

**MOBILE TELEPHONY USE AND ITS ROLE IN PREVENTING ELECTORAL  
VIOLENCE IN KENYA: CASE STUDY OF EMBAKASI CONSTITUENCY DURING  
KENYA'S 2013 GENERAL ELECTION.**

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**DECLARATION**

This research project is my original work and has not been presented anywhere to the best of my knowledge. No part of this thesis may be reproduced without the prior permission of the author

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K50/80748/2012

Signature.....Date.....

This research project has been submitted with our approval as the university supervisor

Date:

\_\_\_\_\_  
Dr. George Gathigi  
(Supervisor)

\_\_\_\_\_

## **DEDICATION**

To my husband Samuel Owuor and my parents Mr. and Mrs. Charles Rota

## **ACKNOWLEDGEMENTS**

I am very grateful to God Almighty for giving me the favour, strength and the resources to undertake this masters degree programme

First and foremost, I thank my Supervisor, Dr. George Gathigi for his leadership, support, patience and availability, during the entire project-writing period. To the entire faculty of the School of Journalism, am forever grateful. I also wish to acknowledge the contribution of my research assistant George Wamwea.

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Special thanks go to my spouse Samuel and our son Jabari for patience and understanding during the period of my study and for the moral support throughout my studies. Special thanks to my friend Esther Lungahi and Kelly Jones whose encouragement and support made this project a gratifying experience.

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## **ACRONYMS**

ICTs	Information Communication Technologies
SMS	Short Messaging Services
PEV	Post Election Violence
NGO	Non Governmental Organization
TJRC	Truth, Justice and Reconciliation Committee
ECK	Electoral Commission of Kenya
KHRC	Kenya Human Rights Commission

## ABSTRACT

The purpose of the study was to examine the role of mobile telephony use in preventing electoral violence in Embakasi Constituency during Kenya's 2013 general election. Four research questions were developed from which the four research objectives were drawn. The questions include; How have mobile telephony based platforms been used as conflict prevention tool during elections?, To what extent is the use of mobile telephony based platforms an effective tool for prevention of election violence?, What are the barriers in using mobile phones as a communication plan during elections? and, How can the use of mobile telephone based applications be enhanced to increase its effectiveness in prevention of violence? Related literature on the use of mobile telephony platforms in communication was reviewed. The theoretical framework was based on the Networked society by Manuel Castells(1996). The study targeted all the residents of Embakasi Constituency. Krijcie and Morgan's sampling table was used to select a sample of 382 respondents. Questionnaire tools were used to collect the required information. Data was analyzed using charts, frequencies, percentages, and descriptive statistics generated by the use of Statistical Package for Social Sciences (SPSS). It was established that most of the residents received at least one political message during the 2013 elections, with 16 per cent receiving voice calls, 16 per cent social media messages, and 59 per cent receiving SMS. The most frequently shared messages among the residents were; voting updates, Peace advocating messages, political campaign updates, political campaigns updates, Voter education messages, and Messages on election results. Other messages shared were; Messages that restricted movement, inciting messages and messages that spread panic. The main sources of election messages were friends, family members, Media, Neighbours, Political Parties, Civil Rights Movements, NGOs, and Government authorities (chief). Majority of the residents were influenced by the messages to some extent because the messages came from reliable sources, and that others had election

tension that restricted freedom of movement. The influence was also motivated by the fact that majority of the residents were previously affected by PEV where they suffered ethnic tensions, riots, destruction of property and loss of lives to loved ones. The main challenges faced by the residents included lack of airtime credit, fear of being arrested for incitement, lack of trust of the sources of information, fear of rejection by friends and family members, lack of network coverage, high cost of mobile messages and that some messages could not open in some of the phones. Others included language concerns, fear of law enforcement, lack of electricity, fear of losing phones and inexperience in the use of some features of the mobile phones. The mobile phone platform was the most commonly used form of incitement, an indicator that it could easily be used to perpetrate election violence if not properly monitored. Recommendations were made that the Ministry of Information and Communication encourages the uptake of mobile telephony platform as it was found to have an effective reach to very many people within a short time, that the Ministry of Internal Security develops a framework and a mechanism of tracking and bringing to book the perpetrators and originators of criminally instigated acts on the mobile telephony networks, that IEBC develops official mobile application from where the citizens can access reliable information on civic education, voter education, voting progress, and election results in real time, and that the official political parties develop respective official mobile application from where the citizens can access reliable information on campaign trail and respective party activities in real time. Further research was suggested on the influence of mobile telephony platforms in the management of election in non-volatile spots in Kenya.



# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Background**

Kenya has undergone a remarkable information and communications technology (ICT) revolution. The introduction of ICTs have radically transformed political landscapes around the world by creating unmatched opportunities for civic engagement and connecting citizens, political class, international and domestic observers, militia and political. It is believed that new technologies can play a role in good governance and that mobile phones can facilitate transparency and accountability (Avila et al, 2010). Karafelt (2012) argues that this is particularly true when technology is only seen as a an information and transparency tool, which process, disclose and disseminate information, and a tool using the revealed information for accountability purposes and to encourage participation. According to statistics from the Communications Commission of Kenya (CCK, 2013), mobile phones penetration in the country stood at 78% with 31.3 million subscribers. However key phone manufacturers have faulted CCK for basing its calculations on the number of active SIM cards in the Kenyan mobile networks, yet majority of Kenyans have more than one SIM card.

According to Delloitte (2011), competition in mobile market has increased with the introduction of additional mobile network operators, which has contributed to a price drop of over 70% in the last four years. Mobile coverage has increased to 96% of the population, and there are now over 3,500 3G sites in the country. As a result, in Kenya consumers, businesses and government continue to benefit from the positive developments in the mobile sector. Mobile phones are used widely in people's day-to day lives giving the freedom to communicate anywhere and at any time. Mobile phones today have become a necessity in human life. It is treated as a vital instrument carried by individual to be informed and connected with the world.

A few years ago the basic functionality of mobile phones was limited to just attending and responding to calls. With the innovation in the technology, it avails information and data on fingertips and so is the case of mobile phone and the applications associated with it. The latest mobile phones are incorporated with features like MP3 players, high-resolution camera, high sound quality, 3G technology and the list goes on. The mobile phone has evolved from a simple voice device to a multimedia communications tool capable of downloading and

uploading text, data, audio, and video from text messages to social network updates to breaking news, the latest hit song, or the latest viral video.

In recent years, mobile phones have drawn tremendous interest from the conflict management community. In the run-up for the general elections in Kenya 2013, mobile solutions were widely deployed: Political campaigns using mass SMS broadcasts, ringtones and automated calls, SMS application to determine voter registration status, parallel voter tallying and election monitoring platforms were all creating a link between citizens, civil society and the government. Given the successful, high profile uses of mobile phone-based violence prevention in Kenya in elections during 2010 and 2013 is becoming an area of interest for research.

Election violence as defined by UNDP (2012) is acts or threats of coercion, intimidation or physical harm perpetrated to affect an electoral process or that arises in the context of electoral competition. When perpetrated to affect an electoral process, violence may be employed to influence the process of elections such as efforts to delay, disrupt, or derail a poll and to influence the outcomes: the determining of winners in competitive races for political office or to secure approval or disapproval of referendum questions. Elections in developing countries often fail to meet acceptable standards of fairness, and this in turn can result in protest, violence and fragility. In a fair system, elections allow for increased participation and the responsiveness of political leaders to the needs of the electorate.

Przeworski, Stokes, and Manin (1999) define this “accountability” view of democracy as one in which “elections serve to hold governments responsible for the results of their past actions” Elections are required for citizens to punish bad behaviour on the part of errant leaders and reward good performers; and a “minimum procedural definitions” of democracy looks to elections as the single most important benchmark for classifying regime type across countries (Przeworski et al. 2000). Elections are so important, that citizens and civil society consistently demand them, and the international community devotes significant technical and diplomatic resources to support electoral processes in the developing world. Long (2012) postulates that despite these efforts, elections in Africa’s emerging democracies frequently fail to deliver accountability. Politicians engage in polarizing campaigns and do not deliver on needed policies. Illegal manipulation of the electoral process allows for wide-scale rigging and fraud. Elections periodically produce protest, violence, and even breakdown. Recent

contests in Ethiopia, Kenya, Uganda, Zimbabwe, Sudan, and the Ivory Coast demonstrate the fragility of electoral outcomes. Notwithstanding citizen enthusiasm and support from outside actors, elections appear to subvert the very purposes they are designed to achieve in many countries.

