

UNIVERSITY OF NAIROBI

FACULTY OF ARTS

DEPARTMENT OF SOCIOLOGY AND SOCIAL WORK

**PATTERNS ASSOCIATED WITH THEFT OF MOTORCYCLES IN
NANDI CENTRAL DISTRICT, NANDI COUNTY**

BY

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Reg. No. C50/63068/2011

**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTERS OF ARTS IN
CRIMINOLOGY AND SOCIAL ORDER OF THE UNIVERSITY OF NAIROBI**

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DECLARATION

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I, the undersigned, declare that this research project is my original work and that it has not been presented for any academic credit in this or any other university or institution.

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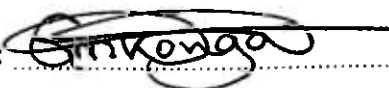
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DEDICATION

I dedicate this work to my family, my wife Gloria and our children Kevin and Mitchell for their endless love, support and encouragement, and to my parents, Mr. and Mrs. Albert Soi, who instilled in me a love of reading and respect for education.

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ABBREVIATIONS/ACRONYMS

AMACO	-	African Merchant Assurance Company
APA	-	Apollo Pan-African Insurance
GoK	-	Government of Kenya
HEAT	-	Help Eliminate Auto Theft Program
KNBS	-	Kenya National Bureau of Statistics
Ksh	-	Kenya shilling
MCRG	-	Motorcycle Crime Reduction Group
MIA	-	Motorcycle Industry Association
MIC	-	Motorcycle Industry Council
MVT	-	Motor Vehicle Theft
NCIC	-	National Crime Information Center
NICB	-	National Insurance Crime Bureau
NMVTRC	-	National Motor Vehicle Theft Reduction Council
NPS	-	National Police Service
UNICRI	-	United Nations Interregional Crime and Justice Research Institute
UNODC	-	United Nations Office on Drugs and Crime
VIN	-	Vehicle Identification Number

ABSTRACT

Motorcycle theft is one of the fastest growing forms of motor vehicle theft globally and nationally; however, studies on motorcycle theft are scanty. The study therefore examined patterns associated with theft of motorcycles in Nandi Central District of Nandi County with a view of generating information that would help in designing strategies to control and/or prevent the crime. Specifically, the study sought to establish the magnitude of motorcycle theft; demographic characteristics of motorcycle taxi operators who have fallen prey to the thefts; methods used by thieves to steal motorcycles; specific locations/sites and times when the thefts are perpetrated; and challenges faced by motorcycle taxi operators and the police in combating the crime in the district.

The study adopted a survey design. Purposive, quota and snowballing sampling procedures were used to sample the study respondents who comprised of 95 motorcycle taxi operators, 22 police officers, 17 motorcycle riders who had fallen prey to motorcycle thefts, four police managers and three representatives of motorcycle insurers in the district. Questionnaires and semi-structured interview schedules were used to collect data. The data collected was analyzed using descriptive statistics.

The findings showed that the magnitude of motorcycle theft in the district was moderate with at least 15 motorcycles stolen every year. A majority of motorcycle taxi operators who had fallen prey to the crime was aged between 18-30 years and mainly had primary level of education. Most thefts occurred along major roads and in urban areas and were perpetrated at night between 8.30 p.m. and 11 p.m. mainly on Fridays and Saturdays and during the dry months of January, February and March as well as at the harvesting and festive season between October and December. The study also established that thieves employed a combination of methods to steal motorcycles namely, tricks and violence; tampering with motorcycle ignition systems; ambushing riders; and driving-by and knocking riders off their motorcycles. Further, the study revealed that the main challenges towards combating motorcycle thefts were nighttime motorcycle taxi operations; collusion between some riders and thieves; failure by motorcycle taxi riders to vet their passengers; corruption among police officers; delay by motorcycle operators to report theft incidences; and poor cooperation between police and motorcycle riders.

The study recommended that there is need for the County government to assign specified routes to motorcycle taxis in the district; ban nighttime motorcycle taxi operations; routinely maintain roads; clear bushes along roadsides; and light-up dark alleys in urban areas. The police in the district should also intensify patrols, discipline its corrupt members, strengthen collaborations with motorcycle taxi operators and together with motorcycle insurers, mount educational campaigns to sensitize motorcycle taxi operators on theft prevention strategies. Further, there is need for the National Police Service to establish a sub-category of robbery of motorcycles in its crime statistics and for motorcycle taxi operators in the district to form associations to address the crime and other problems affecting them.

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Motorcycle ownership and use is growing rapidly in many regions of the world. Currently, there are more than 200 million motorcycles in use worldwide (Condro, Li and Chang, 2012) and this number is growing at a rapid rate, especially in Africa and Asia. In Kenya, for example, the number of registered motorcycles rose by 273 percent between the year 2008 and 2011 (Kenya National Bureau of Statistics [KNBS], 2012). According to Freedonia group¹ (2009), global demand for motorcycles is forecast to increase by 7.6 percent annually through 2015. The high growth is spurred by the rising standards of living in developing parts of the world, which are making motorcycles an alternative to walking, bicycling and/or using mass transit.

In many developing countries, especially Asian, African and Latin American countries, motorcycles play important roles in fulfilling both personal and commercial transportation needs. They provide feeder services to cities, towns, rural villages and major transport routes (Cervero, 2000). This is because their smaller physical size allows for easier navigation both in heavily congested urban areas and on poor rural road networks found in most developing countries (Kumar, 2011). Furthermore, their purchase and maintenance is substantially lower compared to corresponding cost for even small motor vehicles, thus making the types of low-cost motorcycles sold throughout the developing world a more economically efficient transportation option (Cervero, 2000; Hsu, Ahmad and Nguyen, 2003; Kumar, 2011). In developed countries, growth in the use of motorcycles has been attributed to motorists in these countries who, much like those in developing countries, are increasingly turning to

¹ A leading international business research company that publishes more than 100 motorcycle industry research studies annually.

motorcycles as a way to ease fuel costs, road and parking congestion as well as lessening carbon-dioxide emissions (Condro et al., 2012; Rosa, Wirsdorf and Richardson, 2011). However, unlike in the developing countries, motorcyclists in developed countries mainly use motorcycles for sporting and recreational purposes (Hsu et al., 2003; Rosa et al., 2011; Swedish Transport Administration, 2010).

Yet as motorcycles gain in terms of numbers, popularity and usage, thefts of motorcycles have also remarkably soared (National Insurance Crime Bureau² [NICB], 2010). Many countries in the world, especially those with high motorcycle ownership and use, are currently experiencing rising rates of motorcycle theft (Harrendorf, Heiskanen and Malley, 2010). While most thefts occur within national boundaries, links with organized crime rings and prevalence of internet use for motor vehicle export has exacerbated the problem across international borders and waters (McDonold, 2011). At present, motorcycle theft is regarded one of the fastest growing forms of auto theft internationally (McDonold, 2011).

According to the insurance industry, the global prevalence of motorcycle theft is creating massive financial loss to motorcycle owners and insurers annually (PRweb, 2012). The United Kingdom's (UK) motorcycle insurer, Carole Nash, for example, estimates the annual cost of motorcycle theft in the UK to be over £105 million (more than Kenya shillings [Ksh.] 14 billion). The economic loss of motorcycle theft is even higher where other costs, such as those borne by the police who must record and follow up incidents of motorcycle theft reported to them, or the costs of prosecuting suspected offenders, and accommodating those who are found guilty and sentenced to jail, is added (Pena, 2000). Other than the cost of the stolen motorcycle, it is hard to quantify the true economic cost endured by the victim. The

² A not-for-profit United States organization whose mission is to provide insurance fraud and vehicle theft solutions through information analysis, criminal investigation support, training and public awareness.

lost means of transportation, the inconvenience of replacing the stolen motorcycle or its parts, and psychological hardships have a severe effect not only on the victim, but also on their family as well (Help Eliminate Auto Theft³ [HEAT], 2007; Rwanda National Police, 2012).

Despite the growing burden of motorcycle theft, the safety of motorcycles has received insufficient attention at both the international and national levels. Indeed, law enforcement agencies and motor vehicle insurers pay more attention towards the safety of other motor vehicles such as cars, as evidenced by the deployment of special anti-car theft police squads and the presence of numerous publicized car-theft prevention campaigns (Cherbonneau and Wright, 2009). This could be partly because cars are a lot more expensive (Briggs, 2009) and the fact that motorcycle use particularly in the Third World Countries is largely a characteristic of low-income earners (Cevero, 2000). An international victimization survey conducted by van Dijk, Kesteren and Smit (2007, p. 57), showed that 1.6 percent of motorcycles owners risk having their motorcycles stolen compared to 0.9 percent of car owners. The problem is particularly serious given that motorcycles are considered to have the lowest recovery rate compared to all other types of motor vehicles; according to Hess and Orthmann (2010, p. 470), only 20-30 percent of stolen motorcycles are recovered compared to 60-75 percent for stolen cars and trucks.

Historically, motorcycle theft has been troubling motorcycle manufacturers and owners ever since Gottlieb Daimler produced the first motorcycle in 1885 (Phongphu and Srichandr, 2011). Motorcycle manufacturers have therefore been increasingly fitting motorcycles with some form of anti-theft devices as standard equipment and improving level of security on their motorcycles (Phongphu and Srichandr, 2011). On the other hand, motorcycle owners

³ An Australian program designed to educate citizens on how to prevent theft of vehicles and their parts.

have also continued to invest on buying the latest motorcycle security devices and applying various theft prevention measures to thwart the theft of their motorcycles. Nonetheless, the *modus operandi* of motorcycle thieves has changed dramatically over the years, growing in sophistication, and overcoming many of these strategies (Phongphu and Srichandr, 2011).

Although motorcycles have been in Kenya since the 1960s (Michira, 2011), motorcycle theft became a significant crime in the country in the mid-2000s. During this period, the number of motorcycle theft incidences reported to the police seemed to double each successive year (Kenya Police, 2008, 2010). The reason for this increase is unclear, but one possible reason is the flooding of the market with relatively cheap motorcycle imports from China and India (Michira, 2011). Currently, the magnitude of the problem is perceived to be getting worse as evidenced by the increasing media reports that seem to stream in almost a daily basis from all parts of the country. Police annual crime data have also continually demonstrated that the rate of the crime has kept on increasing annually and this trend is unlikely to be reversed particularly with the increase of motorcycles in the country. Generally, the problem appears to be more pervasive in Nairobi, Western and Central parts of the country where motorcycles, locally known as *boda boda*, are mainly used for taxi business (Kenya Police, 2012). To-date, several motorcycle taxi riders (*boda boda* operators) have had their motorcycles forcefully stolen in these regions. In the process, many have lost their lives while others have sustained injuries. For example, between the months of September and October 2012, thieves killed four motorcycle taxi operators and stole their motorcycles in Embu West District alone (*The Standard*, 12 October 2012:21). On 1st February, 2012, a suspected motorcycle thief stabbed a *boda boda* operator to death in Kiambu County in an attempt to steal the motorcycle (*Daily Nation*, 2 February, 2012, p .4). Similarly, between the 21st and 30th December 2012, thieves stabbed three *boda boda* operators to death in Migori

town and stole their motorcycles (Oluoch, 2013). These are just but a few of the many motorcycles incidents that are accounted in police and media reports from different parts of the country. Other incidences especially those that occur in remote areas not accessed to the media or unreported to the police are unaccounted for and the theft numbers are therefore much higher.

1.2 Problem Statement

There has been relatively little research on motor vehicle theft (MVT), compared to that of other crimes (Cherbonneau and Wright, 2009; Hagan, 2011; Tran, 2009; Walsh and Taylor, 2007). Much of the literature that exists on MVT (for example, by Cherbonneau and Wright, 2009; Devery, 1993; Levy and Tartaro, 2008; Lu, 2006; Tran, 2009; Wallace, 2003; Walsh and Taylor, 2007), also give a lot of attention to cars and trucks than motorcycles. This is surprising considering the prevalence and cost of motorcycle theft particularly to motorcycle owners, insurers, and innocent citizens. According to the UK's Motorcycle Industry Association (MIA) (2012), motorcycle insurance companies lose 43 percent of their revenues to insurance claims. There is also evidence that the fear of motorcycle theft discourages motorcycle use. Studies show that 40 percent of those who receive insurance payouts do not buy another motorcycle (MIA, 2012; PRweb, 2012). On the other hand, unsuspecting customers who purchase stolen motorcycles suffer financial loss when police seize the motorcycles. MIA (2012) indicates that 90 percent of these customers do not continue with motorcycling.

In Kenya, motorcycle theft is one of the nation's fastest growing crimes. Police annual crime statistics for the year 2011 indicate that whereas the country witnessed an increase of 7 percent on reported crimes as compared to 2010, reported incidences of motorcycle theft rose

by 58 percent during the same period (Kenya Police, 2012). Media and police reports also indicate that motorcycle thieves are increasingly becoming aggressive. They commit serious crimes such as burglaries, robberies and murders in order to steal motorcycles (Kenya Police, 2012; Mengo, 2012; Muchiri, 2012; Oluoch, 2013; Omolo, 2012). As a result, several motorcycle riders have been killed, injured and their motorcycles stolen. In response, motorcycle riders and members of the public have resorted to mob justice to counter the thefts. In the process, they have not only killed several suspected motorcycle thieves, but have also destroyed property in their wake. For example, on 4th of May, 2012, angry *boda boda* operators in Nandi County looted and torched a house belonging to a motorcycle thief after finding a motorcycle in the house that had been stolen and its owner killed a week earlier by unknown suspects (*The Standard*, 5 May, 2012, p. 24). Similarly, between the months of August and September 2012, enraged members of the public in Awendo town killed several suspected motorcycle thieves and set their bodies ablaze after responding to distress calls from motorcycle operators (*The Star Newspaper*, 22 September, 2012, p. 7). Moreover, *The Star Newspaper* on 21st of June 2013 reported that a mob in Migori town killed three suspected motorcycle thieves and injured other two on allegations that they were members of a motorcycle theft syndicate in the area.

In spite of the prevalence and the aforementioned criminal actions associated with motorcycle theft, little is known on the patterns of motorcycle theft in the country. There is scant literature on the magnitude of the problem or concrete information concerning the offenders, victims, theft locations and times, and the prevailing response actions to inform the design of effective crime control and/or prevention strategies. This study therefore sought to bridge the knowledge gap by examining patterns associated with theft of motorcycles in

Nandi Central District of Nandi County as a typical example of other regions in the country that have witnessed rising incidences of motorcycle thefts.

1.2.1 Key Research Questions

The following questions provided for a systematic study of the problem:

1. What is the magnitude of motorcycle theft in the district?
2. What are the demographic characteristics of motorcycle operators who have fallen victim to motorcycle theft in the district?
3. In what specific locations/sites and times are motorcycle thefts perpetrated in the district?
4. What methods do thieves use to steal motorcycles in the district?
5. What challenges do motorcycle taxi operators and the police face in combating theft of motorcycles in the district?

1.3 Objectives of the Study

The study addressed the following objectives:

1.3.1 Broad Objective

The broad objective of this study was to examine patterns associated with theft of motorcycles in Nandi Central District of Nandi County for purposes of generating information that would be helpful in designing strategies for motorcycle theft control and/or prevention.

1.3.2 Specific Objectives

The specific objectives of the study were:

1. To establish the magnitude of motorcycle theft in the district.

2. To establish the demographic characteristics of motorcycle operators who have fallen victim to motorcycle theft in the district.
3. To identify specific locations and times when motorcycle thefts are perpetrated in the district.
4. To establish the methods used by thieves to steal motorcycles in the district.
5. To find out challenges motorcycle taxi operators and the police face in combating theft of motorcycles in the district.

1.4 Justification of the Study

Motorcycle transport industry is one of the vibrant and growing sectors in the country's economy with huge potential (KNBS, 2012). Over the last decade, the industry has registered a massive growth and offered many employment opportunities to many Kenyans particularly the youth who operate motorcycle taxis as well as *boda boda* garages that repair and sell motorcycle spare parts (Kamau, 2012). The majority of these youths take loans from financial institutions to purchase motorcycles, or start motorcycle repair garages (Michira, 2012). Thus, the theft of these pricey assets (motorcycles) negatively impacts on their livelihoods and wellbeing; it leaves them without a means of employment, financially burdened and violated. The effect of these thefts also has a strong bearing on the economy as it undermines investments in the growing motorcycle transport industry and security in the country. The findings of this study therefore contribute to a better understanding of the problem and offer insights to the formulation of effective strategies for reducing incidences of motorcycle thefts in the country.

Besides providing insights to the problem of motorcycle theft in the country, the study's findings enhance police crime data by expanding on details provided on theft of motorcycles.

Police crime data is usually raw (bare statistics) and do not provide critical analysis of the dynamics pertaining to a crime in terms of its prevalence or aspects concerning the offenders, victims and characteristics of stolen properties, for instance, stolen motorcycles. The statistics only represent a summary, or total crime counts of reported crimes from all police stations in the country. The statistics also fails to account for motorcycle theft in circumstances where multiple offences are committed. For example, where a thief uses force or threats of force/intimidation to steal a motorcycle, the police will only report the serious crime, that is, robbery thus omitting the underlying crime; namely theft. Such recording usually skews the actual data concerning the nature and extent of crimes (Siegel, 2012; Swanson, Chamelin and Territo, 2003).

Furthermore, the study has generated new knowledge to augment the current dearth of research on motorcycle theft in the country. The literature generated from this study therefore provide a basis for researchers, academicians, policy makers and law enforcers in formulating effective strategies to combat the motorcycle thefts and other related crimes in the country.

1.5 Scope and Limitations of the Study

The study examined patterns associated with theft of motorcycles in Nandi Central District of Nandi County. While there are many patterns associated with the crime, the study was limited to establishing the magnitude of motorcycle theft in the district and the demographic characteristics of motorcycle operators who have fallen victim to the thefts in terms of their age, marital status, and educational level. It also sought to find out the locations/sites where most motorcycle thefts incidences occur and the time of the day, day of the week, and month of the year when the thefts were perpetrated. In addition, the study sought to establish the

methods used by thieves to steal motorcycles and the challenges faced by motorcycle taxi operators and the police in addressing the problem in the district.

The study respondents consisted of 95 *boda boda* operators, 22 police officers, and 17 motorcycle riders who had fallen prey to theft of motorcycles in the district. The key-informants comprised of three (3) representatives drawn from the three motorcycle insurers in the district and four (4) police managers. The study used three non-probability sampling methods – purposive, snowballing and quota sampling – to sample the respondents. The use of non-probability sampling procedures and the limited geographical area (a district) in which the study was carried out therefore limits the generalization of the findings to the entire country. Nonetheless, the study findings provide critical information for the understanding of the problem in other parts of the country.

1.6 Definition of Key Terms and Concepts

The following definitions are provided to ensure uniformity and understanding of the terms and concepts throughout the study.

Boda boda: A motorcycle used for commercial purposes.

Boda boda operator: Refers to a person who drives a motorcycle taxi who may be either the owner or a hired rider. The terms *boda boda* rider and motorcycle taxi operator have the same meaning in the study and are therefore used interchangeably.

Hotspot: Refers to a particular area in a given locality that is prone to crime mainly due to certain characteristics/features it showcase.

Modus operandi: “Method of Operation”, those things that the offender does which are necessary for the completion of the crime such as method of entry, use of a weapon to control the victim, among others.

Motorcycle: A single-track, two-wheeled road vehicle powered by an engine and having a saddle or seat for use by the rider.

Motorcycle theft: Refers to the criminal act of stealing, or attempted stealing of a motorcycle, that is, the frame and its components.

Motor Vehicle Theft: Refers to theft, or attempted theft of a motor vehicle. Examples of motor vehicles include automobiles, buses, sport utility vehicles, trucks, motorcycles, motor scooters, vans, etc.

Stage: Refers to a place where motorcycle taxis (*boda boda*) picks and drops passengers.

Striping: Refer to the illegal removal of a selected motorcycle part such as engine, wheels, seats, side mirrors, lights etc.

Vehicle Identification Number: The primary non-duplicated, serialized number assigned by a manufacturer to each motor vehicle made. This number – critical in motor vehicle theft investigation – identifies the specific motor vehicle in question.

CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This chapter reviews literature that is pertinent to the study. It first describes the nature of motorcycle theft and its prevalence at the global, regional and local level. It then reviews literature on locations/sites that are prone to motorcycle thefts and the temporal nature of motorcycle theft. The review also covers typologies of motorcycle theft and factors that contribute to the crime. In addition, it reviews measures applied by law enforcers and motorcyclists to prevent occurrence of motorcycle theft, and impact of motorcycle theft on victims, insurers, law enforcement agencies and society. Lastly, it presents the study's theoretical and conceptual framework.

2.2 Nature of Motorcycle Theft

Motorcycle theft is a sub-set of motor vehicle thefts (MVTs). It is defined as the “stealing or attempted stealing” of a motorcycle (Australian Government, 2012; van Dijk et al., 2007). NICB (2010) defines a motorcycle as a two-wheeled road vehicle powered by an engine and having a saddle or seat for the use of the rider. Motorcycle theft does not include damaging, tampering with or interfering with motorcycles (Australian Government, 2012; Kenya Police, 2003). It does not also include unauthorized use of a motorcycle (Government of Kenya [GoK], 2012). The theft of motorcycle parts or contents is included under the category of “theft from motor vehicles” (Kenya Police, 2003). According to Hess and Orthmann (2010), motorcycles are particularly vulnerable to component theft, especially regarding parts that can be easily removed such as wheels, lights and seats. These parts are also referred to as ‘quick release features’ since they can be stripped and readily sold to motorcycle repairers

(Hess and Orthmann, 2010). Nonetheless, component theft is rarely common since thieves often steal motorcycles when intact (the frame and components unbroken) so that they can dismantle and sell them as parts (Lojack, 2008; NICB, 2008). In this study therefore, the term “motorcycle theft” is restricted to theft of motorcycles and is referred to as the criminal act of stealing or attempted stealing of a motorcycle (the frame and its components).

Because of its seriousness and prevalence, motorcycle theft is usually categorized separately from other vehicle related thefts in police crime reports and victimization surveys (Australian Government, 2012; Kenya Police, 2003; van Dijk et al., 2007). However, in many jurisdictions, there is no specific legislation in the penal laws that particularly address motorcycle theft. For legal purposes, therefore, the offense of motorcycle theft and other vehicle thefts is addressed under related penal laws such as stealing motor vehicle as in the case of the Kenyan law under section 278A of the Penal Code (GoK, 2009, p. 94). This often presents recording and reporting problems to the police. It also creates loopholes for criminals to evade punishment for the crime since conviction for MVT requires the proof that the thief actually intended to permanently deprive the owner of his/her motor vehicle, which is always difficult to prove (Hess and Orthmann, 2010; Pena, 2000).

2.3 Global Prevalence of Motorcycle Theft

Judging by overseas criminal statistics and international victimization surveys, motorcycle theft is a major problem globally. Recent data from Europe and Asia depict a significant increase in the share of motorcycle theft to overall crime. In the United Kingdom, Carole Nash motorcycle theft survey (2011) revealed that motorcycle theft accounted for 25 percent of all thefts in the UK in 2011. In Thailand, crime statistics collected during the period 2001-

2009 indicate that motorcycle theft ranks second to general thefts (Phongphu and Srichandr, 2011).

