operation to other engagements? (a) Yes [] (b) No []

3. If Yes or No, explain_____

4. Explain the influence of terms of service on high rate of taxi motorcycle accidents in Kasipul Kabondo_____

Part E: Riding Experience

1. State whether the riders of taxi motorcycles in the constituency are trained?

(a) Yes [] (b) No []

2. If Yes or No, indicate the nature of their training

(a) Formal [] (b) Informal [] (c) On the job []

(d) Other (specify).....

3. How frequently do you think they train to keep updated with changes in traffic industry?

(a) More frequently [] (b) Frequently [] (c) Less frequently []

(d) Other (specify).....

4. What do you think is the influence of experience of riders on high rate of taxi motorcycle accidents in Kasipul Kabondo? _____

PART F: Role of Traffic Police

1. Can you say that traffic police officers are on most of the routes in Kasipul Kabondo?

- (a) Yes [] (b) No []

2. In your opinion, what is the role of traffic police officers on the roads in the constituency?

(a) Enhancing of traffic flow []

(b) Extortion of resources []

(c) Interfering with traffic flow []

(d) Maintaining law and order []

3. What determines the relationship between police officers and riders in Kasipul Kabondo?

(a) Observing traffic rules [] (b) Bribery []

(c) Maintaining motorcycle conditions [] (d) Collusion to violate traffic rules []

(e) Other (specify).....

4. How does the role of traffic police influence high rate of taxi motorcycle accidents in Kasipul Kabondo? _____

D) Questionnaire

Appendix 4: Medical Personnel Questionnaire

This questionnaire seeks to obtain data on the factors influencing high rate of taxi motorcycle accidents in Kasipul Kabondo constituency. Kindly indicate your honest responses by ticking/writing in the spaces provided. Note that your responses will be used for academic purposes only and that your responses will be treated in strict confidence.

Part a: demographic characteristics of respondents

1. Tick place where you work as a medical practitioner:

(a) Rachuonyo South District Hospital (Oyugis) []

(b) Mikai Health Centre (Ringa) []

(c) Ramula Health Centre (Kadongo) []

(d) Simbiri Health Centre (Kosele) []

(e) Matata Hospital (Oyugis) []

(f) Okita Health Centre (Kadongo) []

(g) Other (specify).....

2. State your sex: (a) Male [] (b) Female []

3. Give your age bracket: (a) Below 18 [] (b) 18-29 [] (c) 30-34 []

(d) 35-39 [] (e) 40 and above []

4. State your marital status: (a) Single [] (b) Married [] (d) Divorced []

(e) Widowed [] (f) Other (specify).....

5. Indicate your level of education

(a) Primary [] (b) Secondary [] (c) Post-secondary []

(f) Any other (specify).....

D) Questionnaire

Appendix 4: Medical Personnel Questionnaire

This questionnaire seeks to obtain data on the factors influencing high rate of taxi motorcycle accidents in Kasipul Kabondo constituency. Kindly indicate your honest responses by ticking/writing in the spaces provided. Note that your responses will be used for academic purposes only and that your responses will be treated in strict confidence.

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2. State your sex: (a) Male [] (b) Female []

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(d) 35-39 [] (e) 40 and above []

4. State your marital status: (a) Single [] (b) Married [] (d) Divorced []

(e) Widowed [] (f) Other (specify).....

5. Indicate your level of education

(a) Primary [] (b) Secondary [] (c) Post-secondary []

(f) Any other (specify).....