Bekoe (2012) points out that eighteen African countries held presidential, primary, or legislative elections in 2011. Elections in eleven of these countries were marked by violence that ranged from low-level intimidation and harassment to more intensely violent displacement and death. During the 2003 Federal and States elections in Nigeria Human Rights Watch (2004) says, at least 100 people were killed and many more were injured. During the August 2007 run-off elections in Sierra Leone BBC News (2007) reports that violence erupted following a clash between the supporters of the ruling Sierra Leone People's Party (SLPP) and the opposition All People's Congress (ACP). Violent attacks were also reported against the supporters of the SLPP when the ACP leader was sworn in as the new president. Elections in Zimbabwe, Uganda, Ethiopia, Chad and Zambia have also all in the past been characterized by violence.

Kenya shows a long history of conflict and violence right from the time it attained independence in 1963. The TJRC Commission (2013) finds that between 1963 and 1978, President Jomo Kenyatta presided over a government that was responsible for numerous gross violations of human rights. These violations included the Shifta War, killings, torture, collective punishment and denial of basic needs, political assassinations of Pio Gama Pinto, Tom Mboya and J.M. Kariuki, arbitrary detention of political opponents and activists and illegal and irregular acquisition of land by the highest government officials and their political allies.

In 1982, Kenya's military attempted to overthrow Mr. Daniel Arap Moi. Raila Odinga is among those implicated in the coup attempt, and he spent most of the next decade in prison. Following the coup attempt, the Moi regime amended the Constitution and subsequently Kenya officially became a one-party state. Police and security forces dispersed demonstrations against this move forcefully. The Waki report says that it is only after intense donor-pressure did Moi allow multi-party elections to be held in 1992. The election campaign, the election itself and its immediate aftermath as reported by Human Watch (2002) were characterized by threats, harassments and the occurrence of violent clashes



between supporters for different parties, claiming the lives of around 1,500 Kenyans and displacing more than 300 000.

Like the 1992 elections, the 1997 elections were associated with violence. The human Rights Watch (2002) states that six months prior to the 1997 elections, KANU party activists allegedly backed armed gangs who attacked ‘non-native ethnic groups’ in the Coast Province, causing the death of more than 100 and leading to the displacement of more than 100 000. TJRC report (2013) shows that on 30<sup>th</sup> December 2007, following the announcement of the presidential election results, violence broke out in several places across Kenya amid claims that the electoral commission of Kenya (ECK) had rigged the presidential elections. Sporadic eruptions continued for many weeks, bringing death and destruction to thousands of Kenyans.

According to Lorch (2008), though triggered by accusations of electoral fraud, the causes of the clashes were rooted in deep historical injustices; a strong belief held by many ethnic groups that there were massive inequalities in resources and government appointments between regions and ethnicities. Post-election violence has had a huge blow to the country’s overall security, economy and democratic gains. Businesses lost, tribal gangs attacked property; rival gangs on an ethnic basis killed residents and travellers out of the city. The conflict resolution and peace-building community in Kenya were all lobbying for peace and some used the SMS platform to promote peace amongst Kenyans. As the country moved towards the 2013 elections there remained gaps in the implementation of key reforms to check the triggers of election violence in Kenya.

According to Responsibility to Protect (2012) certain risk factors were almost entirely ignored, such as the need for genuine land reform to tackle grievances over inequity in land ownership and access. This, coupled with rising inter-communal violence that killed 480 people in Tana River, Moyale, Turkana, Samburu and other counties during 2012, raised the threat of a possible recurrence of widespread bloodshed during the 2013 elections. Responding to some of these risks, the government intensified its preventive efforts. These included issuing warnings reminding the population about the legal consequences of hate speech, increasing peace messaging and deploying troops to potential conflict flashpoints. Kenyan civil society also played a critical role in reducing the likelihood of violence.