At the global level, van Dijk et al. (2007, p. 57) state that the volume of motorcycle thefts is high in countries where motorcycle ownership is more common. Part of the reasons is that there are more potential offenders (motorcycle thieves) in these countries who are used to and able to ride motorcycles, and the existence of an extended demand for second hand motorcycles or parts (van Dijk et al., 2007). Indeed, an international study carried out by Harrendorf et al. (2010) established that the crime is more prevalent in developing countries than developed countries since over 60 percent of motorcycles in use worldwide are in developing countries. In Europe, a study carried out by van Dijk et al. (2007) found out that motorcycle theft is highest in the UK (England and Wales), Italy and Ireland and is lowest in Portugal and Luxembourg. In terms of ownership rates, the study established that UK has the highest proportion of motorcycle owners in Europe and is lowest in Luxembourg probably linked to patterns of commuting.

Data from Australia, Europe, and United States indicate that the top four most stolen motorcycles in these regions are the dominant Japanese motorcycle brands in the market, namely, Honda, Yamaha, Suzuki and Kawasaki (HEAT, 2007; MIA, 2012; NICB, 2012). The theft of these four brands of motorcycles accounted for over 85 percent of all motorcycle thefts in the UK during 2011 (Carole Nash, 2011). In the US, the theft of these four brands including the Harley-Davidson brand accounted for 75.5 percent of the total 46,667 motorcycles reported stolen in 2011 alone (NICB, 2012). According to the Australian National Motor Vehicle Theft Reduction Council (NMVTRC) (2012), the theft of Honda and Yamaha brands accounted for more than half of the over 8,000 units of motorcycles that were stolen in Australia in 2011. Gorzelany (2012) notes that Japanese motorcycle brands,

especially sport motorcycles, are mostly stolen in the US since they are lighter and easier to dismantle, and that there are thousands of the same make, colour and model in the US streets. Carole Nash (2011) notes that most of these motorcycles are performance class (500cc and above), which also prove the most costly to insure.

Unlike other motor vehicles where vehicles aged ten years and older accounts for the bulk of thefts (NMVTRC, 2002, p. 6), more newer motorcycle models are reported stolen in many regions of the world because of their high value (Carole Nash, 2011; Hedayati, 2008; NICB, 2008). For example in the UK, the majority of stolen motorcycles are new ones, those less than 3 years old, which cost between £6,000 and £20,000 (Carole Nash, 2011) whereas in Australia, the majority of stolen motorcycles are those aged between 0-4 years (NMVTRC, 2012).

Generally, the global trends of motorcycle thefts appear to be positively associated with motorcycle production and sales. In the United States, NICB (2010) notes that between 2008 and 2009 motorcycle thefts went down by 13 percent coinciding with a drop of 40.8 percent of sales. Production of Japanese motorcycles was also down 47.4 percent in the same period. Similarly, between 2009 and 2010, sales of motorcycles decreased by 16 percent coinciding with 11 percent decline in motorcycle thefts (NICB, 2012). The United States' Motorcycle Industry Council (MIC) attributes the decline in motorcycle thefts in the US, between 2007 and 2010, to decreasing opportunities to steal owing to fewer targets (few motorcycles) on the roads (NICB, 2010). Nonetheless, little is known about the drop of 6 percent in reported motorcycle theft incidences in the US in 2011, when there was a 0.3 percent rise in sales (Gorzelany, 2012). Table 2.1 presents motorcycle sales and thefts in the US from the year 2006 to 2011.

Table 2.1: United States Motorcycle Sales and Thefts 2006-2011

Year	Units of motorcycles sold	Number of motorcycles reported stolen
2006	1,022,332	66,774
2007	960,529	65,678
2008	879,910	64,492
2009	520,502	56,093
2010	439,678	49,791
2011	440,899	46,667

Source: NICB data, 2008-2012

Across international boundaries and waters, export of stolen motorcycles is a global problem (McDonold, 2011). The thefts are facilitated by organized theft rings who mainly steal and ship high-end motorcycles, either as whole vehicle or parts, from developed countries to developing countries (NICB, 2008; NMVTRC, 2002, 2013). Organized criminal rings often accomplish sales of stolen motorcycles through Internet auctions on websites such as eBay and Craigslist (McDonold, 2011).

2.4 Regional and Local Prevalence of Motorcycle Theft

Although detailed data on the extent of motorcycle theft in African countries is scarce, findings of a victimization survey conducted in thirteen African countries by the United Nations Interregional Crime and Justice Research Institute (UNICRI) and the United Nations Office on Drugs and Crime (UNODC) between 2000 and 2005 indicate that the crime is rampant (Naudé, Prinsloo and Ladikos, 2006). In the survey, motorcycle theft was ranked the third most serious household crime after car theft and burglary. Indeed, over 65 percent of the respondents reported that the crime was very serious since most thefts were violently executed (Naudé et al., 2006). The problem was reported to be highly prevalent in South Africa, followed by Swaziland, Zimbabwe, Tunisia, Nigeria and Tanzania respectively. It

was less pervasive in Namibia and Uganda (Naudé et al., 2006). Like in the European surveys, the survey accounted for a positive relation between motorcycle ownership and theft in all the African states that participated in the survey apart from Zimbabwe (Naudé et al., 2006). The reason for the inverse relationship between motorcycle theft rates and ownership rates in Zimbabwe may be possibly linked to the increasing levels of poverty and deteriorating law enforcement capabilities due to the prevailing economic hardships.

In some African regions, for example, across the borders of Rwanda, Uganda and Burundi, cross-border motorcycle thefts facilitated by organized theft rings are common (Rwanda National Police, 2012). Members of these organized groups often drive the stolen motorcycles across national boundaries for resale.

Here in Kenya, motorcycle thefts are widespread and have risen sharply over the past five years. Police statistics indicate that between 2007 and 2011, the number of motorcycle thefts increased by 210 percent (Kenya Police, 2011). Five hundred and five⁴ (505) motorcycles were reportedly stolen in 2011, accounting for 29 percent of all MVTs during that year (Kenya Police, 2012). This percentage is quite alarming since the number of registered motorcycles in the country is disproportionately small compared to that of other vehicles especially cars. Hence, there is a need for critical examination of the problem in order to come up with strategies to combat it.

Like global trends, motorcycle theft rates in Kenya seem to be positively associated with the number of motorcycles registered. For example, between 2010 and 2011, the number of registered motorcycles rose by 20 percent coinciding with 58 percent increase in motorcycle

⁴ The actual theft numbers are much higher due to the general under-reporting and skewed recording of crime data.

thefts (Kenya Police, 2012; KNBS, 2012). Table 2.2 presents data on motorcycle registration and thefts in Kenya from 2007 to 2011.

Table 2.2: Motorcycle Registration and Thefts in Kenya, 2007-2011

Year	Registered motorcycles	Stolen motorcycles
2007	16,293	163
2008	51,412	225
2009	91,151	309
2010	117,266	320
2011	140,215	505

Source: Kenya Police Statistics, 2008-2012; KNBS, 2012.

Apart from numerical data provided in police crime statistics and other crime victimization surveys (such as UNODC, 2010), limited scholarly work has been undertaken to establish the patterns of motorcycle thefts in the country and little knowledge therefore exists on the dynamics that are associated with the crime.

2.5 Typologies of Motorcycle Theft

Studies generally classify MVT by the thief's motive or purpose. Accordingly, studies by Devery (1993), Hagan (2011), Hedayati (2008), Swanson et al. (2003) and Tran (2009) have identified three main types of MVTs: recreational theft, theft for purposes of transportation, and theft for profit. Research also demonstrates that motorcycle thefts fit in these classifications.

2.5.1 Recreational theft

Motorcycle theft for recreation purpose typically involves joyriding or stealing a motorcycle for temporary adventure and enjoyment with no real destination or other motive in mind

(Hess and Orthmann, 2010). The offenders, often young males, steal motorcycles purposely for thrill or excitement (Mayhew, Ronald and David, 1989). Swanson et al. (2003) indicate that,

Among the reasons teenage joyriders most often cite for the thefts are that joyriding makes them feel important, powerful, and accepted among peers; it's fun and exciting; they did it on a dare; it relieves boredom and gives adrenaline rush; they don't feel like walking; they want to impress girls;; it's part of a gang membership initiation (p. 535).

Since many youngsters are not professionals, they tend to target motorcycles that are easy to steal, familiar motorcycles with which they feel comfortable driving and sporty motorcycles with high performance (Lojack, 2008; NMVTRC, 2002). They mostly steal motorcycles either by "hot wiring" (jumping the ignitions) or by finding keys left in the ignition (Lojack, 2008). Thereafter, they take the motorcycle for comparatively short time cruising and then abandoned it near the location of the theft or near their intended destination often when the motorcycle runs out of gasoline. Due to lack of expertise in riding motorcycles, most juveniles who seek joy riding often exhibit reckless driving that attracts a lot of attention from authorities and citizens (Lojack, 2008). However, in many jurisdictions, courts often do not regard MVTs by juveniles seriously, even though they account for most MVT and can cause injury or death to others (Hess and Orthmann, 2010; NMVTRC, 2012; Tran, 2009). In Kenya and particularly in Nandi County, no study has been conducted to establish the prevalence of this form of theft and thus little knowledge exists on its prevalence and patterns. Nonetheless, this study did not seek to find out the same because it was beyond its scope.

2.5.2 Theft for transportation

Motorcycle theft for transportation can take two forms: short-term and long-term transportation (NMVTRC, 2002, 2013). In short-term transportation, the thief, often a

transient, hitchhiker or a runaway, steals the motorcycle as a temporary means of transportation then abandons it after the mission (NMVTRC, 2013). Short-term theft is often a form of opportunistic crime. Hence, motorcycles that are widely available and have lower levels of security are the main targets to the offenders (NMVTRC, 2002). As for long-term transportation, the thief steals a motorcycle to provide a relatively permanent means of transportation for himself. To avoid detection, the thief operates the motorcycle in a different region and alters the identity of the motorcycle (Rwanda National Police, 2012). Alteration includes repainting, repairing an existing damage, and changing the number plates. This form of motorcycle theft has been reported in some parts of the country such as in Kakamega and Embu County (Muchiri, 2012; Obala, 2012). However, its magnitude and patterns have not been established in the country.

2.5.3 Theft for profit

Profit-motivated motorcycle theft involves stealing motorcycles in order to trade it for cash or goods (such as drugs) or to fill a request for specific order for a type of motorcycle (Lojack, 2008; NMVTRC, 2013). According to NMVTRC (2002), profit-motivated offenders are for the most part conventional motorcycle thieves or highly organized motorcycle theft rings. The thieves often take motorcycles stolen for their parts to chop shops⁵ where they are “stripped” or dismantled and then discarded with the parts either used as a replacement for the thief’s own motorcycle or sold in underground markets for profit (NICB, 2008; NMVTRC, 2013). In other instances, thieves permanently alter the stolen motorcycles to change their identity or use them to rebuild or upgrade other motorcycles which they then resale locally or overseas or use for insurance fraud (NICB, 2011). Both newer and old motorcycles can be targets of this type of theft. While little is known on the

⁵ A place or location where stolen motor vehicles are disassembled or dismantled for resale of their parts (Pena, 2000; Swanson, Chamelin and Territo, 2003)

prevalence of this type of motorcycle theft in Kenya, it has been reported that almost 40 percent of motorcycle theft cases in Australia and United States are profit motivated (NICB, 2008; NMVTRC, 2012). However, due to its limited scope, this study did not undertake to establish the prevalence of this form of theft in the study area.

2.6 Locations of Motorcycle Theft

Levy and Tartaro (2008) point out that there is a strong relationship between MVT and the location of the theft. In fact, Barlow and Kauzlarich (2010) note that the characteristics of the location help the offender to determine if it is an ideal site to select for carrying out the offence. All other things being equal, offenders will choose locations that provide an easy get away and enhance their chance of escaping apprehension (Levy and Tartaro, 2008). Although motorcycle theft sites vary, the commonly identified locations include the following:

- In and around the victim's home
- In and around the victim's workplace
- In public spaces, such as motorcycle-parking facilities, garages, stages and sheds
- Within or surrounding shopping and entertainment/leisure areas
- At risky facilities like university campuses, at transport interchanges and major event venues such as motorcycle shows/exhibitions.

Police-recorded data, victimization data and motorcycle insurance data indicate that the most common location for motorcycle theft is the owner's home and its immediate environs. Carole Nash motorcycle theft survey (2011), for example, indicates that 80 percent of motorcycles reported stolen in the United Kingdom in the year 2011, were stolen from owner's homes. Similarly, a victimization survey carried out in thirteen African countries by UNICRI and UNODC between 2000 and 2005 reported that the majority of motorcycle thefts

occurred at home or near the victim's home. This was the case in Botswana (100%), Namibia (100%), Zambia (100%), South Africa (77.8%), and Swaziland (53.4%) (Naudé et al., 2006, p. 34). Failure by motorcycle owners to secure and attend to their motorcycles while in their homes or when parked in street near their residential areas is cited as the main explanatory factor for the high incidences of motorcycle theft in and around owners' homes (Friedman, 2009; NMVTR, 2012). However, this has not been established in Kenya and particularly in Nandi Central District. Hence, this study undertook to establish the same.

At a macro-level, there is a considerable difference between the rates of motorcycle theft in urban and rural areas (Naude et al., 2006). Specifically, urban areas have higher levels of motorcycle theft than rural areas (Carole Nash, 2011; Naudé et al., 2006; van Dijk et al., 2007). This may be because rural communities are characterized by strong social networks which makes it difficult for would be thieves to steal a motorcycle without being noticed by community members, and the fact that motorcycles are parked on streets or open parking lots in urban areas than in secured personal garages as in rural settings (Carole Nash, 2011; Friedman, 2009). In addition, the urban crush of motorcycles makes it very difficult for police to identify a recently stolen motorcycle among similar looking motorcycles in traffic (Gorzelay, 2012). Nonetheless, comparisons between motorcycle theft rates in urban and rural areas has not been undertaken in Kenya and therefore little is known about which area experiences the most thefts. This study therefore sought to establish the same.

Besides the differences in motorcycle theft rates between rural and urban areas, there is also significant differences in level of motorcycle theft across states and regions. The disparity reflects the high concentration of motorcycles in these regions making them easy targets for crime (Keriga, 2009). For example, the US' states of California, Texas, Florida, North Carolina, and Indiana have consistently registered the highest cases of reported incidences of

motorcycle theft in the US (NICB, 2011, 2012). Nationally, police statistics and media reports indicate that the crime is rampant in Nairobi Area, Nyanza, Western and Rift Valley region partly because motorcycles are highly used in these regions for motorcycle taxi business (Kenya Police, 2008, 2010, 2011).

At a micro-level, studies indicate that locations where numerous motorcycles are parked experience large numbers of motorcycle thefts (Lojack, 2008; NMVTRC, 2002). Thus, locations close to schools, bars, parking lots at shopping malls, gas stations, motorcycle shows, and stadiums hosting various types of events are big hubs for motorcycle thefts. These locations usually attract large numbers of users, including potential offenders (Felson and Clarke, 1998). Motorcycles are also usually parked at these locations for extended hours without the owner's attendance thus giving thieves a prime opportunity to steal. In addition, the large crowds conceal the theft (NMVTRC, 2008). The clustering of motorcycle thefts around these locations has however not been established in Kenya and this study therefore sought to establish the same.

2.7 Temporal Nature of Motorcycle Theft

Like most crimes, studies also demonstrate that motorcycle theft is not evenly dispersed across time; it exhibits strong temporal patterns depending on the particular area and users (Gorzelany, 2012). In the United States, motorcycle theft is a seasonal crime related to warmer months. The crime generally peaks during the summer months of June, July and August whereas it is least during winter in the months of December, January and February (NICB, 2010; Lojack, 2008). According to Gorzelany (2012), the high usage of motorcycles for transportation as well as recreational activities during warm summer months in the US, than in cooler months, present thieves with more targets to steal. Little is however known on

the seasonal temporal patterns of motorcycle theft in Kenya and particularly in Nandi Central District, which was the focus of this study. The study therefore sought to establish the same.

The clustering of motorcycle theft on particular days of the week and time of the day has been established in studies carried out in Australia and China. While examining the theft of farm vehicles in Australia, Hedayati (2008) found out that thefts of motorcycles were more common on Fridays and Saturdays between 4.00 p.m. and midnight when many farm occupants were away. Their absence therefore provided thieves with prime opportunities to break into garages and steal motorcycles and other farm vehicles (Hedayati, 2008). An earlier study conducted by NMVTRC (2002, p. 4) established that on a given day of the week, the highest number of motorcycle thefts in Australia occur between 4 p.m. and 8 p.m. In China, a study carried out by Xu (2009) established that most robberies of migrant motorcycle taxi drivers occurred between 7.00 p.m. and 2.00 a.m. since around 80 percent of motorcycle taxis operating at night were being driven by migrant motorcyclists. Nonetheless, the weekly and hourly temporal patterns of motorcycle theft in Kenya is unknown. This study therefore undertook to establish the same.

2.8 Factors Contributing to Motorcycle Theft

As mentioned earlier, motorcycle theft is a good example of an opportunistic crime (Hess and Orthman, 2010). A number of opportunistic factors therefore contribute to its commission. According to NMVTRC (2002), motorcycles are easy to steal since they lack security devices and are often left unprotected. They are also more portable compared to most vehicles since they are smaller in size, lighter and simple to drive. In addition, they are easily secreted, broken-up, and disposed of (NMVTRC, 2002, 2008). In particular, studies have identified the following factors as being central to the growth of motorcycle theft:

2.8.1 Availability of motorcycles

According to van Dijk et al. (2007), increased motorcycle ownership and use provides more opportunities for theft and a greater demand for motorcycles and replacement parts. Poor theft prevention measures by motorcyclists also ensure a constant supply of available targets (Lojack, 2008).

2.8.2 The value of motorcycles

Motorcycles are not cheap. The prices of China made motorcycles here in Kenya range from Ksh. 45,000.00 to Ksh. 90,000.00 whereas those of trendy motorcycles range from Ksh. 570,000.00 to Ksh. 2.2 million (ExpoGroup, 2012). Like cars, sport utility vehicles and trucks, stolen motorcycles offer criminals full throttle avenue to huge profits (Hess and Orthmann, 2010, p. 470). Their parts are also sought after products for resale and repair of defective motorcycles. Carole Nash (2011) notes that the high cost of spares is one of the things fuelling organized motorcycle thefts in Britain.

2.8.3 Operational ease

Mayhew et al. (1989) observed that motorcycles are attractive targets to thieves, particularly the youthful offenders, because they relatively require less knowledge to operate than cars. Youths also find more enjoyment and excitement riding a motorcycle than operating a bicycle or car (Mayhew et al., 1989). This is partly because of their speed and maneuverability.

2.8.4 Poor lock system

Motorcycles' locking system is not complex enough. Thus, thieves can easily identify the lock number and make substitute keys (Hess and Orthmann, 2010, p. 470). The lock

mechanism is also not complex and strong enough for destruction or dismantlement by simple tools such as a slam hammer and pliers (Phongphu and Srichandr, 2011).

2.8.5 Portability of motorcycles

Motorcycles are not heavy or cumbersome for thieves to lift onto the back of a truck or trailer and driven away (NMVTRC, 2008). Indeed, organized thieves can load several motorcycles to a trailer or van at a time and drive away with them. Carole Nash motorcycle theft survey (2011) established that most of the motorcycles stolen in the UK in the year 2011 were lifted into vans and taken away by thieves.

2.8.6 High rates of motorcycle breakdown

The relative ease with which motorcycle components can be damaged fuels a black market for parts (Hess and Orthmann, 2010). The factor also renders a motorcycle with relatively minor damage a total loss. NICB (2008) states that thieves can more easily alter, reuse, and camouflage motorcycles parts including frames than car or truck parts. This results in a lower recovery rate for stolen motorcycle than cars or trucks.

2.8.7 Ease of disposability of stolen motorcycles and their parts

Thieves can easily sell stolen motorcycles, either whole or in parts, locally or overseas (McDonold, 2011). Evidence suggests many thieves want to sell stolen goods quickly to reap a financial profit (Kennedy and Van Brunschot, 2009). The high demand for motorcycles coupled with abundance of buyers of stolen motorcycles provide an incentive to steal. NMVTRC (2002) mentions that proof-of-ownership problem suggests few motorcycles can be identified as stolen, which aids the sale of stolen motorcycles and reduces the risk of apprehension and identification. Moreover, offenders can assemble a cycle from replica

aftermarket parts 'cloning', obtain and apply false VINs and then sell it as an original brand-name product to consumers interested in purchasing a brand-name cycle (NICB, 2008).

2.8.8 Lack of effective means of identifying stolen motorcycles and their parts

There is an absence of a means by which individual motorcycles can be identified once their number plates are removed or the motorcycle is broken up for parts (NMVTRC, 2002, 2008). The only identifying marks on many motorcycles are the frame and engine number, leaving thieves free to sell other parts without fear of being caught (NICB, 2011). In addition, though most modern motorcycles have vehicle identification numbers (VINs) listed on the steering necks where the fork goes through the frame near the headlight and on the side of the engine, thieves often remove or alter them (NICB, 2008). Moreover, the presence of thousands of motorcycles of the same brand, color and make in use in roads and off-road, and the fact that motorcycle parts are not readily identifiable makes it difficult to identify and recover stolen motorcycles and their parts (Gorzelay, 2012; Hess and Orthmann, 2010).

2.8.9 Unregulated end uses

In many countries, motorcycle use is not under any formal regulation of transportation (Hedayati, 2008; Ikunda, 2012; Kamau, 2012; Omolo, 2010). In Kenya for example, motorcycle taxi industry is a self-regulating industry, existing outside the administration of the government, and all people who ride motorcycle taxis are able to make money by taking clients from one place to another as long as they have motorcycle licenses and driving license (Ikunda, 2012). The many unregulated end uses for motorcycles including racing, trail riding, taxi business, and farm use (Hedayati, 2008; Omolo, 2010) makes retaining a stolen motorcycle for personal use relatively risky free. Normally, stolen motorcycles are fitted with false number plates and offenders continue to use them on a daily basis (Hedayati, 2008; NMVTRC, 2008).

2.8.10 Riders' collusion with thieves

Complicity between thieves and riders play an important role on the occurrence of motorcycle theft. For example, there is evidence that some riders who are lend motorcycles by their colleagues either disappear or contrive with other riders to steal such motorcycles (Rwanda National Police, 2012).

2.8.11 Weak legal enforcement

Motorcycle theft investigations is normally a complex undertaking to law enforcement officers due to the absence of alternative means of identifying stolen motorcycles once thieves remove their number plates or the motorcycle is broken up for parts (NMVTRC, 2008). Proving ownership of stolen motorcycles is also quite difficult. When apprehended, most motorcycle thieves are usually not prosecuted for motorcycle theft, but for unauthorized use of a motorcycle. This is because prosecution for motorcycle theft requires proof that the thief intended to permanently deprive the owner of the motorcycle, which is usually hard to prove (Hess and Orthmann, 2010). Accordingly, few offenders are often apprehended, prosecuted and convicted of the crime (NMVTRC, 2002).

In addition, in many jurisdictions, convicted motor vehicle thieves typically earn few months or years in prison and often get back to streets to continue with their offending. For example, here in Kenya, the maximum penalty for stealing a motor vehicle is seven years (GoK, 2009, p. 94). Hess and Orthmann (2010, p. 466) point out that most offenders arrested for MVTs have histories and consider jail term to be like going to school to catch up on the latest techniques from colleagues. Thus, the low apprehension, prosecution and conviction rate of motorcycle thieves makes the crime a booming industry, with high profits and low risks.

2.9 Impact of Motorcycle Theft

Although law enforcement agencies often view motorcycle theft as simplistic, it is actually a serious crime that has wide-reaching implications to the motorcycling community in particular and the wider society in general. According to UK's Motorcycle Industry Council (MIC), motorcycle theft affects the quality of life of innocent citizens and adversely impacts on legitimate businesses, insurance companies, and governments (PRweb, 2012).