PART B: Drugs and Substance Abuse

1. Do you think that drugs and substance abuse is a major cause of taxi motorcycle accidents?
(a) Yes [] (b) No []
2. If Yes, which drugs do you think they abuse most?
(a) Alcohol [] (b) Bhang [] (c) Kuber [] (d) Ndovu []
(f) Other (specify).....
6. When do they tend to use those drug? (a) Before work [] (b) During work []
(c) Any time [](d) After work []
3. What in your opinion is the influence of drug and substance abuse on high rate of taxi motorcycle accidents in Kasipul Kabondo?_____

PART C: Road Conditions

1. In your opinion, what is the state of roads in the constituency?
(a) Superb [] (b) Moderate conditions [](c) Pathetic []
(d) Other (specify).....
2. What is the frequency with which roads get repaired in the constituency?
(a) More frequently [] (b) Frequently []
(c) Less frequently [] (d) Other (specify).....
3. What is the influence of road conditions on high rate of taxi motorcycle accidents in Kasipul Kabondo constituency?_____

PART D: Terms of Service

1. If the riders are inadequately paid, how do you think that can affect them?
(a) They get frustrated [] (b) Become careless []
(c) Become less committed [] (d) Become indifferent and reckless []
2. What do you think will result from poor pay?
(a) Demotivation [] (b) Over-speeding [] (c) Overloading []
(d) Recklessness []
3. Do you think that the boda boda riders prefer this job to other engagements? Yes [] No []
4. If Yes or No, explain _____

5. In your opinion, what is the influence of terms of service on high rate of taxi motorcycle accidents? _____

PART E: Experience of Riders

1. Do you think most of the riders in the constituency are trained? Yes [] No []
2. If Yes, indicate the nature of their training
(a) Formal [] (b) Informal [] (c) On the job []
(d) Other (specify).....
3. Between experienced riders and inexperienced riders which group can cause many accidents?
(a) Experienced riders [] (b) Inexperienced riders []

4. In terms of years on the road which bracket of riders are considered inexperienced?

(a) Between 1-4 years []

(b) Between 5-6 years []

(c) 7 years and above []

5. Explain the influence of experience of riders on high rate of taxi motorcycle accidents in Kasipul Kabondo constituency? _____

PART F: Role of Traffic Police

1. Would you say that the police are enforcing traffic rules on roads in the constituency?

(a) Yes [] (b) No []

2. If Yes or No, explain _____

3. What in your opinion is the determinant of relationship between the riders and the traffic police? (a) Observing of traffic rules [] (b) Bribery []

(c) Collusion to violate traffic rules [] (d) Other (specify).....

4. Can stringent measures by the traffic police reduce taxi motorcycle accidents?

(a) Yes [] (b) No []

5. Explain how traffic police officers influence rate of taxi motorcycle accidents in Kasipul Kabondo constituency _____

PART G: Number of Taxi Motorcycle Accidents, Fatalities, Injuries, and Those Bruised

1. Does drug and substance abuse increase or decrease number of taxi motorcycle accidents?
(a) Increases [] (b) Decreases []
2. In your view, how many taxi motorcycle accident victims are admitted in your health facility daily?
(a) Between 1-3 [] (b) Between 4-5 []
(c) Between 6-9 [] (d) Between 10-15 []
3. How many fatalities do you record in a year?
(a) 1-15 [] (b) 16-30 [] (c) 31-45 [] (d) 45-60 []
4. In your opinion, would you describe that taxi motorcycle accidents in Kasipul Kabondo are many or few? (a) Many [] (b) Few []

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THIS IS TO CERTIFY THAT:

Date of issue
Fee received

26th October, 2012
KSH. 1,000

Prof./Dr./Mr./Mrs./Miss/Institution
Stephen Yogo Odhiambo
of (Address) University of Nairobi
P.O. Box 2461, Kisumu
has been permitted to conduct research in



Location
District
Province

Rachuonyo South
Nyanza
on the topic: Factors influencing high rate
of taxi motorcycle accidents in Kasipul
Kabondo Constituency, Homa Bay County.

Applicant's
Signature

Secretary
National Council for
Science & Technology

for a period ending: 31st December, 2012.

CONDITIONS

1. You must report to the District Commissioner and the District Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit
2. Government Officers will not be interviewed with-out prior appointment
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2)/four(4) bound copies of your final report for Kenyans and non-Kenyans respectively
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice



REPUBLIC OF KENYA

RESEARCH CLEARANCE
PERMIT

GPK6055t3mt10/2011

(CONDITIONS—see back page)