## **1.2 Statement of the Problem**

Kenyan voters face a deluge of conflicting claims and counterclaims during campaigns. Why should these messages heighten inter-communal polarization? The answer has to do with how voters process information. Election observation efforts worldwide have employed SMS as a means of collecting data from observers, for both traditional and statistical-based observation efforts. SMS is now commonly used to transmit data in all areas of election observation, including pre-election and post-election processes. Mobile driven applications are becoming important tools for development implementers who want to deliver and share critical information to educate or empower local citizens. As such, it is helpful from a strategic point of view to know how mobile applications can be usefully adopted in the election process for prevention of election violence. SMS is now commonly used to transmit data in all areas of election observation, including pre-election and post-election processes.

Mobile driven applications are becoming important tools for development implementers who want to deliver and share critical information to educate or empower local citizens. As such, it is helpful from a strategic point of view to know how mobile applications can be usefully adopted in the election process for prevention of election violence. To achieve this the study sought investigate the frequency with which people use mobile phones to access news and information during elections, whether or not key target groups are being reached by the information being passed, whether it is changing their perception towards non-violence and if they are passing along this information to others.

Embakasi Constituency is home to Dandora estate an informal urban settlement that has a population of 142,046. It was chosen as the setting of this study because it is centrally located in the heart of Nairobi, the capital city of Kenya and characterized by perennial crisis of election violence making it an election hotspot. While no single location can serve as representative of a broader class of cases, Embakasi Constituency possess salient characteristics that serve as representative of the broader population in Kenya. Embakasi Constituency shares a number of important features with other multi-ethnic locations, particularly in Kenya, that ensure the findings from this study will be relevant elsewhere.

Mobile telephony, especially within the field of political and human rights, is a rather new phenomenon. This means that existing research and academic articles on the topic is limited. SMS-enabled election observation and citizen reporting, is therefore a relevant case to further

expand the knowledge on the opportunities and challenges of mobile-enabled political participation. This paper explores Kenya's history of electoral violence, including mass atrocities, and examines the measures taken to prevent a recurrence during 2013. In particular, it explores the role of mobile telephony during election period in dealing with issues of security, accountability and incitement that create an enabling environment for violence.

### **1.3 General Objective**

The general objective of the study was to investigate mobile telephony use and its role in preventing electoral violence in Kenya: A case study of Embakasi constituency during Kenya's 2013 general election.

#### **1.3.1 Specific objectives**

The specific objectives that guided the study were;-

1. To examine how mobile telephony platforms have been used as conflict prevention tool during elections.
2. To establish the extent to which mobile telephony based platforms are an effective conflict prevention tool during elections.
3. To determine the barriers of using mobile telephony as a communication tool during elections.
4. To establish how mobile telephone based applications can be enhanced to increase its effectiveness in prevention of violence.

#### **1.3.2 Research Questions**

The research questions were;-

1. How have mobile telephony based platforms been used as conflict prevention tool during elections?
2. To what extent is the use of mobile telephony based platforms an effective tool for prevention of election violence?
3. What are the barriers in using mobile phones as a communication plan during elections?
4. How can the use of mobile telephone based applications be enhanced to increase its effectiveness in prevention of violence?

#### **1.4 Significance of the study**

Although the recent post-election violence in Kenya cannot be attributed entirely to identity politics, the fact that the violence has assumed ethnic dimensions raises concerns about the negative impact of election violence on social relations. If not properly addressed, the possibility of election violence erupting in future elections along identity lines may be high. The study will help governments that are geared towards democracy and governance to review strategies and formulate relevant solutions that will ensure peaceful elections. Organizations working with the Electoral body will benefit from a framework to implement relevant and applicable mobile telephony based solutions to support IEBC in ensuring a smooth election. It will also help the government and other policy makers to identify gaps and formulate policies and strategies that will assist in implementing civic engagement and promoting credible election especially for a government poised for better democracy.

#### **1.5 Limitation and delimitation of the study**

Since Embakasi constituency does not have all its characteristics similar to the other constituencies in the country the information may not be generalized, however it could be applied to regions with similar characteristics. Additionally the study focused on registered voters yet there could be others who received election messages on the mobile telephony platforms. There was the possibility that the respondents would not be willing to disclose some of the challenges they went through during the 2013 election period. The use of questionnaire tools and the assurance of anonymity to the respondents helped manage the respondents' fear.