At the outset, motorcycle owners directly bear the effects of motorcycle theft. The victims incur substantial losses when their valuable motorcycles are stolen. They also experience significant financial hardships and stress in the arduous process of lodging the theft report with the law enforcement agencies and the subsequent long periods waiting for the recovery of the stolen motorcycle (NMVTRC, 2002; Rwanda National Police, 2012). Without a means of transportation, the victim is inconvenienced. The victim suffers a total loss if the motorcycle is not recovered or recovered but with severe damage. Worse still, insurance companies may hold the victim responsible for the theft and refuse to pay insurance compensation or have any contract with the victim in future. Thus, motorcycle theft leaves the affected owners without transportation, financially burdened, and feeling violated. In some cases, such as with forceful thefts, victims face direct confrontation with the perpetrators, leaving them terrified, injured or even dead. Consequently, other motorcyclists will fear traveling to places where theft is rampant (Lojack, 2008) thus inconveniencing passengers who greatly depend on motorcycle taxis for their daily transportation needs. In addition, motorcycle theft increases the cost incurred by motorcycle owners in purchasing anti-theft devices to protect their motorcycles (HEAT, 2007; Phongphu and Srichandr, 2011).

On the other hand, legitimate businesses lose their clientele when organized groups sell similar but less expensive motorcycles and parts to unsuspecting customers. Kamau (2012) notes that counterfeit motorcycles and their parts (stolen motorcycles and their parts included) are some of the main challenges to motorcycle industry in Kenya. Unsuspecting customers who purchase stolen motorcycles suffer financial loss when police seize the motorcycles.

At a macro level, stakeholders in motorcycle industry (policyholders, insurers, investigators, taxpayers, police and society in general) lose significant time and expenses in the process of reporting, processing and settling motorcycle insurance claims. Insurance companies in particular lose a substantial part of their revenue to insurance claims (PRweb, 2012). Such losses drive the insurance companies to increase premiums. Increase in motorcycle insurance premiums in turn results in an increase in insurance premiums of other products. The losses also drive some insurers out of the market. For instance, here in Kenya, African Merchant Assurance Company (AMACO) and Apollo Pan-African Insurance (APA), have withdrawn from covering motorcycles used for commercial purposes due to the high rate of claims brought about by soaring rates of motorcycle thefts and accidents in the country (Wafula, 2010).

Besides the economic losses of motorcycle theft to motorcycle owners and insurers, thieves may use stolen motorcycles to commit serious crimes such as robberies, kidnappings, burglaries, as well as assault of police officers (Briggs, 2009; Hess and Orthmann, 2010; NMVTRC, 2002). For example, on 2nd December 2010, two assailants on a suspected stolen motorcycle, who were later pursued and killed by police, shot two traffic police officers at Roysambu roundabout, about 100m from Kasarani police station (*Daily Nation*, December 3, 2010, pp. 1, 3). Swanson et al. (2003) note that using a stolen vehicle to commit a crime

provides the offender with transportation that cannot be easily traced back to that person or can be dumped if necessary. In addition, the manner in which motorcycles are stolen and driven may contribute to a decline in public safety (Hess and Orthmann, 2010). NMVTRC (2002) notes that in an attempt to avoid owner and police pursuits, motor vehicle thieves often drive stolen vehicles in high speeds hence endangering the safety of other road users. Motorcycle theft is therefore a significant crime with a real burden to society, hence the need for serious preventive, investigative, and repressive measures.

In sum, the impact of motorcycle theft appears to have been well documented in literature. However, no identified studies have evaluated the social and economic impacts of this crime in developing countries, Kenya included, and particularly in Nandi Central District. Nonetheless, this study did not endeavor to establish the same because it was beyond its scope.

2.10 Motorcycle Theft Prevention Measures

Its magnitude notwithstanding, motorcycle theft is a controllable and preventable crime (Lojack, 2008). Motorcycle insurers and the police have therefore recommended a variety of strategies that aim at making motorcycles hard targets to steal, deter motorcycle thieves and/or aid in the recovery of stolen motorcycles.

According to NMVTRC (2002), motorcycle owners have the ultimate responsibility for taking reasonable precautions to protect their motorcycles from theft. This is however possible where motorcycle owners are informed about vulnerability and ways to avoid motorcycle theft. HEAT (2007) recommends a “layered approach” to prevent motorcycle theft. Accordingly, the more layers of protection on a motorcycle, the more difficult it is to steal. The following four layers of protection are considered in HEAT’s approach:

Layer 1: Common sense tips

This involves use of the easiest and least expensive ways to thwart thieves such as locking the motorcycle (the ignition and forks) and not leaving the keys in the ignition when away from the motorcycle, parking in well-lit areas, and not locking the motorcycle in the same location all time.

Layer 2: Warning devices and active anti-theft devices

This consists of using audible alarms, chains, wheel locks, identifying marks and identifications concealed in and on the motorcycle. Locks and chains, for instance, are helpful in preventing thieves from hoisting motorcycles to a lorry or van and can defend the secured motorcycle against multiple thefts (Lojack, 2008).

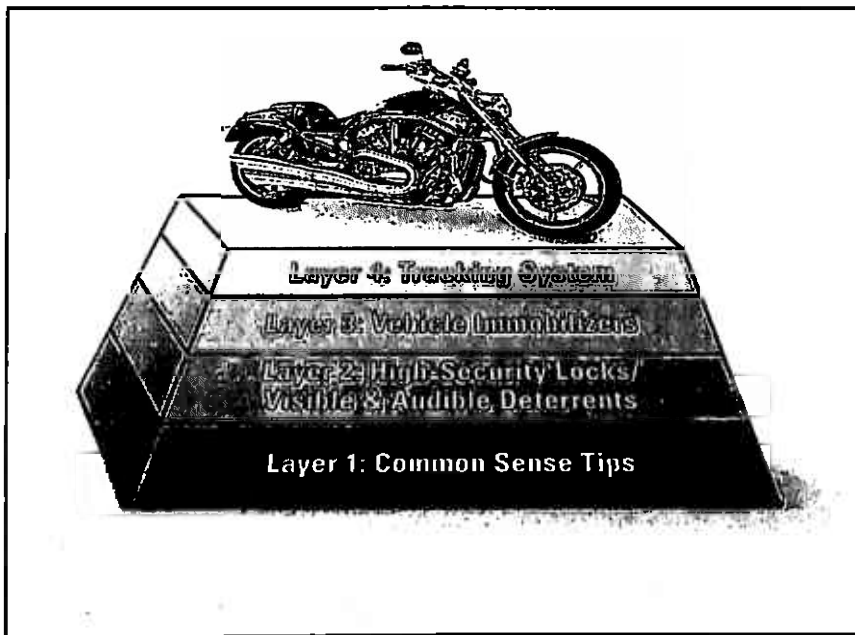
Layer 3: Immobilizing devices

Comprise devices that can stall or deter a thief such as cut-off switches, kill switches, fuel disablers and smart keys.

Layer 4: Tracking systems

Tracking systems such as Global Positioning System (GPS) recovery system and Lojack for motorcycles provide police and owners with the ability to locate and recover stolen motorcycles. Figure 2.1 illustrates the layered approach.

Figure 2.1: The layered approach to protection



Source: Help Eliminate Auto Theft, 2007.

Apart from the identified preventive measures, studies indicate that use of “bait motorcycles” and surveillance cameras in parking areas including aggressive high-intensity patrol activities prove effective measures in combating motorcycle thefts (Lojack, 2008; NICB, 2008; Swedish Transport Administration, 2010; Tran, 2009). A simple bait motorcycle involves placing of a selected motorcycle in a high rate crime area, and then the police remain at the scene waiting for the offender to strike (Hess and Orthmann, 2010). In one such operation, Staffordshire police used one bait motorcycle 16 times, in a span of six weeks, and managed to arrest 16 motorcycle thieves (Smith, 2010). An advanced operation involves using a bait motorcycle that is fitted with a tracking device to enable the police to trace a stolen motorcycle with the aim of catching the thief or gathering intelligence on stolen motorcycle markets (Lojack, 2008).

In addition, there is evidence to suggest that policies and legislations governing use of motorcycles are associated with reduced motorcycle thefts. For example, motorcycle thefts dropped significantly in three European countries after the introduction of laws that fined motorcyclists for failure to wear helmets. In London, motorcycle thefts fell 24 percent after Great Britain enacted a helmet law in 1973. The Netherlands saw a 36 percent drop in thefts in 1975 when its law was enacted, and the former West Germany, where on-the-spot fines were introduced in 1980, motorcycle thefts plummeted 60 percent (Brown, et al., 2010; Clarke, 1997; Mayhew et al., 1989). Analyzing the effect of the helmet laws on motorcycle theft in these countries, Clarke (1997, p. 30) describes that the helmet requirement substantially increased the risk of opportunistic thefts for those offenders who were unable at the same time to steal a helmet. That is, the offenders wanting to steal a motorcycle had to go equipped with a helmet or they would be spotted easily (Felson and Clarke, 1998, p. 29).

Finally, motorcycle theft like all other criminal offences is unpredictable (Lojack, 2008). It is therefore important for motorcycle owners to insure their motorcycle and parts. An insurance cover does not keep the motorcycle from thieves but saves the owner from the traumatic stress of searching the stolen motorcycle. It also cushions the owner from the costs of purchasing a new motorcycle in case the stolen motorcycle is not recovered, or if recovered but severely damaged (Friedman, 2009).

2.11 Theoretical Framework

The study drew on rational choice theory, routine activities, and crime pattern theory to provide a theoretical context to the study. The three theories provide insights to the phenomenon of motorcycle theft and more specifically factors surrounding motorcycle thieves offending and vulnerability of *boda boda* operators to motorcycle theft victimization.

2.11.1 Rational choice theory

The theory, expounded by Ronald Clarke and Derek Cornish (1986), examines crime from the viewpoint of the offender (Bonnie and Steven, 2010). It asserts that most criminals are normal, reasonable people who weigh the relative risks and rewards associated with a crime before deciding to commit it (Brown et al., 2010; Clarke and Felson, 1993; Haralambos and Holborn, 2008; Lu, 2006; Siegel, 2012; Tillyer and Eck, 2010). The occurrence of a crime therefore indicates that the benefit perceived by the offender as associated with the offence outweighs the perceived risk of being caught and the resultant punishment.

According to this theory, the offender must decide on the type of crime to commit, where and when to commit, elect a *modus operandi*, and determine what to do afterwards and so forth (Brown et al., 2010, p. 172). The decision to offend is however constrained by situational factors such as the perceived risks, rewards, efforts, excuses and provocations for violence (Tillyer and Eck, 2010, p. 10). How the potential offender will view these situational factors is highly dependent on his or her prior learning (Winfrey and Abadinsky, 2003) and for that reason, not all offenders will make the same decisions based on a given set of circumstances. Typically, the rationality of offenders in criminal acts is evident on how they choose targets, select the theft location and consideration of factors such as the existence of security personnel or devices (Felson and Clarke, 1998; Kennedy and van Brunschot, 2009).

The theory is helpful in explaining the factors surrounding the choice of method the thieves use to steal motorcycles, based on their expertise in the crime and prevailing circumstances, and why they target some particular *boda boda* operators and motorcycles. Generally, motorcycle thieves (amateur and professional) choose to steal motorcycles to meet specific motives: for thrill or enjoyment, as a gateway from a crime scene, to move from one point to

another, or to sell the motorcycle intact or in parts, for financial gain. The circumstances of committing the offence will however differ from one thief to another. The amateur thief will highly go for motorcycles in their wish list that are easy to steal, those that are unattended and lack theft prevention devices, or risk being caught. On the other hand, a professional thief will not only select a motorcycle that is easy to steal but also that with theft deterrent devices since they have advanced stealing skills. He/she will therefore use complex methods to steal and avoid detection based on the characteristics of the target (motorcycle). He/she will possibly keep away from motorcycles that are guarded and those that have many security markings on the frame and parts because they are hard to dispose-off.

In addition, professional thieves may manipulate or use deceitful ways to steal motorcycles from potential victims. Copes and Cherbonneau (as cited by Tran, 2009), state that criminals who use manipulation as their strategy go through great lengths in completing their objectives and in many instances strive to look very legitimate and honest to their victims. For example, a motorcycle thief may pose as a customer only to rob a motorcycle taxi operator of his motorcycle on the way. Tran (2009) points out that manipulation ranges from multiple activities such as convincing the victim for permission to test-drive a vehicle that is meant for sale, intoxicating a victim after befriending him/her, duplicating a key from clay, or swapping of vehicle keys.

The theory is also helpful in explaining the locations and times of motorcycle theft. Siegel (2012), states that thieves (such as burglars, robbers, carjackers) carefully choose the neighborhood and time of their crime. Carjackers, for instance, are mostly active during evening and night hours in parking garages and road intersections because darkness and busy traffic conceal their activities (Levy and Tartaro, 2008). Likewise, motorcycle thieves will likely steal motorcycles in locations they are more familiar with, that appear more open and

vulnerable and offer more potential escape routes. They will also probably strike during times when they will least be spotted such as during the dark hours of the evening and night or when motorcycle owners are absent from their homes.

Although the theory is useful in explaining the *modus operandi* of motorcycle thieves, motorcycle theft locations and times, it cannot explain the demographic characteristics of motorcycle victims. This gap is filled by routine activity theory, which predominantly focuses on the characteristics of targets/victims of crime.

2.11.2 Routine activity theory

Routine activity theory, propounded by Cohen and Felson (1979), concerns itself with how a situation or social context influences people's vulnerability to crime. It focuses on the convergence in space and time of three elements of most criminal acts: (1) likely offenders; (2) suitable targets; (3) and the absence of capable guardians against crime (Cohen and Felson, 1993; Froeling, 2007; Siegel, 2012; Tillyer and Eck, 2010; Winfree and Abadinsky, 2003; Xu, 2009). A likely offender refers to anybody who for any reason might commit the offence (such as a motorcycle thief). A suitable target of crime is any person or object that is likely to be taken or attacked by the offender (for example, unattended motorcycle or *boda boda* rider operating during nighttime). Capable guardian is anything, either a person or thing that discourages crime from taking place (Felson and Clarke, 1998; Haralambos and Holborn, 2008). These can take many forms such as security guards, police patrols, locks, immobilizers, alarms, among others. The guardians protect targets from being victimized (Cohen and Felson, 1993; Tillyer and Eck, 2010). Hence, motorcycle theft is expected to be high in areas with more potential thieves and more unattended motorcycles.

Routine activity theory predominantly focuses on the lifestyles or routine activities of crime victims. It argues that choices in lifestyle on the part of potential victim may create or curtail crime opportunities for the motivated offender (Brown et al., 2010, p. 172). The theory maintains that specific social groups, marked by a distinct configuration of age, gender, income and marital status, will engage in distinct patterns of activity and thereby court distinct risks of victimization (Xu, 2009, p. 492). Siegel (2012) states that young and unmarried people, particularly adolescents, face victimization risk more than older and married people because they lead dangerous lifestyles; they often stay out late at night, spend a great deal of time in risky places, and hang out with other kids who have a high risk of criminal involvement. Similarly, victimization surveys indicate that young single men under 30 years old and those widowed and divorced who spent several evenings a week out and drinks heavily have an increased risk of victimization (Haralambos and Holborn, 2008; Maxfield and Babbie, 2006; Williams, 2001).

The study focused on victimization of *boda boda* operators to motorcycle theft. This group risk victimization for several reasons: First, motorcycles are valuable targets to be stolen; thieves can steal them from any location that is convenient so long as they are not well guarded. Secondly, a *boda boda* rider who is carrying a client to a certain place is working by himself and away from other *boda boda* operators who might protect him when in danger. The *boda boda* rider will also be physically distant from the guardianship of the police as well as people on the road if the client asks him to go to some remote area. In such instances, the client, who turns to be a thief (robber), will forcefully steal the motorcycle from the *boda boda* rider. In addition, different working hours will affect the level of guardianship confronting the likely robber (Xu, 2009, p. 499). *Boda boda* operators who work at nighttime run higher risk of victimization than those who work at daytime. This is because nighttime

increases the level of exposure of motorcycle operators to potential offenders in the absence of capable guardians. Motorcycle thieves may also waylay or ambush such riders and steal their motorcycles. The theory is therefore helpful in identifying the demographic characteristics of *boda boda* operators who have fallen victim to motorcycle theft, and locations and times when most motorcycle thefts occur. However, it cannot fully explain the reasons why motorcycle thieves choose a particular method to steal motorcycles. The gaps created by this theory and the earlier discussed theory (rational choice theory) are filled by crime pattern theory which provides a comprehensive understanding of the behavior of both motorcycle thieves and victims and why crimes occur at particular locations and time.

2.11.3 Crime pattern theory

Developed by Canadian environmental criminologists, Paul and Patricia Brantingham (1993), the theory emphasizes the geographical distribution of crime and the daily rhythm of activity (Felson and Clarke, 1998). It posits that criminal events will most likely occur in areas where the activity space of offenders overlaps with activity space of potential victims/targets (Boba, 2005, p. 62). An individual's awareness space refers to that area familiar to him or her through everyday activities, such as where she or he lives, works, commutes and/or shops whereas the activity space of a target is its location (Boba, 2005, p. 62). According to Brantighams, offenders are most likely to commit crimes when they encounter opportunities in areas which are cognitively familiar to them, and they are less likely to offend in areas outside their cognitive maps (Haralambos and Holborn, 2008, p. 376)

The theory has three main concepts: nodes, paths and edges (Bonnie and Steven, 2010; Felson and Clarke, 1998). "Nodes" refers to locations where people travel to and from such

as homes, schools and entertainment areas. "Paths" refers to the routes people take to travel back and forth from nodes (Felson and Clarke, 1998). The theory predominantly asserts that offenders tend to search for opportunities to commit crimes around personal activity nodes and that people are likely to fall victim to crime along the paths they take in their everyday activities (Bonnie and Steven, 2010; Felson and Clarke, 1998). In that case, crime is more likely when the opportunity arises in an area that is well known by the offender (Williams, 2001, p. 317). Brantingham and Brantingham (as cited in Boba, 2005) refer to nodes that attract many place users for non-criminal purposes, such as shopping malls, motorcycle stages and sport stadiums as crime generators. According to them, crime tends to concentrate at these locations given the convergence of large number of people and targets, thus motivating some of these place users to exploit the prevailing crime opportunities (Bonnie and Steven, 2010; Felson and Clarke, 1998). Levy and Tartaro (2008) point out that a crime generator becomes a crime attractor when it begins to attract offenders who may have an intent to commit particular types of crime at the location. For example, a person notices that everytime he visited a shopping mall there are many motorcycles left unattended and unlocked in the parking lots for a long period of time. The person steals a motorcycle one day and tells his friends about his successful offense. Consequently, new thieves begin to come to the mall's parking lots to take advantage of such criminal opportunity.

The third concept of crime pattern theory, edges, refers to the boundaries of areas that people live, work, shop or seek entertainment (Felson and Clarke, 1998, p. 6). Edges (both physical and perceptual) are premier locations for criminal offending (Boba, 2005). According to the theory, some crimes such as racial attacks, robberies, burglaries and carjacking tend to decline rapidly as areas become more homogeneous, while the rates become high on edges of neighborhoods (Bonnie and Steven, 2010; Felson and Clarke, 1998). This is because

outsiders are easily spotted and are watched by residents inside the neighborhood where residents have formed some kind of territoriality, keeping eyes on their own property, whereas outsiders are often ignored around edges (Boba, 2005). This may explain why motorcycle thefts tend to be low in rural areas and higher in urban areas. According to Felson and Clarke (1998, p. 6) the distinction between insiders and outsiders helps underscore the importance of edges, since insiders usually commit crimes closer to their neighborhoods, while outsiders find it safer to offend at the edges, then retreat to their own areas. The theory is therefore helpful in explaining the clustering of motorcycle thefts in particular locations and times.

2.12 Conceptual Framework

Reichel and Ramey (as quoted by Kombo and Tromp, 2010, p. 49) define a conceptual framework as a set of broad ideas and principles taken from relevant fields of enquiry and used to structure a subsequent presentation. According to Mugenda and Mugenda (2003), a conceptual framework is a hypothesized model identifying the concepts under study and their relationship. Essentially, a conceptual framework is a research tool that assists a researcher to organize his/her thinking and complete an investigation successfully (Babbie, 2005; Kombo and Tromp, 2010).

The study examined patterns associated with motorcycle theft in Nandi Central District of Nandi County. Patterns of motorcycle theft generally revolve around the *modus operandi* of the thief. Some of the key factors contributing to motorcycle theft in the country, Nandi County included, are increased availability of motorcycles, the high demand of motorcycles for *boda boda* business and increased demand of motorcycles parts to service aging and unserviceable motorcycles.

The characteristics of locations/sites where motorcycles are parked or used influence the *modus operandi* of the thief. For instance, where a motorcycle is parked in a garage or a house, the thief has to break into that house or a garage in order to steal the motorcycle. On the other hand, if the motorcycle is parked and unattended by the roadside, the thief will have an easy access to the motorcycle and he/she may just need to break the chain or locks that secure the motorcycle and drive it away. Thieves are likely to keep away from homes with occupants or motorcycle stages where riders watch out for one another to protect their motorcycles. Moreover, riders residing or operating in areas with diverse ethnic compositions are more likely at risk of having their motorcycles stolen than those residing or operating in areas habited by homogeneous ethnic compositions. Infact studies by Walsh and Taylor (2007) on MVT and community demographics established that MVT rates are high in regions with racially mixed communities. This is possibly because persons living in areas with diverse ethnic compositions are less likely to have strong social networks or know each other well. Visitors in such areas, who would be motorcycle thieves, are also not readily identified.