#### **1.6 Scope of the study**

The study will be restricted to Constituency is home to several formal and informal settlements the largest being Dandora estate which is an informal urban settlement. It has a population of 142,046, and is divided into four electoral wards namely Dandora, and Kariobangi south. Embakasi Constituency is cosmopolitan and shares a number of important features with other multi-ethnic locations in Kenya. The findings of this study could therefore be relevant in several other locations in Kenya.

#### **1.7 Organization of the study**

This study is organized into five chapters. Chapter one introduces the problem statement and describes the specific problem addressed in the study as well as the scope of the study.

Chapter two presents a review of literature and relevant research associated with the problem addressed in this study. Chapter three presents the methodology and procedures used for data collection and analysis. Chapter four contains an analysis of the data and presentation of the results. Finally, Chapter five offers a summary and discussion of the researcher's findings, implications for practice, and recommendations for future research.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Mobile telephony technology in Kenya**

The first submarine telecommunications cables connected Kenya to the outside world in 1888 and were laid by the Eastern and Southern African Telegraph Company, (Aduda & Ohaga 2004). Bowman (2010) reveals that Nairobi's first telephone exchange had 28 subscribers. During the 1920s, the British colonial administrations in Kenya, Uganda, and Tanganyika became linked by a common telephone system. By 1933, the postal and telephone services had been consolidated and were managed by a single Postmaster General. Tyler and Jonscher (1982) explains how extension into the interior of the country began in 1896 in conjunction with the building of the railway system, forming a dual "backbone" for Kenya's communications infrastructure. The extension of the telegraph line even overtook railway construction, reaching Nairobi in 1898 and Kampala and Entebbe in Uganda in 1900. Telephone service soon followed. In 1908, the public telephone network began service in Nairobi, the capital, and in Mombasa. In Nairobi that year, eighteen telephone subscribers were connected.

After independence, Kenya, Uganda, and Tanzania formed the East African Common Services Organization, the precursor to the East African Community. What was then the East African Post and Telecommunications Corporation (EAP&TC) served as the main provider of telecommunications and postal services in the region, and was owned and directed by the three nations. The first mainframe computer was installed in Kenya in 1961. By 1980, there were 73,932 direct exchange lines (DELs) in use in the public telephone network; just over 84% were connected to automatic switching equipment and 75% had direct long-distance dialling (STD or subscriber trunk dialling) capability. There were 1,228 telex lines in use and 50 leased data transmission circuits in use.

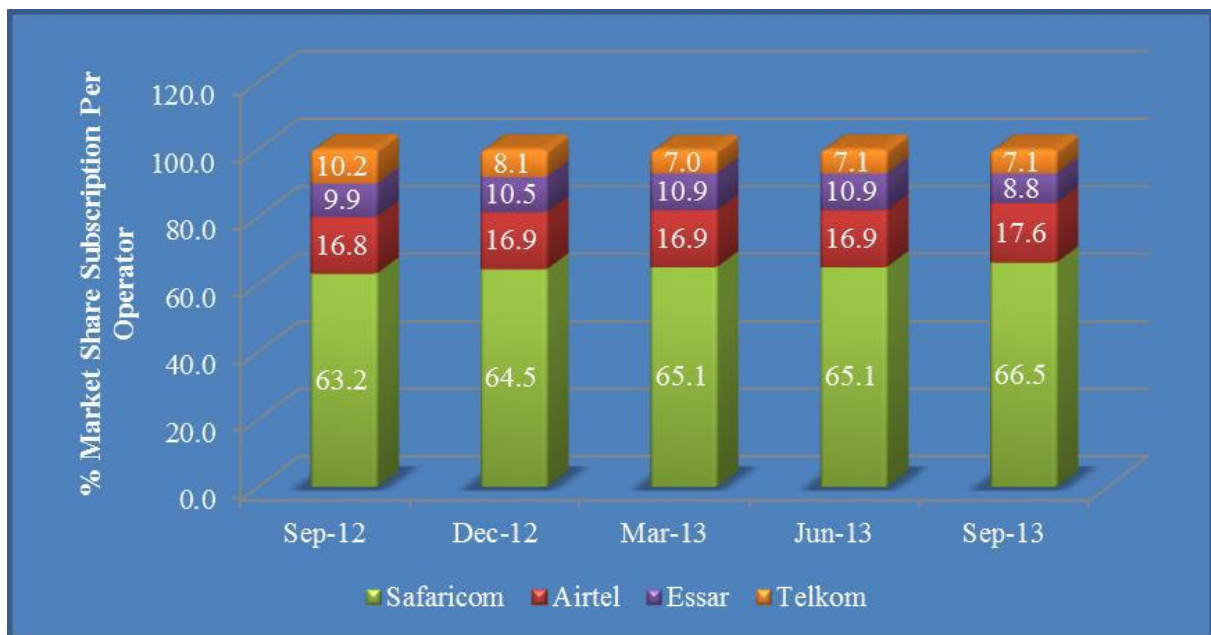
In the 1980s, growth of Kenya's network occurred on a larger scale. KP&TC undertook three telecommunications development programs: the First Program ran from 1979 to 1983 which called for the addition of 58,800 exchange lines of capacity and provision of public telephones in two hundred previously unserved locations; the Second Program began in 1984 and was completed in 1988 saw the expansion of service in Kenya's rural areas, with the emphasis on "District Focus" installation of new digital switches in nine locations to ensure that all forty one District Headquarters locations in Kenya had automatic telephone service.