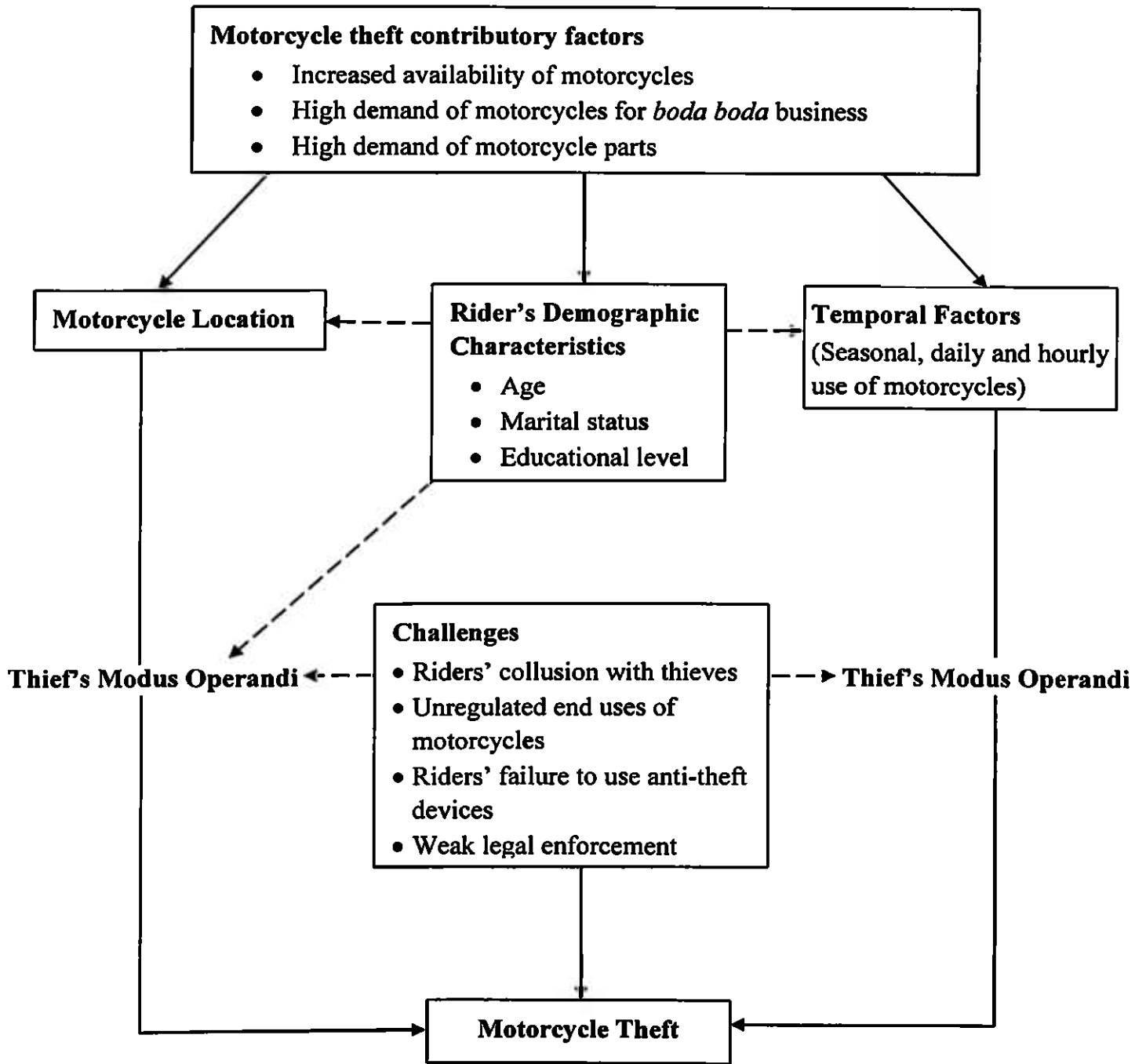
Temporal factors (seasons, day of the week, and time of the day) also influence the availability of motorcycles and the *modus operandi* of the thief. There is high likelihood of many motorcycles operating during market days or on occasions when there are major events such as sporting competitions and political rallies, hence presenting thieves with more targets to steal. Thefts are also likely to occur during specific hours of the day when there are many motorcycles on the road and during night hours as darkness conceals the thefts.

The demographic characteristics of motorcycle riders in terms of age, marital status, and educational level play a role in victimization of *boda boda* operators. In relation to age and marital status, young and unmarried *boda boda* riders are likely to operate at night than their

older and married colleagues because they have fewer engagements with the family. They are also likely to lead more risky lifestyles, for instance, visiting risky places like bars at night to indulge in alcohol, thus increasing their vulnerability to motorcycle theft. Riders with lower educational qualifications are also less likely to take advantage of theft prevention strategies advocated by the police and insurers due to difficulty in understanding them.

The existence of weak policies regulating the use of motorcycles in the country is one of the key challenges to combating motorcycle theft in the country. The police are also yet to device strategies to combat motorcycle theft since they still regard it as a low priority crime. Riders' collusion with thieves and their failure to use anti-theft devices are other challenges to combating motorcycle theft. These challenges are in the thieves' calculus when committing the crime. Figure 2.2 graphically depicts the conceptual framework.

Figure 2.2: Conceptual Framework



Source: Author, 2013

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter describes the study site and the procedures used in carrying out the study. The procedures consist of the research design, target population, the units of analysis and observation, the sampling procedure, sources of data, data analysis procedures, and ethical considerations.

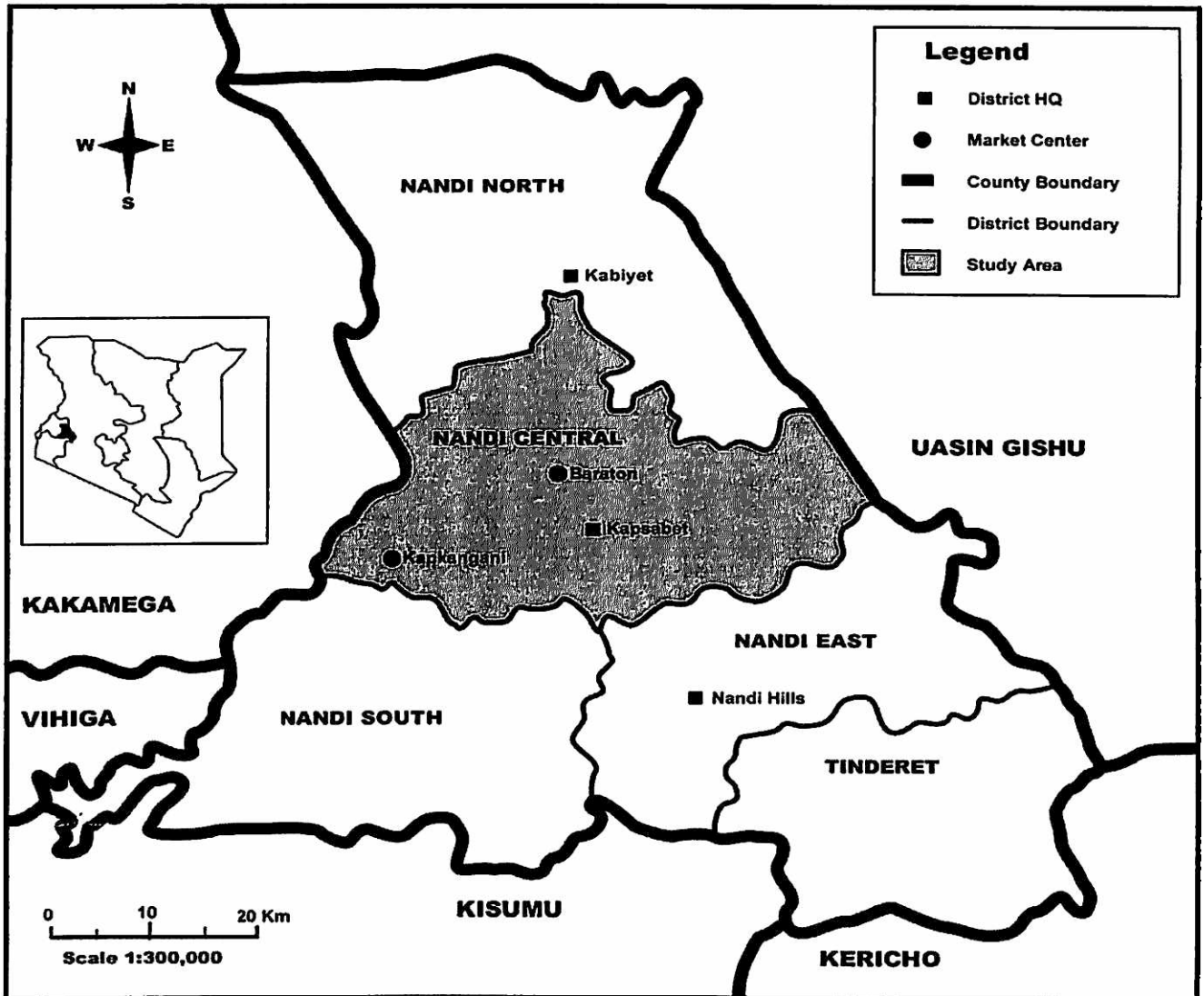
3.2 Site Selection and Description

Nandi Central District was purposively chosen as the research site because of the researcher's familiarity with the area. The district is one of the five administrative districts in Nandi County. It covers an area of 705 square kilometers and borders Nandi North District to the North, Eldoret East to the East, Nandi East to the South East, Nandi South to the South West, and Kakamega East to the West. The larger Nandi County borders Uasin Gishu County to the North and East, Kericho to the South East, Kisumu to the South, Vihiga to the South West, and Kakamega to the West. The headquarters of both Nandi County and Nandi Central District is at Kapsabet town. The town also hosts the County's and district's (divisional) police headquarters. Two police stations, namely: Kapsabet and Kapkangani serve the district.

As per the 2009 Census, the district had a population of 231,054 with the majority (51.4%) of them aged between 15-64 years (Mars Group Kenya, 2013). The population density was estimated at 328 persons per square kilometer (Mars Group Kenya, 2013). The most common ethnic group was the Nandi (a sub-tribe of the Kalenjin) making up about two third (64.6%) of the district's population, followed by Luhya (19.2%), and Kipsigis (15.1%). The Luhya predominantly occupies the western part of the district. Much of the district's road network is

gravel and earth surface whereas the topography is relatively hilly. Motorcycles are therefore the most viable transportation option. Figure 3.1 shows the districts in Nandi County.

Figure 3.1: Map of Nandi County showing the districts



Source: Adapted from Nandi Central District Commissioner’s Office Maps, 2013.

Nandi Central Municipal and County Council records indicate that there were there were 380 registered motorcycle taxi operators in Nandi Central District as at 31 December 2012. This consisted of 262 and 118 motorcycle taxi operators in Kapsabet Municipality and Nandi

Central District County Council jurisdictions respectively (Municipal and County Council Data, 2013). The Municipal Council had grouped the motorcycle operators in its jurisdiction into four quarters representing their neighborhoods. These were Baraton (50), Surungai (63), Show Ground (98), and Namgoi (51). Motorcycle taxi operators in each quarter operate from designated stages in Kapsabet town. Likewise, the County Council had grouped motorcycle taxi operators within its jurisdiction into six sectors according to their locality of origin. These were Kamobo (18), Mosobecho (15), Chepterit (10), Samoo (32), Danger (15), and Chemundu (28). This distribution however continues to change as new motorcycles are purchased and registered for taxi business.

Three (3) motorcycle insurers were operating in the district as at 30 April 2013. These were AMACO, Madison Insurance Company and XPLICCO Insurance Company. Both AMACO and Madison insurance companies had opened offices in Kapsabet town whereas XPLICCO Insurance Company operated through an agent in the town; the firm's main office was at Eldoret town.

Nandi Central Police Divisional records indicate that 26 police officers were deployed to crime section in the district as at 30 April 2013. Seventeen (17) of them were based at Kapsabet Police station whereas nine (9) were at Kapkangani police station. Between 2010 and 2012⁶, twenty-three motorcycle theft incidences were reported to the police in the district (Nandi Central Police Divisional Crime Data, 2013). However, the numbers are thought to be much higher due to general low reporting and recording practices. Forceful thefts of motorcycle taxis, killings of motorcycle taxi operators and incidences of mob justice occasioned by the rising cases of motorcycle thefts have also been reported in the district.

⁶ Three years is the standard period the Kenya Police use to compare annual crime data (Kenya Police, 2003)

3.3 Research Design

Kothari (2012, p. 31) describes a research design as the conceptual structure within which research is conducted; it constitutes the blue print for collection, measurement and analysis of data. Kombo and Tromp (2010) state that a research design is used to structure the research, show how all the major parts of the research project work together in a bid to address the questions raised by the researcher. The study adopted a descriptive survey design. According to Kombo and Tromp (2010), a descriptive survey involves collecting information by interviewing or administering a questionnaire to a sample of individuals. Babbie (2005) describes a descriptive research as involving collection, measurement, classification, analysis, comparison and interpretation of data.

3.4 Target Population

Kombo and Tromp (2010, p. 76) define a population as a group of individuals, objects or items from which samples are taken for measurement. The target population for this study consisted of *boda boda* operators, police officers, motorcycle insurers, and motorcycle operators who had fallen victim to motorcycle thefts in Nandi Central District.

3.5 Unit of Analysis and Observation

According to Singleton, Straits and Straits (1999), a unit of analysis is an object of study or item under study that is to be described or analyzed. Babbie (2005, p. 96) further explains that a unit of analysis is what or who can to be studied. The unit of analysis in this study was patterns associated with theft of motorcycles in Nandi Central District of Nandi County.

Mugenda and Mugenda (2003, p. 15) describe units of observation as subject, object, item or entity from which we measure the characters of, or obtain the data required in the research study. Thus, the units of observation in the present study were *boda boda* operators, police

officers, motorcycle insurers and motorcycle operators who had fallen victim to motorcycle theft in Nandi Central District.

3.6 Sampling Procedure

Kombo and Tromp (2010, p. 77) define sampling as the procedure a researcher uses to gather people, places or things to study. The aim of sampling is to select a number of individuals (samples) for a study in such a way that the individual selected is representative of the larger group from which they are selected (Mugenda and Mugenda, 2003).

The study utilized various non-probability sampling procedures to sample the study's respondents. This was because respondents were selected from composite groups that were disproportionately represented in the target population while others, for instance, motorcycle taxi operators were geographically dispersed in the study area.

Quota sampling was used to sample motorcycle taxi operators who participated in the study because of their large numbers and scattered distribution in the study area. Singleton et al. (1999) describe quota sampling as a non-probability sampling design that entails allocation of quotas to cases for various strata, which are then filled according to the proportion of their weight to the total population. Maxfield and Babbie (2006) point out that the actual selection of sampling units for the various quotas or units is done by judgemental procedures in such a manner that the composition of the final sample meets the quota criteria. From the population of 380 motorcycle taxi operators in the district as at 31 December 2012, a sample size of 114 respondents (30 percent of the registered motorcycle taxi operators in the district) was considered appropriate for the study. Njenga and Kabiru (2009) state that a good sample should be over 30 percent of the total population and caters for differences and inequalities in the target population. Each motorcycle taxi operators quarter/sector within the district was

considered a distinctive quota in the study. The following formula was used to determine the sample size for each quota:

$$\text{Sample Size} = \frac{\text{Number of Elements in that Quota}}{\text{Total Number of the Target Population}} \times \text{Total Targeted Sample Size}$$

Judgemental and convenient sampling was then used to select cases for each quota. Table 3.1 summarizes the sampling proportion for the different quotas in motorcycle taxi population in the district.

Table 3.1: Sample size for each quota

Group	Locality	Population size	Percentage (%)	Sample size
Motorcycle operators within the municipality	Baraton	50	13	15
	Surungai	63	17	19
	Show Ground	98	26	29
	Namgoi	51	13	15
Motorcycle operators within the County Council Jurisdiction	Kamobo	18	5	5
	Mosobecho	15	4	5
	Chepterit	10	3	3
	Samoo	32	8	10
	Danger	15	4	5
	Chemundu	28	7	8
Total		380	100	114

Source: Author, 2013.

Due to their small numbers, the researcher used purposive sampling to sample all the 22 police officers deployed to Crime Section who were available at both Kapsabet and Kapkangani police stations at the time of conducting the study. Similarly, the researcher used purposive sampling to select seven key-informants comprising of one representative from

each of the three motorcycle insurers in the district and four police managers (the police officer in charge Kapsabet and Kapkangani police stations respectively, and the police officers in charge Crime Section in the two police stations).

The researcher used snowball sampling with regard to the selection of motorcycle operators who had fallen victim to motorcycle theft in the district. According to Froeling (2007), snowballing sampling method begin by identifying a single subject or small number of subjects with the characteristics required by the researcher and then asking the subject to identify others like himself or herself who might be willing to participate in the study. Maxfield and Babbie (2006) note that the selection continues until the researcher gets the number of cases he or she requires. In the study, although police records could have been used to identify victims of motorcycle theft in the district, few cases could have been identified since few incidences of motorcycle thefts are reported to the police. Police records could not also reveal all the required demographic characteristics of the victims, particularly their level of education and marital status. The researcher thus asked motorcycle taxi operators to refer him to colleagues who had fallen prey to motorcycle theft in the district.

3.7 Sources of Data

The study used both primary and secondary data. Primary data was collected from the sampled *boda boda* operators, police officers, motorcycle insurers and motorcycle riders who had fallen victim to theft of motorcycles in the district. Kothari (2011, p. 95) describes primary data as consisting of those data that are collected afresh and for the first time, and thus happen to be original in character.

On the other hand, the researcher collected secondary data from police records, existing literature on motorcycle theft and related subjects from books, journals, magazines and

newspapers including internet web sites that either directly or indirectly relates to the subject of motorcycle theft. Police records such as Occurrence Book (OB), case files, and crime and incident reports usually contain reported information about the time, location, situational context, economic loss, bodily harm and personal details of the victim such as residence, name and sex.

3.7.1 Data collection tools and procedure

The study utilized two sets of questionnaires and semi-structured interview schedules to collect primary data from respondents. One set of questionnaire was administered to sampled *boda boda* operators and the other to police officers. The questionnaires consisted mostly of close-ended questions and a few open-ended questions. Close-ended questions were mainly used because they provide more uniform responses and are more easy to analyze (Maxfield and Babbie, 2006; Mugenda and Mugenda, 2003). The few open-ended questions were included since they allow subjects to respond to questions in their own words and thus provide more details. Kombo and Tromp (2010) observe that use of both open and close-ended questions in a questionnaire enables the researcher to get a complete and detailed understanding of the issue under research. The questionnaires were administered directly to the respondents in their workstations/*boda boda* stages. The researcher left the respondents to fill the questionnaires on their own after which they were collected on an agreed date.

A semi-structured interview schedule was used to conduct semi-structured interviews with the key informants and motorcycle riders who had fallen victim to motorcycle theft in the district. Maxfield and Babbie (2006) state that specialized interviewing can be incorporated into any research project as a supplementary source of information and that asking people about crimes that may have happened to them provides data on victims and offenders and on

the incidents themselves. The semi-structured interviews were therefore conducted to supplement the data that was got from questionnaires and to adjust for the limitations of motorcycle theft data in police records particularly concerning the characteristics of the victims and how their motorcycles were stolen. In general, the semi-structured interviews generated both standardized quantifiable data and more in-depth qualitative data that greatly enriched the study.

In addition to the questionnaires and semi-structured interviews, the researcher directly observed how *boda boda* operators carried on with their daily activities and particularly how they interacted with clients and police officers on patrols and traffic duties. The researcher also observed how *boda boda* operators utilized various anti-theft devices and motorcycle identification systems. Babbie (2005) notes that direct personal observation gives the researcher a valued recourse and tool to relate the information obtained from the questionnaire and to crosscheck information gathered through interviews.

3.7.2 Pre-testing of questionnaires

The researcher pre-tested the questionnaires on 10 purposively selected *boda boda* operators at Ainamoi location and 5 police officers at Kapsoit police station, both in Kericho County. Questionnaire items that were not clearly understood by respondents were rephrased for clarity. Equally, items that were found to be redundant were removed while those that were missing were added.

3.8 Ethical Considerations

The authority to access the research site was obtained from the district's commissioner. The Kenya Police Service Headquarters granted the permission to interview police officers in the district and consult police records. The District's Police Commander was also notified.

Respondents' consent was obtained before they completed the questionnaires or participated in the semi-structured interviews. Anonymity and confidentiality was maintained throughout the study. Respondents' names or any identifying information was not included in the questionnaires or interview schedule forms. The forms were only numbered after they were filled. Respondents were also informed that the information they provided was not to be publicly reported or published in any way that may identify them.

3.9 Data Analysis

Data generated from the study was both qualitative and quantitative. Quantitative data was first cleaned and coded then analyzed using descriptive statistics. The computer spreadsheet program (ms-excel) was used to prepare and process the data which was then presented in tables and charts. On the other hand, qualitative data was analyzed along themes to create quantifiable characteristics and categories. Patton (as cited by Babbie, 2005) notes that three things occur during analysis of qualitative data: data are organized; reduced through summarization and categorization; and patterns and themes in the data are identified and linked.

3.10 Problems Encountered in the Field

Due to the bureaucratic procedures in government institutions, there was a delay in getting the authority to access the study area. In addition, although many *boda boda* operators were willing to participate in the study, some did not understand why few of their colleagues were issued with questionnaires. In that respect, the researcher had to explain to them the rationale for sampling in the study. In other localities, however, particularly where most riders did not know the researcher, there was reluctance by some riders to participate in the study. The researcher therefore asked the local administrators, chiefs and their assistants, to introduce

him to the motorcycle taxi operators to gain their cooperation. Further, some riders with low education qualifications had difficulties in understanding some questionnaire items and they had to seek assistance from their colleagues and the researcher. Moreover, some respondents delayed in returning the questionnaires and the researcher had to make consistent follow-ups.

CHAPTER FOUR: DATA ANALYSIS, INTERPRETATION AND PRESENTATION

4.1 Introduction

This chapter presents the results of data analysis and interpretations of the findings of the study. Data was collected from police officers, motorcycle taxi operators, motorcycle riders who had fallen victim to motorcycle theft in the district, and key informants comprising of police managers and representative of motorcycle insurers in the district.

4.2 Questionnaire Response Rate

The researcher administered 136 questionnaires to the study respondents, 22 and 114 questionnaires to police officers and motorcycle taxi operators respectively. As summarized in Table 4.1, all the 22 questionnaires administered to the police officers were fully completed and returned – a response rate of 100 percent. On the other hand, 103 questionnaires administered to the motorcycle taxi operators were returned. Of these 103 questionnaires, eight were incomplete and were therefore discarded during data analysis. The response rate for motorcycle taxi operators was therefore 83 percent. The overall questionnaire response rate was 86 percent. Mugenda and Mugenda (2003, p. 83) state that a response rate of 70 percent and above is very good and sufficient for analysis. The response rate was therefore adequate for the study.

Table 4.1: Questionnaire response rate

Group	Number administered	Number returned	Number used in analysis	Response rate (%)
Police Officers	22	22	22	100.0
Motorcycle Taxi Operators	114	103	95	83.3
Total	136	125	117	86.0

Source: Survey data, 2013.

4.3 Demographic Characteristics of the Respondents

This section provides demographic information of the respondents in terms of their age distribution, marital status, and highest level of education.

4.3.1 Age distribution of respondents

Table 4.2 summarizes the age distribution of the respondents. The data shows that a large proportion (36%) of police officers was between the ages of 31-37 years. Nearly half (46%) of motorcycle taxi operators were between the ages of 24-30 years. However, their numbers appear to decrease with age implying that *boda boda* operations require young energetic individuals due to the hustles involved. Notably, more than half (59%) of motorcycle riders that had fallen victim to motorcycle theft in the district were below 30 years, implying that there is a strong relationship between rider's age and motorcycle theft victimization. This relationship shows that as a rider becomes older, more than 30 years of age, their chances of motorcycle theft victimization decrease. These results are consistent with victimization surveys' findings (Haralambos and Holborn, 2008; Williams, 2001) that there is a strong correlation between age and victimization; younger people, less than 30 years old, often fall victim to crime than old people.

Table 4.2: Age distribution of respondents

Age bracket	Police officers	Motorcycle taxi operators	Victim riders	Total
18-23 years	1 (4.5%)	11 (11.6%)	3 (23.5%)	15 (11.2%)
24-30 years	4 (18.2%)	44 (46.3%)	7 (52.9%)	55 (41.0%)
31-37 years	8 (36.4%)	19 (20.0%)	4 (17.7%)	31 (23.1%)
38-44 years	7 (31.8%)	13 (13.7%)	3 (5.9%)	23 (17.2%)
45 years and above	2 (9.1%)	8 (8.4%)	0 (0%)	10 (7.5%)
Total	22	95	17	134

Source: Survey data, 2013

4.3.2 Marital status of respondents

Respondents were asked to provide data on their marital status. While a large proportion (71%) of motorcycle taxi operators were married, nearly half (41%) of motorcycle riders who had fallen victim to motorcycle theft in the district were single. This suggests that unmarried riders are more prone to motorcycle theft than married ones possibly because they may be leading dangerous lifestyles such as operating motorcycle taxi business late at night and spending a great deal of time in risky places such as bars when with their motorcycles. Conversely, married motorcycle taxi operators may be closing business early in order to have time with their family. Table 4.3 summarizes the information on marital status of the respondents.

Table 4.3: Respondents' marital status

Marital status	Police officers	Motorcycle taxi riders	Victim riders	Total
Single	4 (18.2%)	26 (27.3%)	7 (41.2%)	37 (27.6%)
Married	17 (77.3%)	67 (70.5%)	9 (52.9%)	93 (69.4%)
Divorced/Separated	1 (4.5%)	1 (1.1%)	1 (5.9%)	3 (2.2%)
Widowed	0 (0%)	1 (1.1%)	0 (0%)	1 (0.8%)
Total	22	95	17	134

Source: Survey data, 2013

4.3.3 Respondents' level of education

As presented in Table 4.4, the majority (77%) of police officers had secondary education whereas 18 percent and 5 percent had college and university education respectively. A large proportion of motorcycle taxi operators (60%) and motorcycle riders who had fallen victim to motorcycle theft in the district (71%) had primary education. A very small number (2%) of motorcycle taxi operators had received college education compared to 18 percent of police officers. While five percent of police officer had university education, none of the motorcycle taxi operators and motorcycle riders who were victim to motorcycle theft in the district had university education. This indicates that the *boda boda* business is highly patronized by riders with low education qualification (primary education) as operating motorcycles requires less knowledge.

Table 4.4: Education level of respondents

Education level	Police officers	Motorcycle taxi operators	Victim riders	Total
Primary	0 (0%)	57 (60.0%)	12 (70.6%)	69 (51.5%)
Secondary	17 (77.3%)	36 (37.9%)	5 (29.4%)	58 (43.3%)
College	4 (18.2%)	2 (2.1%)	0 (0%)	6 (4.5%)
University	1 (4.5%)	0 (0%)	0 (0%)	1 (0.7%)
Total	22	95	17	134

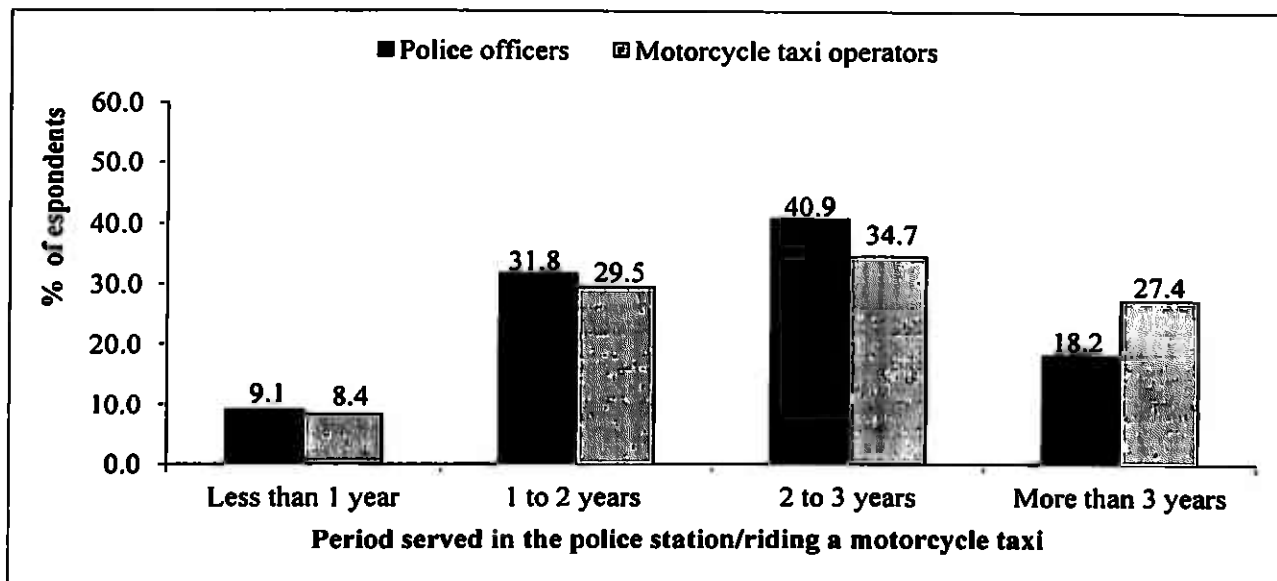
Source: Survey data, 2013

The data presented in Table 4.4 also suggests that there is a negative association between motorcycle theft and education level of the rider; as a rider becomes more educated his chances of victimization to motorcycle theft decreases. A possible explanation may be that *boda boda* operators with lower educational qualifications are not conversant with the various motorcycle theft prevention strategies that are available in brochures and other publications provided by the police and motorcycle insurers. Another possible explanation may be that motorcycle thieves easily manipulate *boda boda* operators with low educational qualifications.

4.3.4 Period respondents had served in the police station/operating a motorcycle taxi

Data presented in Figure 4.1 shows that the majority of police officers (59%) had served in the district for more than two years whereas 62 percent of motorcycle taxi operators had operated a motorcycle taxi for the same period. This period indicates that the majority of the respondents had witnessed motorcycle theft incidences in the district and they were therefore conversant with its patterns over the three years period.

Figure 4.1: Period served in the police station/operating a motorcycle taxi



Source: Survey data, 2013

4.4 Magnitude of Motorcycle Theft in the District

To establish the magnitude of motorcycle theft in the district, respondents (motorcycle taxi operators and police officers) were asked to rate the frequency at which motorcycles were stolen in their areas/jurisdictions and to report on the approximate number of motorcycles stolen in their areas/jurisdictions in the past three years and in the month of May, 2013. They were also asked to rate the occurrence of motorcycle theft in their areas/jurisdictions in the past three years and provide comparisons on the magnitude of motorcycle theft with that of other vehicles over the same period. The data obtained is presented in the following subsections.

4.4.1 Rate at which motorcycles were stolen in the district

As detailed in Table 4.5, half (50%) of both police officers and motorcycle taxi operators reported that motorcycles were often stolen in their jurisdictions/localities. Ten (10) percent of motorcycle taxi operators reported that motorcycles were very often stolen in their areas,

whereas a very small number (3%) indicated that motorcycles were not stolen at all in their localities. Consistent with inter-state comparison of motorcycle thefts in the United States (NICB, 2008, 2012), the responses suggest that motorcycle theft incidences were unevenly distributed across all parts of the district but were more prevalent in some parts than in others. In general, however, motorcycles were often stolen in the district.

Table 4.5: Frequency at which motorcycles were stolen in respondents' areas

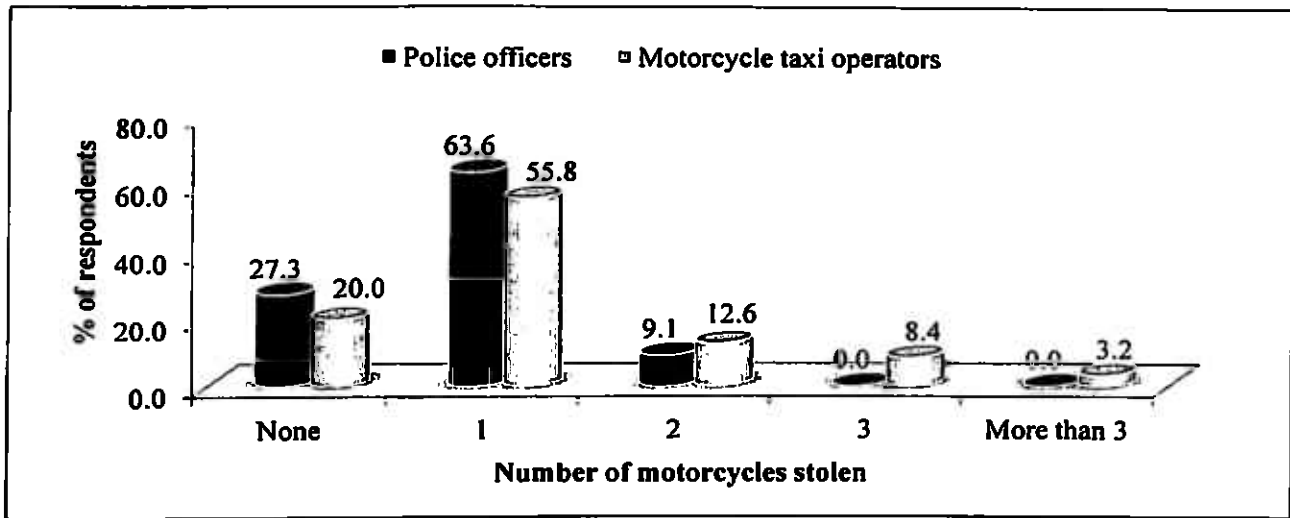
Response	Police officers		Motorcycle taxi operators	
	Frequency	Percentage	Frequency	Percentage
Very often	1	4.5	9	9.5
Often	11	50.0	47	49.5
Rarely	10	45.5	36	37.9
Not at all	0	0.0	3	3.2
Total	22	100.0	95	100.0

Source: Survey data, 2013

4.4.2 Number of motorcycles stolen in the district in the month of May, 2013

To determine the prevalence of motorcycle theft in the district at the time of conducting the study, respondents were asked to report on the number of motorcycles stolen in their localities/jurisdictions in the month of May 2013. As presented in Figure 4.2, the majority of the respondents (68% of police officers and 56% of motorcycle taxi operators) reported that one motorcycle was stolen in their jurisdiction/localities in the month of May 2013. Police managers interviewed said that one incident of motorcycle theft was reported to the police in the month of May 2013. This indicates that the crime was prevalent in the district at the time of conducting the study.

Figure 4.2: Number of motorcycles stolen in respondents' areas in the month of May 2013



Source: Survey data, 2013

4.4.3 Number of motorcycles stolen in the district in the past three years

A large proportion (42%) of motorcycle taxi operators reported that between 6-10 motorcycles were stolen in their localities in the past three years while the majority (41%) of police officers reported that more than 20 motorcycles were stolen in their jurisdictions over the same period. Police managers interviewed reported that more than 50 motorcycles were stolen in the district over the same period. This implies that at least 15 motorcycles were stolen in the district every year. Table 4.6 reports on the number of motorcycles that were stolen in respondents' areas/jurisdictions in the past three years.

Table 4.6: Number of motorcycles stolen in respondents' areas in the past three years

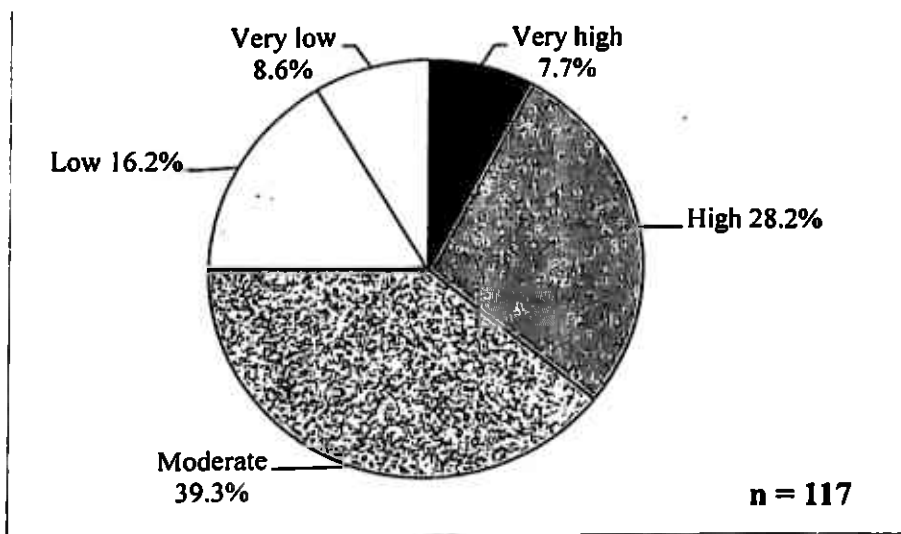
No. of motorcycles stolen	Police officers	Motorcycle taxi operators
None	0 (0%)	5 (5.3%)
1-5	1 (4.5%)	18 (18.9%)
6-10	2 (9.1%)	40 (42.1%)
11-15	4 (18.2%)	13 (13.7%)
16-20	5 (22.7%)	10 (10.5%)
More than 20	9 (40.9%)	7 (7.4%)
Can't tell	1 (4.5%)	2 (2.1%)
Total	22	95

Source: Survey data, 2013

4.4.4 Rate of occurrence of motorcycle theft in the district over the past three years

Respondents (police officers and motorcycle taxi operators) were asked to rate the occurrence of motorcycle theft in their localities/jurisdictions in the past three years. As displayed in Figure 4.3, a significant proportion (39%) of the respondents reported that it was moderate while a small number (8%) reported that it was very high. Police managers interviewed also said that the rate of motorcycle theft in the district between the year 2010 and 2013 was not alarming but moderate.

Figure 4.3: Rate of occurrence of motorcycle theft in the district over the past three years

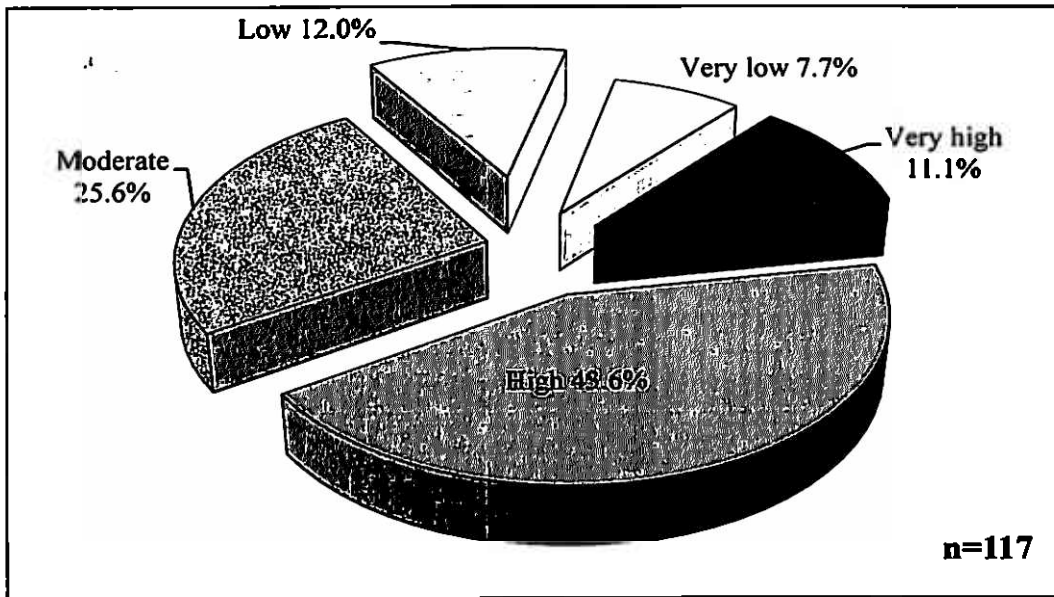


Source: Survey data, 2013

4.4.5 Magnitude of motorcycle theft when compared with that of other vehicles in the district

Theft of motorcycles was extensive in the district when compared to that of other vehicles. Nearly half (44%) of the respondents reported that the magnitude of motorcycle theft was high in their localities/jurisdictions when compared to that of other vehicles whereas a small number (8%) reported that it was very high. The reason cited by respondents who indicated that the crime was high is that they did not witness any car theft or other vehicles thefts in their areas/jurisdictions in the past three years. According to police managers interviewed, only one incident of car theft was reported in the district in the past three years whereas there were more than 50 incidences of motorcycle thefts during the same period. This indicates that motorcycles were the most stolen motor vehicle in the district. Figure 4.4 presents respondents' ratings on the magnitude of motorcycle theft when compared with that of other vehicles in their localities/jurisdictions.

Figure 4.4: Magnitude of motorcycle theft when compared to that of other vehicles



Source: Survey data, 2013

4.5 Theft Locations and Time

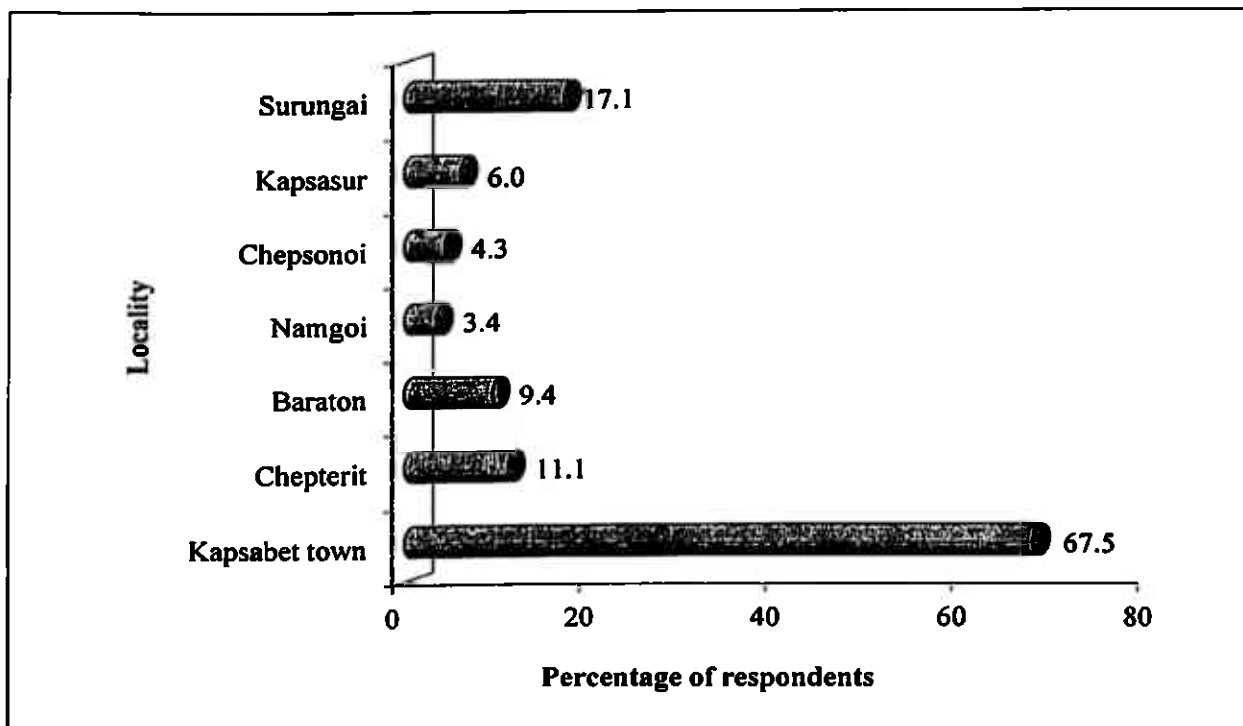
This section provides information on the locations/sites that experienced high incidences of motorcycle theft in the district. It also provides information on the time (month of the year, day of the week and time of the day) when most thefts were perpetrated in the district.

4.5.1 Localities within Nandi Central District where motorcycles were stolen

Sixty-eight percent of the respondents reported that most motorcycle thefts in the district occurred at Kapsabet town. They identified Whispering-flames, Water supply area (Kabutie) and Showground area as the major motorcycle theft hotspots in the town. Indeed, 30 percent of *boda boda* operators who had fallen victim to theft of motorcycles in the district reported to have lost their motorcycles to thieves in these sites. As suggested by rational choice theory (Clarke and Cornish, 1986) that offenders carefully chose the site for their crime, most (76%) respondents who elaborated their responses stated that these areas were bushy, poorly lit and less habited suggesting that they were good hideouts for thieves.

Surungai area was the second most favored location for perpetrating motorcycle theft in the district with 14 percent of the victims claiming that their motorcycles were violently stolen in the area. Respondents who explained their responses stated that the area had few residential houses and a junction branching into four directions suggesting that it offers a number of alternative escape routes to thieves. Respondents also stated that the area had a rough road section that forced motorcyclists to slow down when crossing it. Figure 4.5 shows the areas/localities within the district where many motorcycles were stolen according to the respondents.

Figure 4.5: Localities within Nandi Central District where motorcycles were stolen



Source: Survey data, 2013

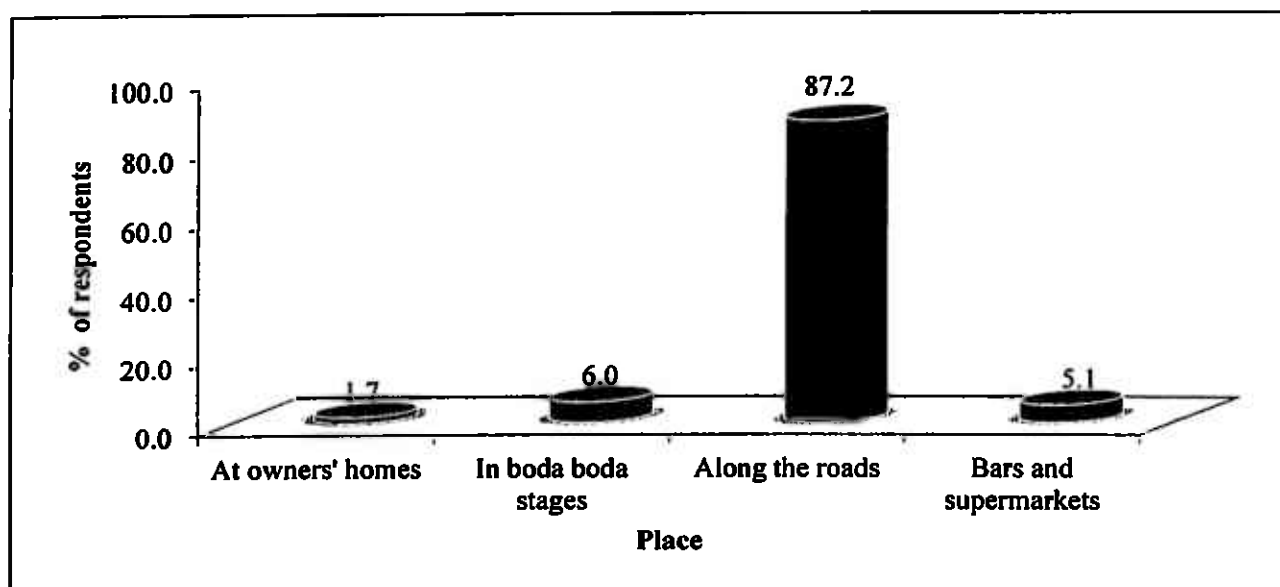
An analysis of Municipal and County Council records revealed that over 40 percent of registered motorcycle taxis in the district were within Kapsabet town and Surungai area (Nandi Central District Municipal and County Council Records, 2013). The data therefore

supports Van Dijk, et al. (2007) findings that high motorcycle registration is positively associated with high theft rates.

4.5.2 Sites where most motorcycles were stolen in the district

In respect to the sites where most motorcycle thefts occurred, patterns identified in the study differed from those found elsewhere (Carole Nash, 2011; Naudé et al., 2006). As reported in Figure 4.6, the vast majority of respondents (87%) indicated that most thefts occurred along the roads; six (6) percent reported that the thefts were mostly perpetrated in *boda boda* stages; five percent stated that they mostly occurred in bars and supermarkets; and two (2) percent indicated the thefts were mostly perpetrated at owners' homes. Seventy-one percent of the victims said that their motorcycles were stolen by force along the roads. This means that motorcycle thieves preferred to steal motorcycles from *boda boda* operators along the roads when the targeted rider was physically distant from guardianship of fellow riders as well as people on the road.