World Bank provided funding for the Third Program was negotiated in 1985-1986, with disbursements beginning in 1987 and completion achieved in 1992. It largely continued the approach established by the first two but included two significant innovations: extensive replacement of small manual exchanges in rural areas with digital switching equipment and the introduction of optical fiber transmission for the links (known as "junctions") connecting nearby exchanges (KP&TC Annual Report).

Kenya's international telecommunications services have a somewhat distinct history. In the colonial era, the Cable and Wireless Company operated these, like similar services in other British colonies. In 1964, control of these services passed to the newly formed East African External Telecommunications Company Limited (EXTELCOMS), jointly owned by the government of Kenya and Cable & Wireless. EXTELCOMS continued as a joint venture until 1974 when KP&TC purchased the 40% share owned by Cable & Wireless and renamed the company KENEXTEL. In 1982, KENEXTEL was merged with KP&TC, which is now responsible for both national and international telecommunications.

Kenya is an active member of the International Telecommunication Union (ITU). In 1981, according to ITU (1993) Kenya promptly completed its national component of the ITU's PANAFTTEL program, which involved the interconnection of African countries' national networks by means of new or extended microwave transmission routes. The World Bank and KP&TC financed Kenya's PANAFTTEL links collaboratively. In 1994, KP&TC became a member of the Regional African Satellite Communications System (RASCOM) Corporation, which had the goal of launching a dedicated African satellite system. In 1968, Kenya became a member of the INTELSAT global satellite communications consortium, with EXTELCOMS responsible for operating earth stations to access INTELSAT's satellites. Kenya's first major earth station came into operation at Longonot northwest of Nairobi in 1970. There are now two such stations at Longonot, each accessing INTELSAT satellites in the Atlantic Ocean and Indian Ocean, with a third earth station in Nairobi and a fourth in Kericho. As of 1992, KP&TC reported that there were 525 pieces of data termination equipment attached to the public telephone network and 4,500 on other networks [ITU, 1994]. From the leased-line point of view, this count of data terminating equipment probably underestimates the true magnitude of data users in Kenya, since each termination point could represent several end-user terminals.

Although Telkom's monopoly ended in 2004, there were only two major cellular telephony providers in Kenya: Safaricom and Celtel/Zain until late 2008 (Weidemann, 2005). Mobile telephones were first introduced in the Kenyan market in 1992. However, actual adoption of this technology started in 1999 when the Communications Commission of Kenya (CCK) was established. There after CCK licensed the privatized company Safaricom and Airtel Kenya (Formerly called Celtel and KenCell Communications) to provide mobile services. Currently the market has four operators: Safaricom, the dominant, Airtel Kenya, Orange Kenya and Yu Kenya.