Figure 4.6: Sites where most motorcycles were stolen in the district

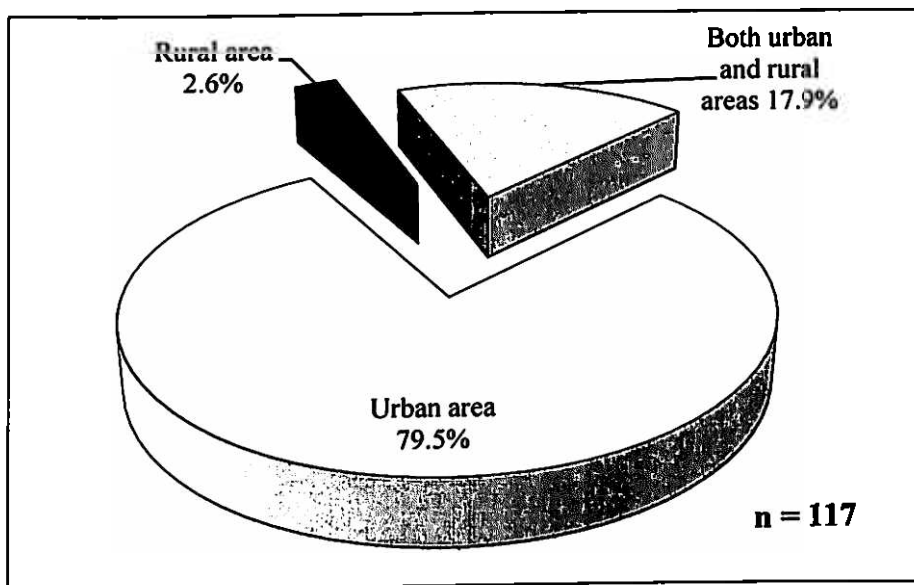


Source: Survey data, 2013

4.5.3 Area experiencing most motorcycle thefts in the district

Consistent with findings of European and African victimization surveys (Naudé et al., 2006; van Dijk, et al., 2007), the vast majority (80%) of respondents reported that motorcycle thefts were high in urban areas than in rural areas. As predicted by crime pattern theory (Bratingnham and Brantigham, 1993), heterogeneous population and urban congestion of people as well as the presence of motorcycles of the same make and color were identified by respondents as features of urban areas that made them ideal locations for motorcycle thefts in the district. Figure 4.7 shows the area where most motorcycle thefts occurred in the district according to respondents.

Figure 4.7: Area where most motorcycles were stolen in the district



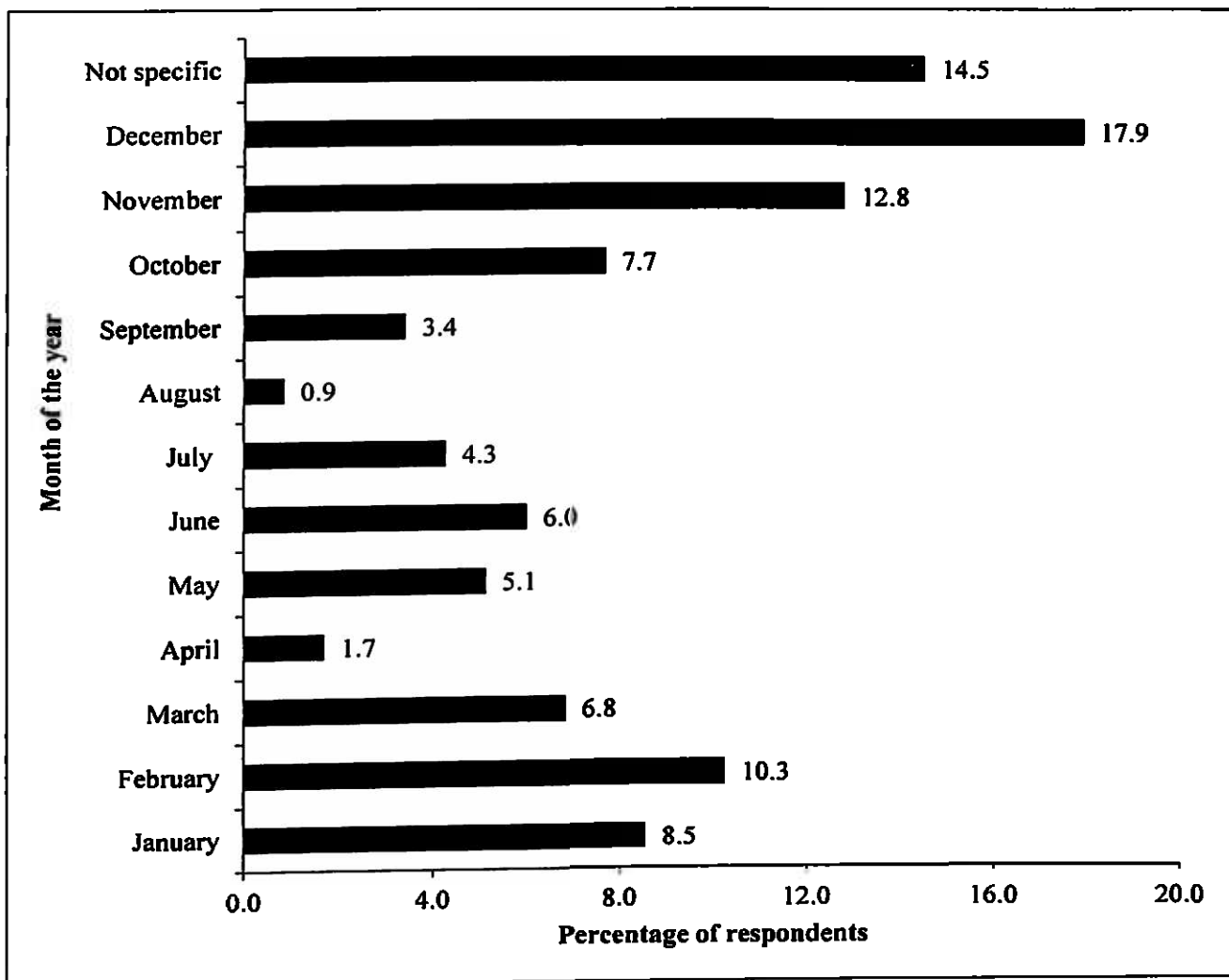
Source: Survey data, 2013

4.5.4 Month of the year when most thefts occurred

Consistent with motorcycle theft patterns identified in the US (NICB, 2010; Lojack, 2008), motorcycle theft in the district appeared to be a seasonal crime; the crime was high during the dry months of January, February and March, and during the harvesting and festive season in

the months of October, November and December. Respondents who indicated that the crime was high during the dry months stated that many youths lacked job opportunities in the farms during this period, thus forcing some of them to engage in the crime to get easy cash. On the other hand, police managers interviewed and 38 percent of *boda boda* operators explained that the crime was high during the months of October, November and December because many people flock and stay late in towns to make purchases and drink in bars upon receiving tea bonuses and selling maize harvests. Forty-seven percent of interviewed motorcycle riders who had fallen victim to theft of motorcycles in the district said that their motorcycles were stolen during the months of October, November and December, whereas 29 percent had their motorcycle stolen during the months of January, February and March. Respondents reported low thefts between the months of April and September possibly because heavy rains that normally fall during this period in the district renders many roads muddy and slippery and thus dampen motorcycle use. Figure 4.8 displays the months of the year with most motorcycle thefts in the district as identified by respondents.

Figure 4.8: Month of the year when motorcycle thefts were perpetrated

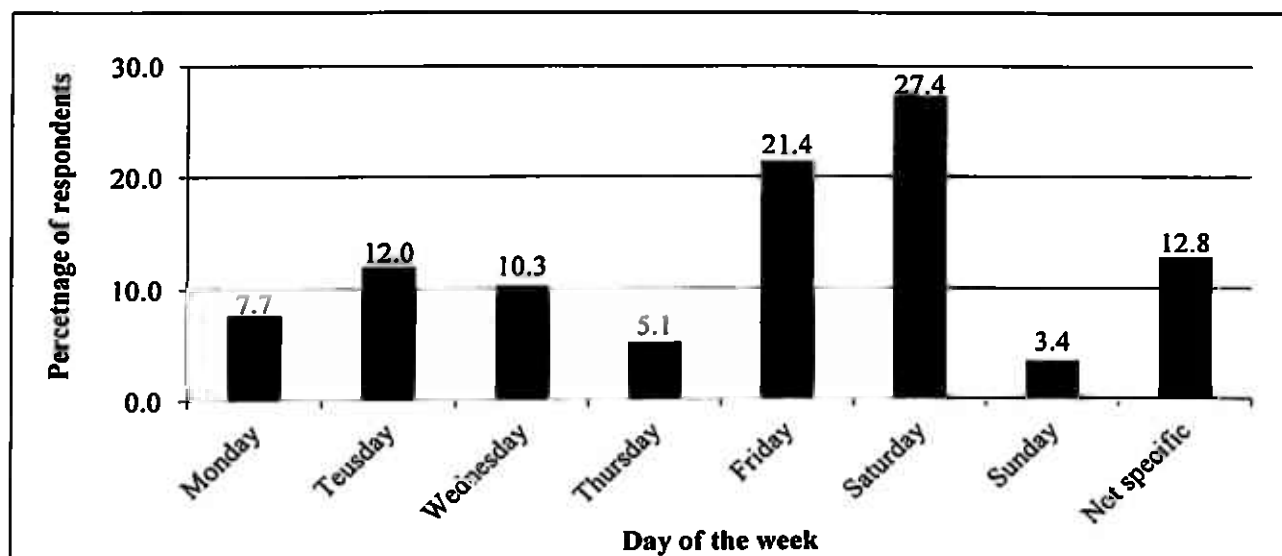


Source: Survey data, 2013

4.5.5 Day of the week when most motorcycle thefts occurred

Although a substantial number (13%) of respondents indicated that motorcycle thefts in their localities/jurisdictions did not cluster on a specific day of the week, data presented in Figure 4.9 shows that the crime was high on Fridays and Saturdays. According to police managers interviewed, many people frequented and stayed late in entertainment places in towns during the weekends, thus attracting *boda boda* operators to operate at dangerous hours. This implies that motorcycle thieves exploited the opportunity presented to steal motorcycles.

Figure 4.9: Day of the week when motorcycle thefts were perpetrated



Source: Survey data, 2013

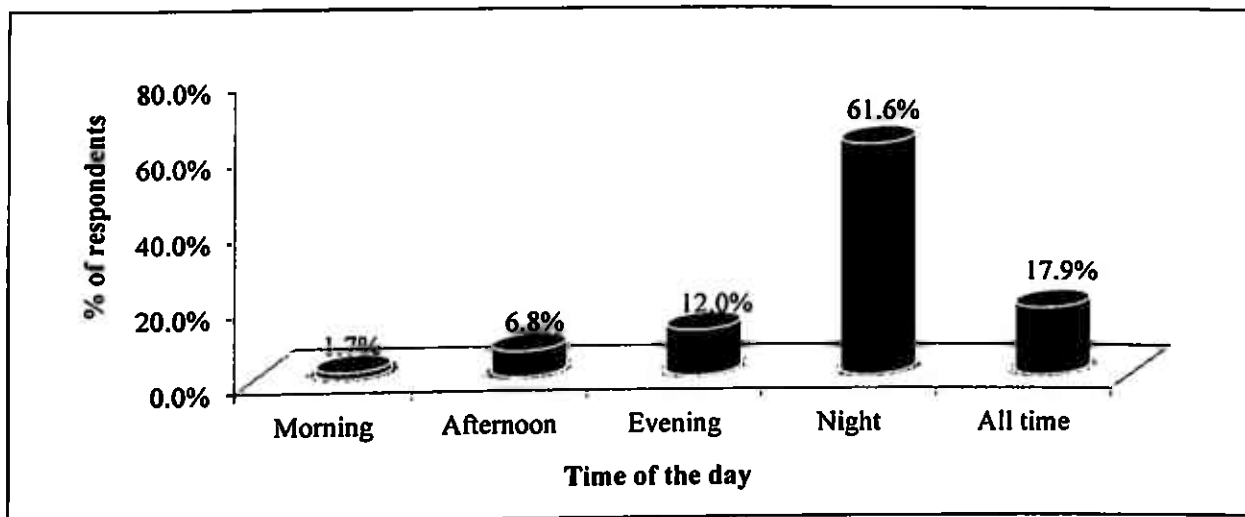
Besides the weekends, respondents identified market days in their respective localities as days with most motorcycle thefts. Thus, there were few thefts on Thursdays and Sundays because these days were not market days in many parts of the district. Consistent with crime pattern theory (Brantingham and Brantingham, 1993), motorcycle thefts may be high during market days because many people, who least know each other, are transported on motorcycles to and from the market with thieves exploiting such opportunities to disguise themselves as passengers in order to violently steal motorcycles from *boda boda* operators on the way.

4.5.6 Time of the day when most motorcycle thefts occurred

With regard to the time of the day when most thefts occurred, a large proportion (62%) of respondents indicated that the thefts were perpetrated at night. Respondents who elaborated on their responses stated that most thefts occurred at night because darkness provided cover to the thieves to evade identification by their victims and that many people do not respond to

alarm at night. Police managers interviewed stated that most motorcycle thefts in the district were perpetrated between 8.30 p.m. and 11 p.m. Figure 4.10 shows the time of the day when most thefts were perpetrated in the district according to the respondents.

Figure 4.10: Time of the day when motorcycle thefts were perpetrated



Source: Survey data, 2013

An analysis of victims' responses further indicated that 71 percent of the victims lost their motorcycles to thieves between 8 p.m. and 10.30 p.m.; 23 percent between 4 p.m. and 7.30 p.m.; and 6 percent between 1 p.m. and 3 p.m. None of the victims reported theft of their motorcycles during morning hours. The data suggests that motorcycle thieves elected to steal motorcycles under the cover of darkness when they could least be spotted and identified and when there were no persons to respond to the victims' distress call. The findings resemble those identified in China and Australia (Hedayati, 2008; Xu, 2009).

4.6 Methods Used by Thieves to Steal Motorcycles

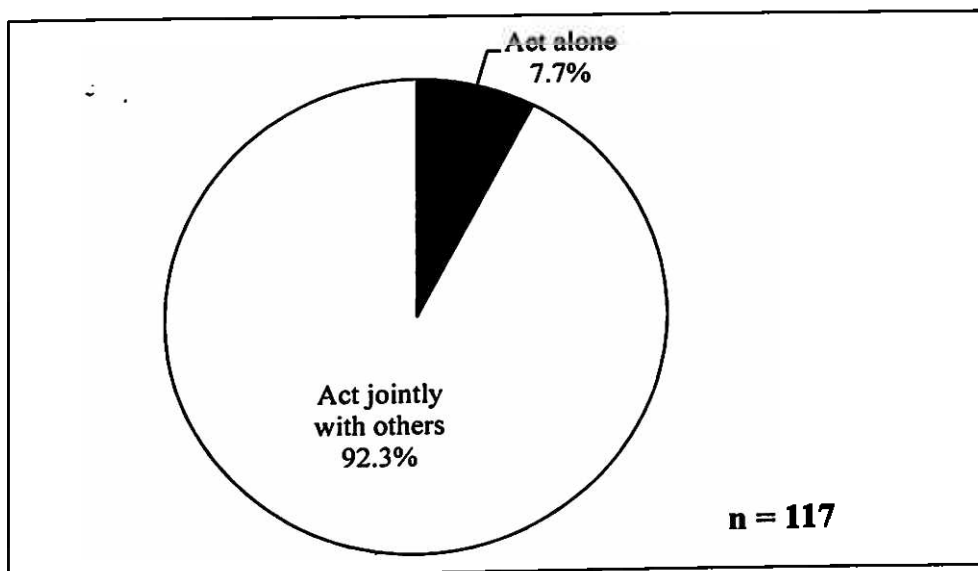
This section presents study results in respect to the methods employed by thieves to steal motorcycles in the district. Apart from asking the respondents to identify these methods, they

were first asked to provide insights on the organization of the thieves (whether they acted alone or jointly with others) and identity in respect to their relationship with their targets/victims. The results were as follows:

4.6.1 Organization of motorcycle thieves

As displayed in Figure 4.11, the largest proportion (92%) of respondents indicated that motorcycle thieves in the district acted jointly with others to execute the crime while a smaller proportion (8%) indicated that the thieves mostly acted alone. This suggests that a concerted effort among thieves was required in planning and executing the thefts; probably swift effort was required to overpower a motorcycle taxi rider and steal the motorcycle. Thus, offenders who acted alone may have been opportunists who steal unprotected motorcycles such as those left unattended and unlocked.

Figure 4.11: Percentage reporting whether a motorcycle thief acts alone or jointly with others



Source: Survey data, 2013

4.6.2 Relationship between motorcycle thieves and their victims

The majority of respondents (77% of police officers and 71% of motorcycle taxi operators) indicated that most motorcycle thieves were strangers to their victims. As predicted by rational choice theory (Clarke and Cornish, 1986) and crime pattern theory (Brantingham and Brantingham, 1993), the data presented in Table 4.7 suggests that motorcycle thieves preferred to steal motorcycles in areas where they were least known to avoid identification by their victims.

Table 4.7: Relationship between motorcycle thieves and their victims

Response	Police officers		Motorcycle taxi operators	
	Frequency	%	Frequency	%
A stranger	17	77.3	67	70.5
Friend/fellow rider	4	18.2	20	21.1
Don't know	1	4.5	8	8.4
Total	22	100.0	95	100.0

Source: Survey data, 2013

4.6.3 Perpetrator techniques

According to the vast majority of respondents (100% of police officers and 99% of motorcycle operators), a combination of tricks and violence was the most prevalent method used by thieves to steal motorcycles in the district. Respondents stated that thieves who employed the method often posed as passengers, requesting to be taken to a particular destination, but on the way threatened or used weapons (often machetes or metal bars) to violently steal motorcycles from targeted *boda boda* operators. Others opined that some thieves also posed as passengers and offered attractive payment to a *boda boda* operator requesting to be taken to a pre-arranged destination where accomplices waited to rob of the

rider his/her motorcycle. Sixty-five percent of the victims interviewed attested that their motorcycles were stolen through this method. Twenty-four percent of these interviewed victims had scars and wounds sustained from weapons thieves used against them at the time of the theft.

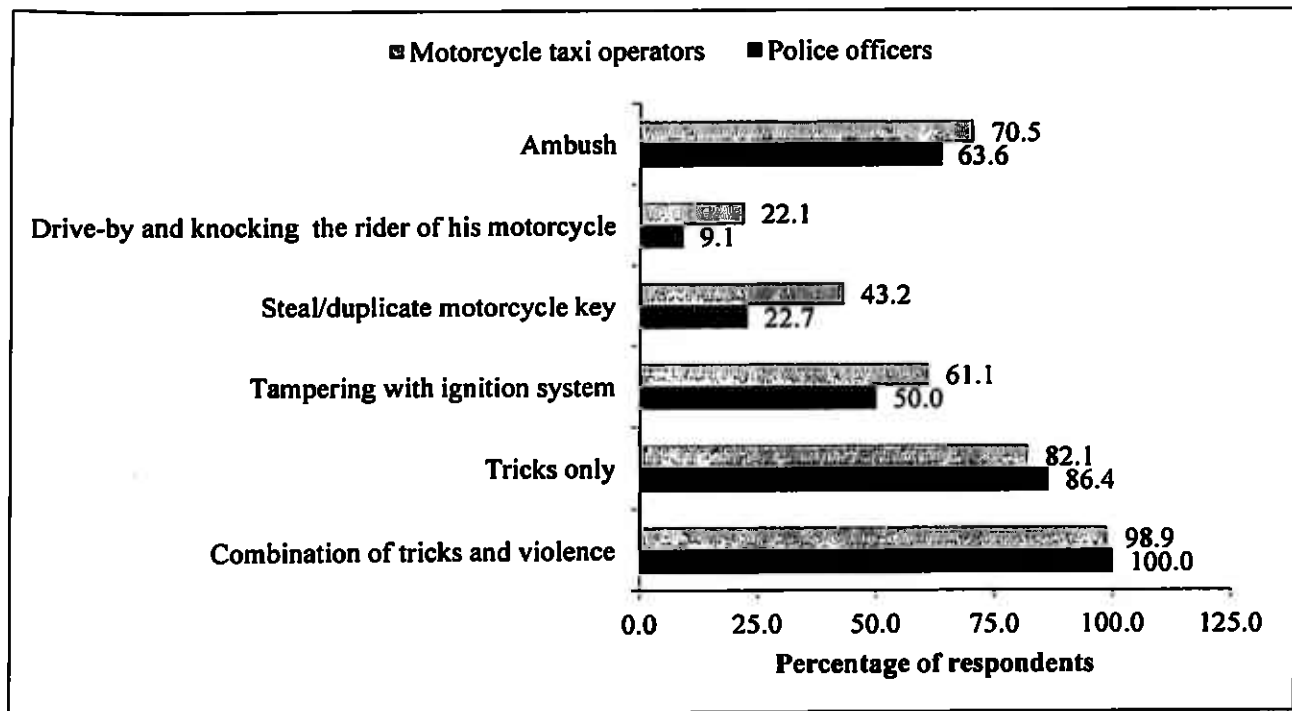
Another method identified by a large proportion of respondents (84% of police officers and 82% of motorcycle taxi riders) was tricks only. Respondents stated that thieves who used the method often posed as passengers and on the way they asked their victim to run them errands (e.g. to deliver a parcel/luggage or purchase airtime), but with the rider leaving the motorcycle with them, and when the rider had dismounted or away attending the errand, the thief rode-off with the motorcycle. Other forms of tricks identified by respondents included the thieves offering their victims spiked drinks or much alcohol and when the victim was unconscious or intoxicated the thief rides- off with the motorcycle. Further, 15 percent of motorcycle taxi operators reported that some thieves posed as police officers on inspection and 'impounded' motorcycles of riders without licenses.

Ambush was yet another method preferred by motorcycle thieves. Sixty-four percent of police officers and 71 percent of motorcycle taxi operators reported that thieves often laid in wait in a bushy or rough section of the road, mostly at night, just to bounce on the victim when he/she was approaching or crossing the site. Twelve percent of the victims interviewed said that their motorcycles were stolen using this method.

Besides the above methods, 61 percent of police officers and 50 percent of motorcycle taxi riders noted that tampering with ignition system (breaking the lock, hot-wring) was another method commonly used to steal motorcycles in the district. Twenty-two percent of police officers and 43 percent of motorcycle taxi operators further identified the use of master,

stolen and/or duplicate keys as other methods used to steal motorcycles. The least method described by a small number of respondents (22% of motorcycle taxi operators and 9% of police officers) was that some thieves drove-by in vans or pick-ups, knocked the rider off their motorcycles and drove away after loading the motorcycle to their vehicle. Police managers interviewed noted that the police classified most reported motorcycle theft incidences as robberies because of the violence or threats used. Such recording suggests that motorcycle theft data provided by the police do not adequately report on the crime. Figure 4.12 summarizes the methods thieves used to steal motorcycles in the district.

Figure 4.12: Methods used by thieves to steal motorcycles in the district



Source: Survey data, 2013

4.7 Challenges in Combating Motorcycle Theft in the District

This section presents the challenges identified by respondents towards combating motorcycle theft in their areas/jurisdictions.

4.7.1 Rate at which incidences of motorcycle theft were reported to the police

Consistent with the findings of other studies carried elsewhere (Carole Nash, 2011; Harrendorf, et al., 2010; Naudé et al., 2006; van Dijk, et al., 2007), incidences of motorcycle theft in the district were highly reported. The largest proportion of respondents (86% of police officers and 91% of motorcycle taxi operators) indicated that motorcycle theft incidences were always reported when they occurred in their areas/jurisdictions. In fact, the reporting rate for motorcycle theft in the district was slightly higher than the national reporting rate of 78 percent (UNODC, 2010) and concurs with police reports that most crime incidences reported in the country concern property because of the value involved (Kenya Police, 2008, 2010). The high rate of reporting could also be attributed to the fact that most motorcycle thefts in the district were violently executed and that police reporting is a requirement for insurance compensation. Despite the high reporting rates, a very small number (6%) of victims interviewed said that they did not report the theft of their motorcycle since they did not have purchase receipts and logbooks. Table 4.8 presents respondents' responses on the rate at which motorcycle thefts were reported to the police when they occurred in the district.

Table 4.8: Frequency at which incidences of motorcycle thefts were reported to the police

Response	Police officers		Motorcycle taxi operators	
	Frequency	%	Frequency	%
Always	19	86.4	76	90.5
Rarely	3	13.6	19	9.5
Not at all	0	0	0	0
Total	22	100.0	95	100.0

Source: Survey data, 2013

4.7.2 Rate at which suspected motorcycle thieves were arrested

The majority of respondents (59% of police officers and 57% of *boda boda* operators) responded that the police in the district rarely arrested motorcycle thieves. This could be because victims rarely identified the thieves since the thefts were mostly executed by strangers and under the cover of darkness. However, a small proportion (18%) of motorcycle taxi riders stated that the police did not arrest motorcycle thieves at all because they were accomplices. Police managers interviewed said that many victims delayed in reporting the crime, thus hindering effective pursuit and arrest of motorcycle thieves. The results echo Hagan’s (2011) assertion that arrest rates for MVTs are low. Table 4.9 shows the frequency at which the police arrested motorcycles in the district according to the respondents.

Table 4.9: Rate at which the police in the district arrested motorcycle thieves

Response	Police officers		Motorcycle taxi operators	
	Frequency	%	Frequency	%
Always	9	40.9	24	25.3
Rarely	13	59.1	54	56.8
Not at all	0	0.0	17	17.9
Total	22	100.0	95	100.0

Source: Survey data, 2013

4.7.3 Rate at which suspected motorcycle thieves were charged

The majority (68%) of police officers and slightly less than half (38%) of motorcycle taxi operators indicated that motorcycle thieves were always charged for stealing motorcycles in the district. The disparity in the respondents’ responses could be because the police did not want to portray that they had reneged from their responsibility to charge arrested offenders of the crime. Nonetheless, 32 percent of police officers and 30 percent of motorcycle taxi

operators indicated that motorcycle thieves were rarely charged. Respondents averred that the police charged few arrested motorcycle thieves since most victims often applied to settle the cases outside court. On the other hand, motorcycle taxi operators blamed the police for asking bribes in order to prosecute the cases. This suggests that the police and motorcycle taxi operators in the district were not cooperating to combat the crime. In addition, 22 percent of motorcycle taxi riders indicated that they did not know if the police were charging arrested thieves for stealing motorcycles implying that they rarely made any follow-ups on the theft cases possibly because they took least interest in them. Table 4.10 reports the frequency at which the police charged motorcycles thieves in the district.

Table 4.10: Frequency at which suspected motorcycle thieves were charged

Response	Police officers		Motorcycle taxi operators	
	Frequency	%	Frequency	%
Always	15	68.2	36	37.9
Rarely	7	31.8	28	29.5
Not at all	0	0.0	10	10.5
Don't know	0	0.0	21	22.1
Total	22	100.0	95	100.0

Source: Survey data, 2013

4.7.4 Rate at which suspected motorcycle thieves were convicted

Similar to arrest rates, conviction rates for motorcycle theft in the district were low with a large proportion of police officers (55%) and 42 percent of motorcycle taxi operators reporting that the courts rarely convicted motorcycle thieves. In fact, police officers pointed out that many victims opted to settle the cases outside court rather than through a full trial because of the high cost and time spent in litigation. On the other hand, motorcycle taxi operators cited shoddy police investigations and corruption among police and judicial

officers as reasons for the rare convictions. Conversely, police managers interviewed blamed the riders for not volunteering as witnesses for the low convictions. A substantial number (19%) of motorcycle taxi operators stated that they did not know if motorcycle thieves were being convicted implying that they took less interest to establish the status of motorcycle theft cases. Twelve percent of the victims interviewed said that the thieves who stole their motorcycles were convicted of the crime. This implies that there was low conviction rate for motorcycle thieves in the district. Table 4.11 summarizes respondents' views on the rate at which motorcycle thieves were convicted in the district.

Table 4.11: Rate at which motorcycle thieves were convicted

Response	Police officers		Motorcycle taxi operators	
	Frequency	%	Frequency	%
Always	10	45.5	29	30.5
Rarely	12	54.5	41	42.1
Not at all	0	0.0	8	8.4
Don't know	0	0.0	18	18.9
Total	22	100.0	95	100.0⁷

Source: Survey data, 2013

4.7.5 Percentage of motorcycle taxi riders who could state the number plate and frame number of their motorcycles off-head

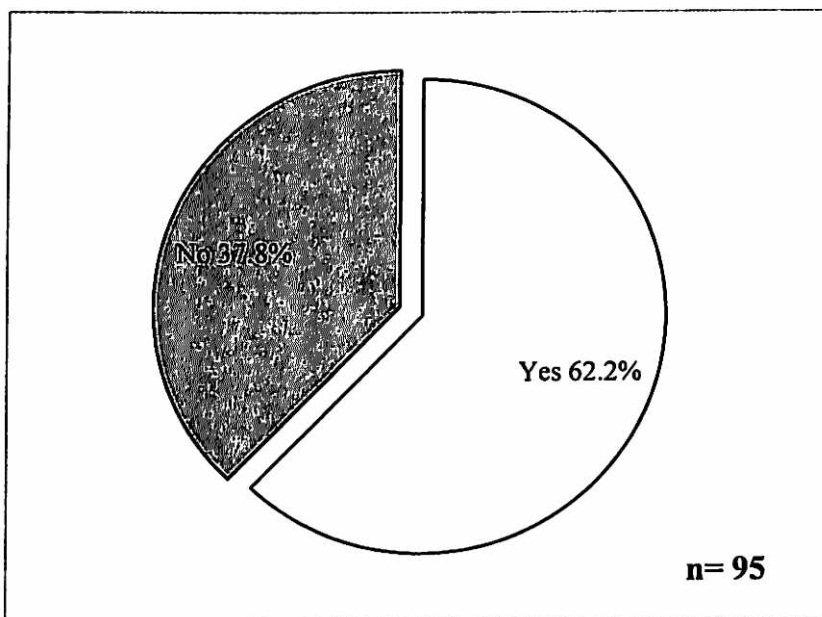
While more than half (62%) of motorcycle taxi operators indicated that they could state the number plate and the frame number of their motorcycles off-head, 38 percent stated that they could not unless they physically read the number plates and frame numbers. This implies that in the event of theft, they could not promptly report the incident to the police without

⁷ Sum less than 100 due to rounding error.

referring to purchase receipts or logbooks of their motorcycles, thus hindering effective investigation and arrest of the thief.

Apart from *boda boda* operators, interviewed motorcycle taxi operators who had fallen victim to motorcycle thefts in the district were also asked if they could recall the number plate and the frame number of their stolen motorcycles off-head. Like motorcycle operators, slightly less than half (47%) of the victims could not unless they referred to the purchase receipts or logbooks of their stolen motorcycles. This implies that they could not easily identify their stolen motorcycles if they came across them. Figure 4.13 shows the percentage of motorcycle taxi operators who reported that they could state the number plate and frame number of their motorcycle off-head and those who could not.

Figure 4.13: Percentage of motorcycle taxi operators who could state the number plate and frame number of their motorcycle off-head



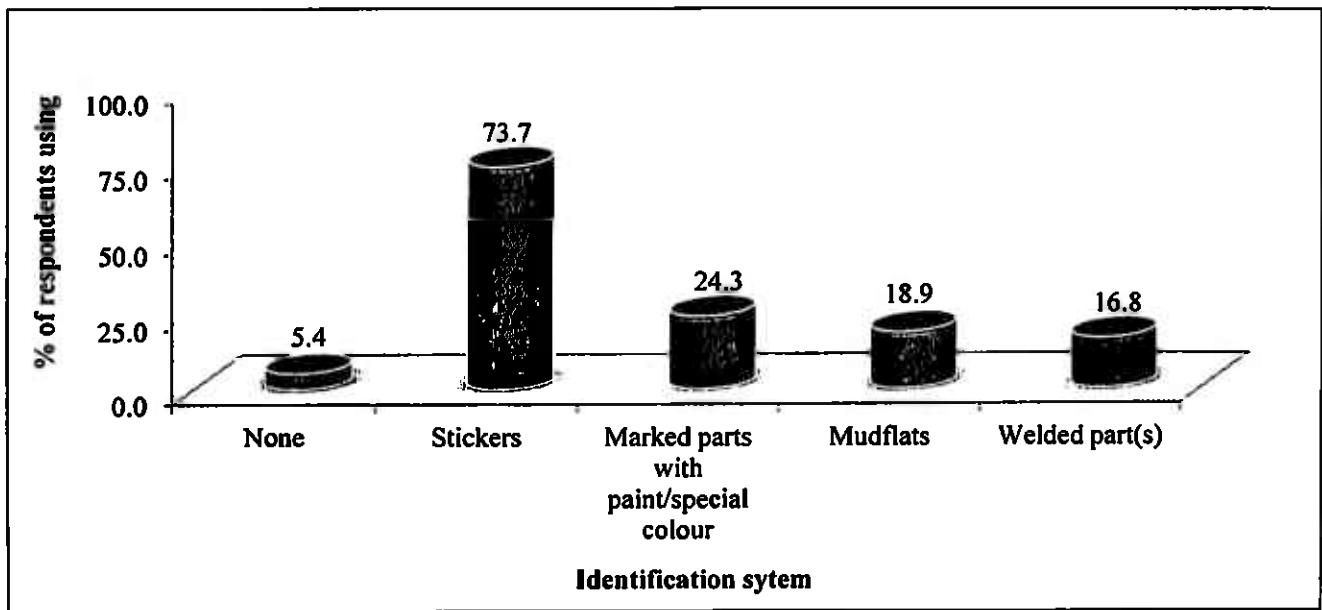
Source: Survey data, 2013

4.7.6 Other motorcycle identification systems used by motorcycle taxi riders

Besides the motorcycle number plate and frame number, motorcycle taxi operators and motorcycle taxi operators who had fallen victim to theft of motorcycles in the district were asked to indicate other identification systems they could use to identify their motorcycles. As shown in Figure 4.14, seventy-four percent of motorcycle taxi operators were using stickers; 24 percent had marked parts with paint or special colour; 19 percent had fitted unique mudflats; and 17 percent could identify their motorcycle using welded parts. Notably, thieves can easily remove or alter most of these identification systems meaning that many respondents, particularly those using stickers only, could not positively identify their motorcycles in case they were stolen and the identification mark/system altered. The most disadvantaged would be the 5 percent of respondents who indicated that they did not have any additional identification system/marks in their motorcycles.

Like motorcycle taxi operators, the majority (65%) of interviewed victims said that they had fitted stickers in their motorcycles at the time of theft. Forty-seven percent said that they had welded the frames of their motorcycles and 29 percent had fitted marked mudflats. A small number (6%) said that they had not fitted additional identification system/marks. This means that many victims, like many motorcycle taxi operators, could not be able to identify their stolen motorcycles when they come across them if the thieves have altered them. Figure 4.14 displays motorcycle identification systems used by the sampled motorcycle taxi operators.

Figure 4.14: Motorcycle identification systems used by motorcycle taxi riders

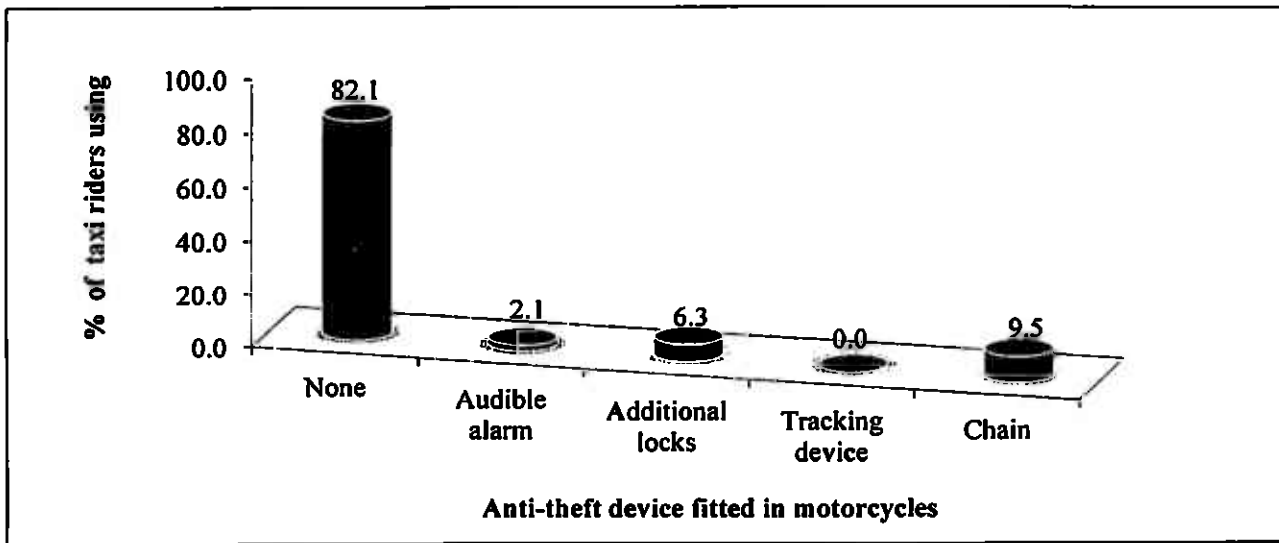


Source: Survey data, 2013

4.7.7 Anti-theft devices used by motorcycle taxi operators

The use of anti-theft devices by motorcycle taxi operators was very low. Most respondents (82%) had not secured their motorcycles using anti-theft devices. Ten percent indicated that they secured their motorcycles using a chain and 6 percent with additional locks. A very small proportion (2%) indicated that they were using an audible alarm whereas none of the respondents had fitted a tracking system. This means that most motorcycles used by the motorcycle taxi operators in the district were highly vulnerable to theft since thieves could steal them with little difficulty when left unattended and their chance of recovery was minimal. This was attested by 88 percent of interviewed victims who said that their unrecovered motorcycles were not fitted with any anti-theft device at the time of theft. Figure 4.15 displays the anti-theft devices used by the sampled motorcycle taxi operators.

Figure 4.15: Anti-theft devices used by motorcycle taxi operators



Source: Survey data, 2013

4.7.8 Frequency of police patrols

Police patrols were not evenly concentrated in all parts of the district. More than half (52%) of motorcycle taxi operators indicated that they saw at least once a day; 30 percent at least once a week; and 14 percent at least once in a month. Alarming enough is that 5 percent of the respondents reported that they had never seen police officers on duty in their areas. This indicate that police patrols did not extensively cover all parts of the district but confined to specific parts, probably in urban areas and along trunk roads. Motorcycle thieves may therefore concentrate their actions in areas with least police presence because their chance of detection and apprehension is minimal. Police managers interviewed confirmed that due to limited number of patrol vehicles and personnel, police in the district concentrated patrols in crime prone areas.

4.7.9 Frequency at which police flagged down motorcycle taxis for inspection

Although the majority (55%) of police officers reported that they often flagged down motorcycles for inspection, motorcycle taxi operators stated that police often stopped them to solicit for bribes only. This suggests that police inspections on roads may not effectively deter motorcycle theft as thieves could easily bribe police officers on roads and pass with stolen motorcycles. In addition, police managers interviewed said that many *boda boda* operators often evaded police roadblocks by branching into feeder roads implying that motorcycle thieves can also apply the same tactics to evade arrest at police roadblocks. Table 4.12 summarizes respondents' responses on the frequency at which police inspected motorcycle taxis in the district.

Table 4.12: Frequency at which police flagged down motorcycle taxis for inspection

Response	Police officers		Motorcycle taxi operators	
	Frequency	%	Frequency	%
Very often	8	36.4	9	9.5
Often	12	54.5	56	58.9
Rarely	2	9.1	30	31.6
Total	22	100.0	95	100.0

Source: Survey data, 2013

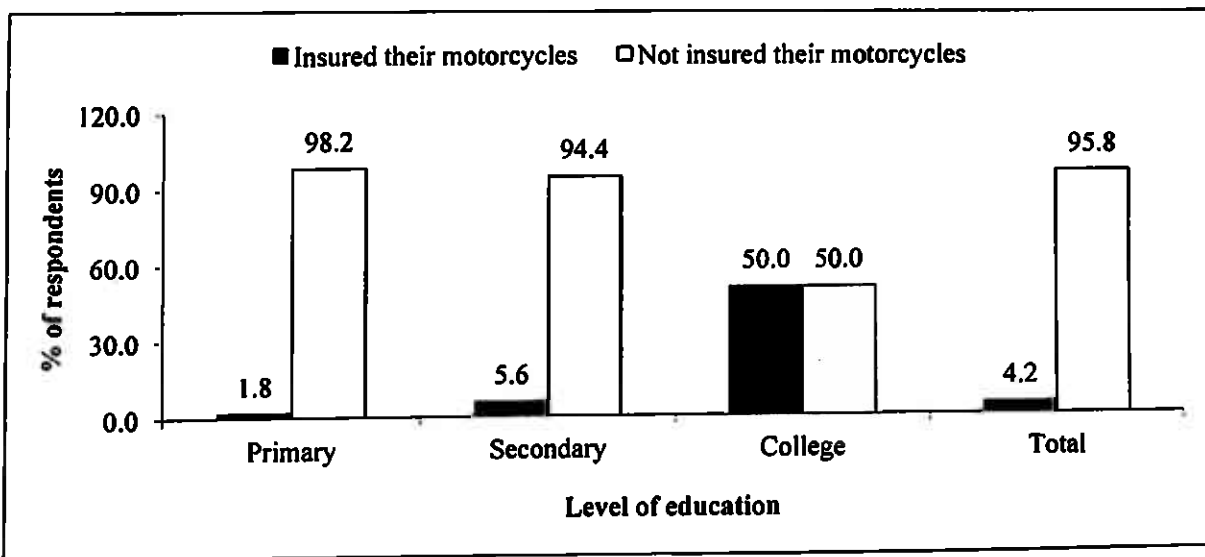
4.7.10 Frequency at which the police inspected premises for stolen motorcycles/parts

While more than half (55%) of police officers reported that they often inspected businesses/premises for stolen motorcycles and parts, a small number (27%) reported that they rarely carried out the inspections. This suggests that police inspections were inadequate to discourage trade in stolen motorcycles and parts in the district.

4.7.11 Insurance coverage by motorcycle taxi operators

Insurance coverage among motorcycle taxi operators was very low with an overwhelming majority (96%) indicating that they had not insured their motorcycles against theft. This means that in case of theft, most riders would independently bear the loss and/or be forced out of the *boda boda* business. None of the interviewed motorcycle taxi operators who had fallen victim to motorcycle theft in the district had insured their motorcycle at the time of theft. Figure 4.16 shows insurance coverage among motorcycle taxi operators according to their educational level.

Figure 4.16: Insurance coverage among motorcycle taxi operators by educational level



Source: Survey data, 2013

What is probably evident in Figure 4.16 is that a large proportion (50%) of *boda boda* operators with college education had insured their motorcycles compared to those with secondary (6%) and primary (2%) education. One of the reasons may be that respondents with college education were knowledgeable on the importance of insuring their motorcycles against theft. Indeed, a majority (68%) of respondents who elaborated their responses

explained that they were not aware of the existence of motorcycle insurance against theft. This implies that motorcycle insurers in the district had not adequately sensitized *boda boda* operators on motorcycle theft insurance. However, a small proportion (23%) of respondents cited high cost of motorcycle insurance as the main reason for not insuring their motorcycles. Representatives of motorcycle insurers interviewed reported that the annual cost of motorcycle insurance against theft was Ksh. 8,500 whereas for comprehensive insurance was Ksh. 15,000. The cost is thus unaffordable to many *boda boda* operators and could be another major reason for the low level of insurance coverage.

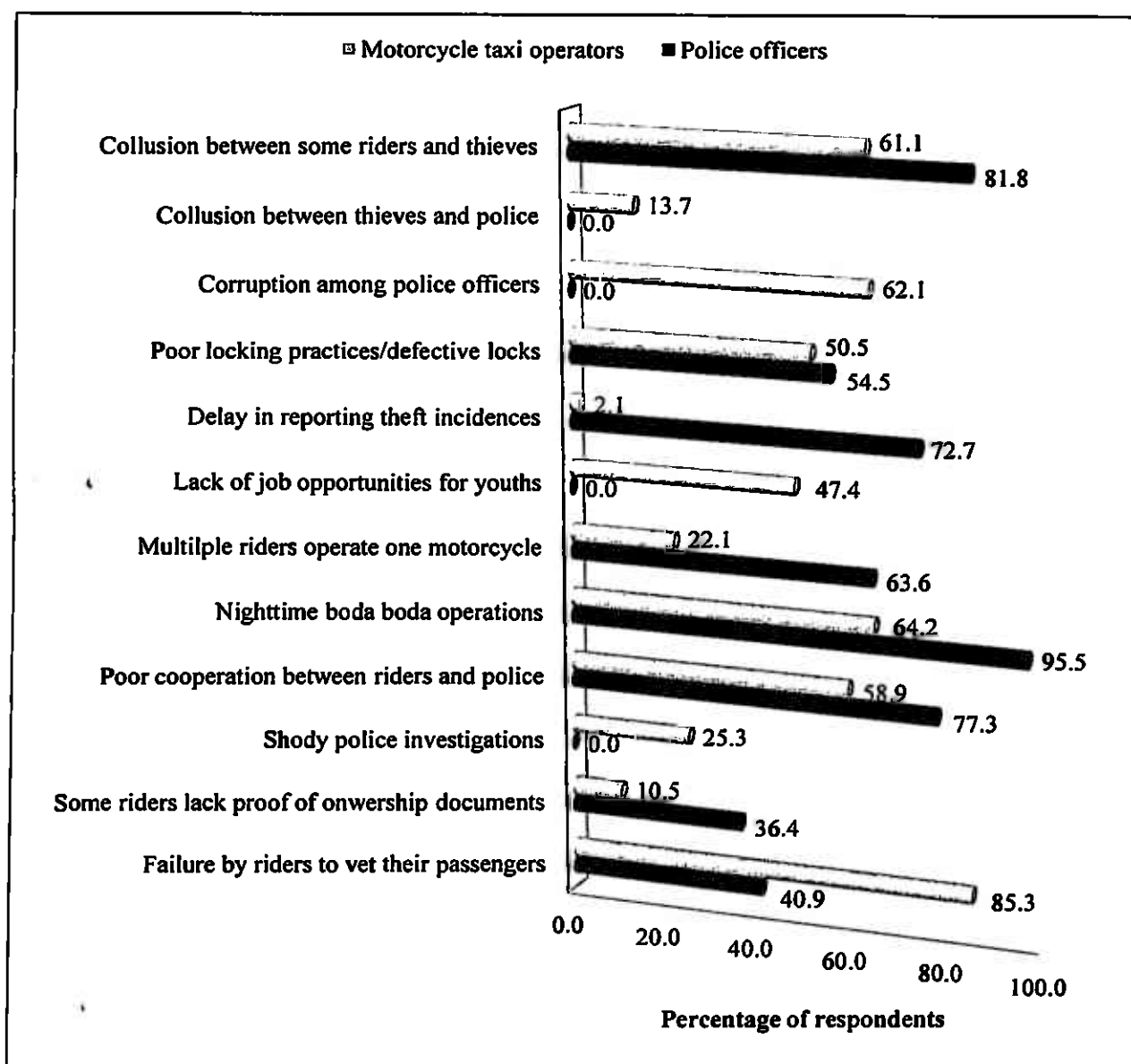
4.7.12 Problems towards combating motorcycle theft in the district

Respondents were asked to identify challenges towards combating motorcycle theft in their respective areas/jurisdictions. The vast majority (96%) of police officers cited nighttime *boda boda* operations as the major challenge explaining that most riders extended business late into the night and hence exposing themselves to thieves. Eighty-two percent of police officers stated that some motorcycle taxi operators colluded with thieves to steal other riders' motorcycles whereas 77 percent mentioned that motorcycle taxi operators did not cooperate with the police to identify thieves/suspects amongst themselves as well as heed police advice to close business early. Seventy-three percent of police officers reported that motorcycle taxi riders took long to report theft incidences and this impeded investigations. Sixty-four percent of police officers stated that multiple riders operated one motorcycle taxi in a day suggesting that it would be difficult for the police and the motorcycle owner to trace the rider who operated the motorcycle at the time of theft. Police managers interviewed said that *boda boda* operators in the district were adamant to follow police advice to close business before 8 p.m. and instead complained of police harassment when forced to do so. Police managers interviewed also said that many *boda boda* operators were hasty to transport customers

without taking time to establish the customers' identity and thus increasing their vulnerability to thieves.

On the other hand, the largest proportion (85%) of motorcycle taxi operators stated that the major challenge to combating motorcycle theft in the district was that motorcycle thieves often disguised themselves as passengers and compounded by the fact that most of their colleagues failed to vet their passengers. Sixty-four percent of the riders mentioned nighttime *boda boda* operations whereas almost a similar number (62% and 61%) cited corruption among police officers and collusion between some of their colleagues and thieves. In addition, 59 percent mentioned poor cooperation between motorcycle taxi operators and police officers and 51 percent stated that the locks of some of their motorcycles were defective and in some cases, one key unlocked several motorcycles. Figure 4.17 outlines the challenges identified by respondents towards combating motorcycle theft in the district.

Figure 4.17: Challenges towards combating motorcycle theft



Source: Survey data, 2013

4.7.13 Strategies for combating motorcycle theft

Respondents were asked to propose strategies towards combating motorcycle theft in their respective localities/jurisdictions. A vast majority (82%) of police officers suggested that there was need to ban nighttime *boda boda* operations. Police managers interviewed supported the proposal saying that motorcycle taxi operators should close business at 8 p.m.

Sixty-eight percent of police officers also suggested that there was need to assign *boda boda* operators to specific routes coupled with use of numbered identifiable jackets. A further 64 percent proposed that there was need for *boda boda* operators to establish the identity of their passengers particularly at night while 62 percent responded that there was need for riders to report the theft of their motorcycles promptly when they occur. In addition, more than half (55%) of police officers suggested that there was need for riders to avoid operating on roads which were bushy or poorly lit at night.

On the other hand, the majority (79%) of motorcycle taxi operators suggested that police should enhance patrols whereas a large number (67%) proposed that there was need for the government to increase job opportunities for the youths to dissuade them from engaging in the crime. Fifty-eight percent of motorcycle taxi operators were in agreement with the police that they should vet their passengers while 55 percent said that there was need to stop corruption among police officers. In addition, 52 percent of motorcycle taxi operators stated that there was need to improve cooperation between police officers and *boda boda* operators, half (50%) stated that there was need for *boda boda* operators to improve cooperation amongst themselves whereas 37 percent stated that *boda boda* operators should avoid operating at night. Furthermore, representatives of motorcycle insurers interviewed suggested that *boda boda* operators should insure their motorcycles against theft.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This concluding chapter provides a summary of the research findings, conclusions, recommendations and areas that require further research. As a recap, the general objective of the study was to examine patterns associated with theft of motorcycles in Nandi Central District, Nandi County. Specifically, the study sought to establish the magnitude of motorcycle theft in the district, the demographic characteristics of motorcycle taxi operators who had fallen victim to the thefts, and methods used by thieves to steal motorcycles in the district. The study also sought to identify the specific locations/sites and times when motorcycle thefts were perpetrated in the district and challenges faced by motorcycle taxi operators and the police in combating the crime.

5.2 Summary of Findings

This section provides a summary of the major findings of the study. The summary is presented in line with the objectives of the study.

5.2.1 Magnitude of motorcycle theft

The study established that the rate of motorcycle theft in the district was moderate with at least 15 motorcycles being stolen every year. The findings also indicate that motorcycles were the most stolen motor vehicle in the district.

5.2.2 Demographic characteristics of motorcycle taxi operators who had fallen victim to motorcycle theft

The study found out that the majority (59% and 71%) of *boda boda* operators who had fallen victim to motorcycle theft in the district were aged between 18-30 years and had primary education. Nearly half (41%) of these riders were also single.

5.2.3 Specific locations and times when motorcycle thefts were perpetrated

In terms of theft locations, the study found out that most motorcycle thefts in the district occurred along roads and in urban centers particularly at Kapsabet town and Surungai area. The major motorcycle theft hotspots at Kapsabet town were Water supply area, Whispering-flames and Showground area. These sites were established to be bushy, poorly lit and less habited. As for Surungai area, the study established that it had an uneven road section that forced motorcycle taxi operators to slow down hence exposed to motorcycle thieves who often laid ambushes in the area.

On the temporal nature of the crime, the study found out that motorcycle thefts in the district were mostly perpetrated at night between 8.30 p.m. and 11 p.m. during Fridays and Saturdays and on market days in various localities/jurisdictions in the district. In respect to the month of the year, the study established that most thefts occurred during the months of October, November and December when farmers had received tea bonuses and sold maize harvests, and during the dry months of January, February and March when many youths lacked jobs in the agricultural sector.

5.2.4 Methods used by thieves to steal motorcycles

The study found out that motorcycle thieves in the district, who were mainly strangers to their victims, mostly used a combination of tricks and violence to steal motorcycles. In

addition, the thieves also used tricks only, ambushed their victims, tampered with motorcycle ignition systems, stole/duplicated motorcycle keys or drove-by and knocked riders off their motorcycles in order to steal motorcycles. The study findings revealed that police in the district recorded most reported motorcycle theft incidences as robberies because most of the methods used to steal motorcycles involved violence.

5.2.5 Challenges faced by motorcycle taxi operators and police in combating theft of motorcycles

The study established that the major challenges towards combating motorcycle theft in the district were nighttime *boda boda* operations, poor cooperation between the police and riders, corruption among police officers and collusion between some *boda boda* operators with thieves to steal their colleagues' motorcycles. Other challenges include failure by *boda boda* operators to vet their passengers and promptly report theft incidences, low arrest and conviction of motorcycle thieves, inadequate police patrols and low use of anti-theft devices by motorcycle taxi operators. In addition, the study findings revealed that some motorcycle taxi operators did not have proof of ownership documents, had not memorized the registration and frame number of their motorcycles, and operated motorcycles with defective ignition systems. Furthermore, the study findings indicated that there was a low level of insurance coverage among motorcycle taxi operators in the district.

5.3 Conclusions

Motorcycle theft is a significant problem affecting motorcycle taxi operators in Nandi Central District. While a substantial number of motorcycle taxi operators continue to lose their motorcycles to thieves, the police, motorcycle insurers and the County government is yet to come up with strategies to combat the thefts. Of concern is the fact that most thefts

involve violence and the police in particular have not given adequate attention to the problem. The findings show that motorcycle thieves exploit existing challenges and environmental factors to perpetrate the crime. They capitalize on the low awareness among *boda boda* operators on ways to secure their motorcycles partly because many of them are young and have low education qualifications. They also take advantage of the poor cooperation between the riders and the police and road conditions occasioned by poor maintenance to execute the thefts and evade arrest. Considering the contributions of *boda boda* business to the national economy in terms of offering employment opportunities to many Kenyans and source of livelihood to *boda boda* operators, the police, motorcycle insurers, motorcycle operators and the County government should concertedly address the problem. Although addressing the problem of motorcycle may be difficult, the findings of this study has given insights to the problem, highlighting areas of concern regarding the theft locations and time, characteristics of victims, and existing challenges that need be surmounted to reduce the magnitude of the crime in the district.

5.4 Recommendations

Based on the findings and conclusions of the study, the following recommendations were made:

1. There is need for the Nandi County government to assign motorcycle taxis to operate in specific routes and ban nighttime *boda boda* operations beyond 8 p.m. Besides, operators plying each specified route should be identifiable by unique numbered and colored vests, and their motorcycles numbered on a conspicuous part, preferably the fuel tank. In addition, one established rider should operate each registered motorcycle taxi.

2. The Nandi County government should routinely maintain all roads in its jurisdictions by clearing bushes along the roads that are hideouts for motorcycle thieves, repair rough road sections and light-up dark alleys in urban areas especially within Kapsabet town.
3. The police and motorcycle insurers in the district should carry out educational campaigns to sensitize *boda boda* operators on motorcycle theft prevention and the need to insure their motorcycles against theft and promptly report motorcycle theft incidences.
4. There is need for police in the district to increase surveillance and intensify patrols in all parts of the district particularly on known motorcycle theft hotspots and poorly lit alleys in urban areas. The police should also enhance patrols during market days in various localities and during the dry months of January, February and March, and the harvesting and festive seasons in the months of October, November and December when most thefts occur. The National Police Service (NPS) should deploy adequate vehicles and police officers to the district to carry out the patrols effectively.
5. Since many motorcycles are violently stolen and the police classify them as robberies, there is need for the NPS to establish a sub-category of robbery of motorcycles under the category of robbery to effectively record and report on the magnitude of the crime in police crime reports and statistics.
6. The police and *boda boda* operators in the district should strengthen their collaborations in the fight against motorcycle theft. They should develop and foster good working relationship to share actionable intelligence that will lead to the identification, arrest and conviction of motorcycle thieves.

7. The police should desist from soliciting for bribes and extortions from *boda boda* operators. To achieve this, the NPS should institute disciplinary action against police officers who engage in corrupt practices.
8. There is need for *boda boda* operators to form associations that will address problems afflicting them, particularly theft of their motorcycles. These associations should also collaborate with the police and motorcycle insurers to educate their members on strategies to prevent motorcycle theft and the need to vet their passengers.

5.5 Areas for Further Research

Due to the limitations of the current study, there is need for additional research to:

1. Determine exactly who is committing motorcycle thefts in the district and the underlying motives for committing the offense.
2. Establish the social, psychological and economic effects of motorcycle theft in the district. This is because some of the interviewed motorcycle taxi operators who had fallen prey to motorcycle theft had injuries sustained from the thieves' weapons while others had left *boda boda* business all together.
3. Determine the extent of theft from motorcycles (theft of motorcycle parts) in the district since the current study covered theft of motorcycles only.
4. Assess the impact of the increased use of motorcycles on crime commissions in the district and the whole country at large since there are many other crimes that have risen with the increased use of motorcycles in the country apart from motorcycle thefts.

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APPENDICES

Appendix I: Questionnaire for Motorcycle Taxi Operators

My name is Gideon Kirui. I am a Masters of Arts student in Criminology and Social Order at the University of Nairobi. I am currently conducting a research on patterns that are associated with theft of motorcycles in Nandi Central District. I would like to inform you that you have been selected for the survey as one of the respondent to provide some information that I believe will be very resourceful in understanding the problem of motorcycle theft in the district. I assure you that the information collected in this form will be treated with utmost confidentiality.

Kindly respond to each question by ticking or filling in the appropriate answer.

Section A: Background information

1. What is the name of your *boda boda* operation area? _____
2. What is your age bracket?
 - A. 18-23 years
 - B. 24-30 years
 - C. 31-37 years
 - D. 38-44 years
 - E. 45 and above
3. What is your marital status?
 - A. Single
 - B. Married
 - C. Divorced/separated
 - D. Widowed
4. What is your highest level of education?
 - A. Primary
 - B. Secondary
 - C. College
 - D. University
 - E. Other (specify) _____
5. For how long have you been riding a motorcycle taxi/*boda boda*?
 - A. Less than one year
 - B. 1 to 2 years
 - C. 2 to 3 years
 - D. More than 3 years

Section B: Magnitude of motorcycle theft

6. How often are motorcycles stolen in your area?

- A. Very often
- B. Often
- C. Rarely
- D. Not at all

7. Approximately how many motorcycles were stolen in your area last month?

- A. None
- B. 1
- C. 2
- D. 3
- E. More than 3

8. Approximately how many motorcycles have been stolen in your area in the past three years?

- A. None
- B. 1-5
- C. 6-10
- D. 11-15
- E. 16-20
- F. More than 20
- G. Can't tell

9. How do you rate the occurrence of motorcycle theft in your area over the past three years?

- A. Very high
- B. High
- C. Moderate
- D. Low
- E. Very low

10. How do you compare the magnitude of motorcycle theft with that of other vehicles in your area?

- A. Very high
- B. High
- C. Moderate
- D. Low
- E. Very low

Briefly explain your response. _____

Section C: Theft locations and times

11. Name two areas within Nandi Central District where you think a lot of motorcycles are stolen? i) _____
ii) _____

Why are the identified areas prone to motorcycle thefts? _____

12. Where do most motorcycles get stolen?

- A. At owners' homes
- B. Near owners' homes
- C. In *boda boda* stages
- D. Along the roads
- E. In shopping centers
- F. Elsewhere (specify) _____

13. Which area experiences most motorcycle thefts?

- A. Urban areas
- B. Rural areas
- C. Both urban and rural areas

Briefly explain why most motorcycle thefts occur in the identified area. _____

14. Which month of the year do most motorcycle thefts occur in your area? _____

Why do most thefts occur in the identified month? _____

15. Which day of the week do most motorcycle thefts occur in your area? _____

Why do most thefts occur in the identified day? _____

16. During what time of the day do most thefts occur?

- A. Morning
- B. Afternoon
- C. Evening
- D. Night
- E. All time

Why do most thefts occur during the identified time of the day? _____

Section D: Methods used by thieves to steal motorcycles

17. Do most suspected motorcycle thieves commit the crime alone or jointly with others?

- A. Act alone
- B. Act jointly with others

18. What is the relationship between most motorcycle thieves and their victims?

- A. Strangers
- B. Someone they know (specify) _____ (e.g friend, fellow rider)
- C. A family member
- D. Don't know

19. Briefly describe some of the common methods thieves use to steal motorcycles in your area (e.g. tricks or threaten victims with weapons, break motorcycle's ignition set e.t.c)

Section E: Challenges in combating motorcycle theft

20. How often are incidences of motorcycle theft reported to the police in your area?

- A. Always
- B. Rarely
- C. Not at all

If rarely or not reported at all, state the reasons. _____

21. How often are motorcycle thieves arrested by the police?

- A. Always
- B. Rarely
- C. Not at all

If rarely or not arrested at all, state the reasons. _____

22. How often are suspected motorcycle thieves charged?

- A. Always

- B. Rarely
- C. Not at all
- D. Don't know

If rarely or not reported at all, state the reasons. _____

23. How often are suspected motorcycle thieves convicted in court?

- A. Always
- B. Rarely
- C. Not at all
- D. Don't know

If rarely or not convicted at all, state the reasons. _____

24. Can you state the number plate and frame number of your motorcycle off head?

- A. Yes
- B. No

25. What anti-theft device (s), if any, have you fitted in your motorcycle?

- A. None
- B. Audible alarm
- C. Additional locks
- D. Tracking device
- E. Chain
- F. Other (specify)

26. Other than the motorcycle number plate and frame number, what other identification mark(s) have you added to your motorcycle (tick all that apply)?

- A. None
- B. Stickers
- C. Marked parts with paint/special color
- D. Other (specify)

27. How often do you see police officers on duty in your area?

- A. At least once a day
- B. At least once a week
- C. At least once a month
- D. Never

Appendix II: Questionnaire for Police Officers

My name is Gideon Kirui. I am a Masters of Arts student in Criminology and Social Order at the University of Nairobi. I am currently conducting a research on the patterns that are associated with theft of motorcycles in Nandi Central District. I would like to inform you that you have been selected for the survey as one of the respondent to provide some information that I believe will be very resourceful in understanding the problem of motorcycle theft in the district. I assure you that the information collected in this form will be treated with utmost confidentiality.

Kindly respond to each question by ticking or filling in the appropriate answer.

Section A: Background information

1. What is the name of your police station? _____
2. What is your age bracket?
 - A. 18-23 years
 - B. 24-30 years
 - C. 31-37 years
 - D. 38-44 years
 - E. 45 and above
3. What is your highest level of your education?
 - A. Primary
 - B. Secondary
 - C. College
 - D. University
 - E. Other (specify) _____
4. What is your marital status?
 - A. Single
 - B. Married
 - C. Divorced/separated
 - D. Widowed
5. For how long have you worked in the station?
 - A. Less than one year
 - B. 1 to 2 years
 - C. 2 to 3 years
 - D. More than 3 years

Section B: Magnitude of motorcycle theft

6. How often are motorcycles stolen in your station area?

- A. Very often
- B. Often
- C. Rarely
- D. Not at all

7. Approximately how many motorcycles were stolen in your station area last month?

- A. None
- B. 1
- C. 2
- D. 3
- E. More than 3

8. Approximately how many motorcycles have been stolen in your station area in the past three years?

- A. None
- B. 1-5
- C. 6-10
- D. 11-15
- E. 16-20
- F. More than 20
- G. Can't tell

9. How do you rate the occurrence of motorcycle theft in your station area over the past three years?

- A. Very high
- B. High
- C. Moderate
- D. Low
- E. Very low

Briefly explain your rating. _____

10. How do you compare the magnitude of motorcycle theft with that of other vehicles in the station area?

- A. Very high
- B. High

- C. Moderate
- D. Low
- E. Very low

Briefly explain your response. _____

Section C: Theft locations and times

11. Name two areas within your station area where many motorcycles are stolen.

- i) _____
- ii) _____

Why are the two identified areas prone to motorcycle theft? _____

12. Where do most motorcycles get stolen?

- A. At owners' homes
- B. Near owners' homes
- C. In *boda boda* stages
- D. Along the roads
- E. In shopping centers
- F. Elsewhere (specify) _____

13. Which area experiences most thefts?

- A. Urban areas
- B. Rural areas
- C. Both urban and rural areas

Why do the identified area experience most thefts? _____

14. Which month (s) of the year do most thefts occur?

Why do most thefts occur in the identified month(s)? _____

15. Which day of the week do most thefts occur? _____

Why do most thefts occur in the identified day? _____

Section E: Challenges in combating motorcycle theft

20. How often are incidences of motorcycle theft reported to the police when they occur in the station area?

- A. Always
- B. Rarely
- C. Not at all

If rarely or not reported at all, state the reasons. _____

21. How often are suspected motorcycle thieves arrested in the station area?

- A. Always
- B. Rarely
- C. Not at all

If rarely or not reported at all, state the reasons. _____

22. How often are suspected motorcycle thieves charged?

- A. Always
- B. Rarely
- C. Not at all
- D. Don't know

If rarely or not reported at all, state the reasons. _____

23. How often are suspected motorcycle thieves convicted of stealing a motorcycle in the station area?

- A. Always
- B. Rarely
- C. Not at all
- D. Don't know

If rarely or not reported at all, state the reasons. _____

Appendix III: Interview Schedule for Motorcycle Operators who have Fallen Victim to Motorcycle Theft in the District

My name is Gideon Kirui. I am a Masters of Arts student in Criminology and Social Order at the University of Nairobi. I am currently conducting a research on the patterns that are associated with theft of motorcycles in Nandi Central District. I would like to inform you that you have been selected for the survey as one of the respondent to provide some information that I believe will be very resourceful in understanding the problem of motorcycle theft in the district. You may have already given this information to a police officer at the time you reported the theft, but I would like to get this information from you once again for the purpose of this study.

I assure you that the information collected in this form will be treated with utmost confidentiality. Your identity will be kept anonymous. You are therefore not required to reveal your name or personal details at any given time during the interview. I humbly ask for your honesty in answering the questions in the interview schedule and those posed to you during the interview.

Section A: Background information

1. Where do you reside? _____
2. What is your age bracket?
 - A. 18-23 years
 - B. 24-30 years
 - C. 31-37 years
 - D. 38-44 years
 - E. 45 and above
3. What is your marital status?
 - A. Single
 - B. Married
 - C. Divorced/separated
 - D. Widowed
4. What is your highest education level?
 - A. Primary
 - B. Secondary
 - C. College
 - D. University
 - E. Other (specify) _____

15. Had you insured your motorcycle against theft?

A. Yes

B. No

If No, state the reasons. _____

16. Did you report the theft of your motorcycle to the police?

A. Yes

B. No

If yes, has an arrest been made for the theft of your motorcycle?

A. Yes

B. No

C. Don't know

If no, state the reasons for not reporting the theft to the police. _____

17. Has the motorcycle been recovered?

A. Yes

B. No

18. Has anyone been charged for the theft of your motorcycle?

A. Yes

B. No

C. Don't know

19. Have/has the person(s) charged.....

A. Not had the case heard in court yet?

B. Been found not guilty

C. Been convicted

D. Don't know

Thank you for your time and participation.

Appendix IV: Key-Informant Interview Schedule for Police Managers

My name is Gideon Kirui. I am a Masters of Arts student in Criminology and Social Order at the University of Nairobi. I am currently conducting a research on the patterns that are associated with theft of motorcycles in Nandi Central District.

I would like to inform you that you have been selected for the survey as one of the respondent to provide some information that I believe will be very resourceful in understanding the problem of motorcycle theft in the district. I assure you that the information collected in this form will be treated with utmost confidentiality. Your identity will be kept anonymous. You are therefore not required to reveal your name or personal details at any given time during the interview. I humbly ask for your honesty in answering the questions in the interview schedule and those posed to you during the interview.

1. Please give some insights on the offense of motorcycle theft.
2. How prevalent is the problem of motorcycle theft in your station area?
3. How frequent are incidences of motorcycle theft reported in your station? Briefly, explain the reporting trends.
4. How do you compare motorcycle theft with theft of other vehicles in the station area? Briefly, explain the disparity.
5. Which areas/localities experience high incidences of motorcycle theft in your station area? Why are there high incidences of motorcycle thefts in the identified areas?
6. Which months of the year, days of the week, and hour of the day do most motorcycle thefts occur in your station area? Why do most thefts occur in the identified months, days and hours?
7. What methods do thieves use to steal motorcycles in your station area?
8. What challenges do you and your officers encounter in combating motorcycle theft in station area?
9. What strategies do you recommend to curb motorcycle theft in your jurisdiction?

Thank you for your time and participation.

Appendix V: Key-Informant Interview Schedule for Motorcycle Insurers

My name is Gideon Kirui. I am a Masters of Arts student in Criminology and Social Order at the University of Nairobi. I am currently conducting a research on the patterns that are associated with theft of motorcycles in Nandi Central District.

I would like to inform you that you have been selected for the survey as one of the respondent to provide some information that I believe will be very resourceful in understanding the problem of motorcycle theft in the district. I assure you that the information collected in this form will be treated with utmost confidentiality. Your identity will be kept anonymous. You are therefore not required to reveal your name or personal details at any given time during the interview. I humbly ask for your honesty in answering the questions in the interview schedule and those posed to you during the interview.

1. Please give some insights on the offense of motorcycle theft.
2. How prevalent is the problem of motorcycle theft in Nandi Central District?
3. In your view, what are the major contributory factors to motorcycle theft in Nandi Central District?
4. Do you cover motorcycles against theft? If yes, what is the unit cost and cover duration?
5. In your view, what proportions of motorcycles are insured against theft in this area?
6. What methods do thieves use to steal motorcycles in this area?
7. What are some of the challenges to combating motorcycle thefts in this district?
8. What contributions have the insurance industry offered to curb the theft of motorcycles in the district?
9. What strategies do you think should be put in place to curb motorcycle thefts in the district?

Thank you for your time and participation.