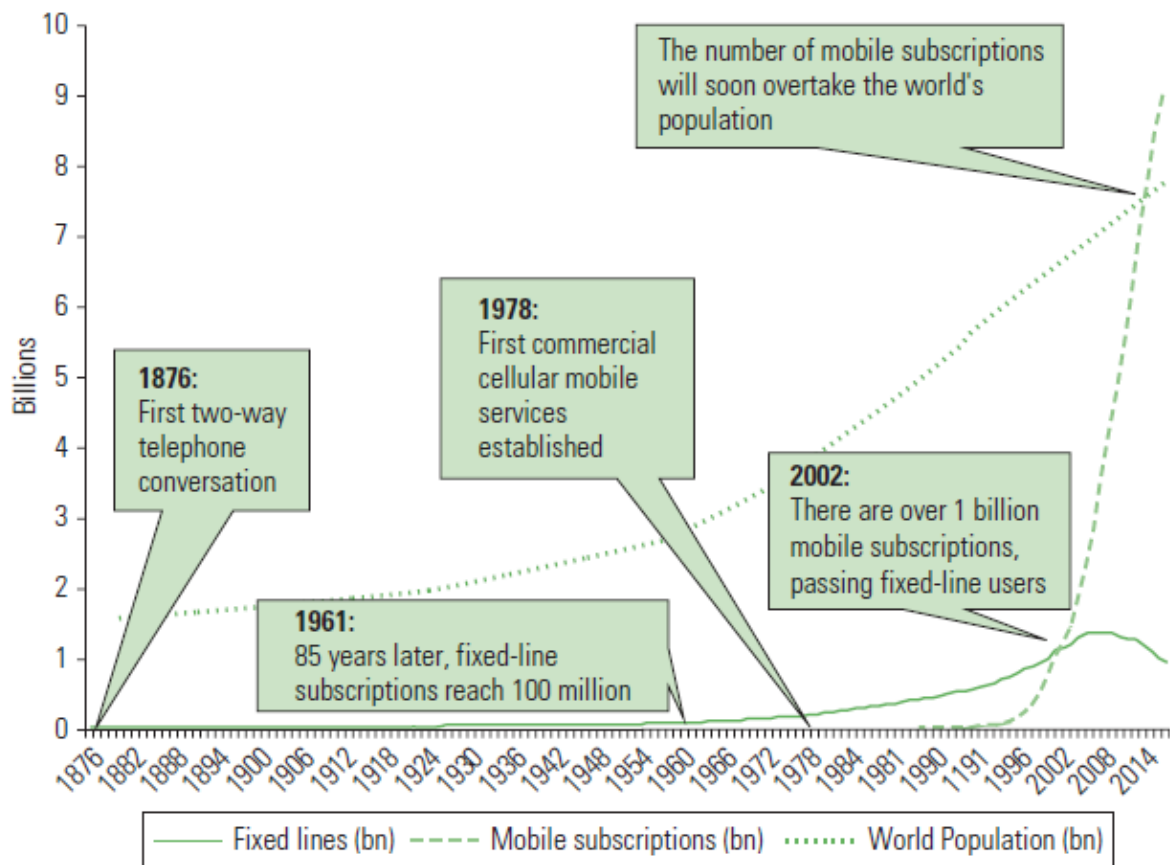
Source: CCK, Operators' Returns.

**Figure 2. 1 Percentage Market Share Subscription per Operator**

In the last ten years the ICT community has witnessed the explosive growth of mobile telephony in Africa. Today, mobile phone usage has become the first communication technology that has more users in developing countries than in the developed world; in particular, looking at the mobile subscriber numbers, Africa is showing the highest growth rate worldwide. Mobile telephony has been one of the most quickly adopted technologies of all time. While 128 years passed before fixed telephone lines reached 1 billion users, mobile networks achieved this milestone in just over two decades. This huge growth in mobile subscriptions has led to a significant increase in penetration. Kenyan mobile operators offer services to more than ten million people so that nowadays one in three adults carry a cell-phone in Kenya and about the 80% of Kenyans are covered by mobile network signals.



According to CCK first quarter statistical report (2013), The number of mobile phone subscribers increased by 2.5 per cent in the quarter ending September 2013 to reach 31.3 million.



Source: Adapted from ITU, World Bank estimates.

**Figure 2. 2 Worldwide fixed and mobile telephone subscriptions**

## 2.2 Uses and access of Mobile Telephony

There are various types of phones and their functionalities but can be generally categorized as basic phones, feature phones and smart phones. Basic Phones are characterized as Second-generation (2G) Global System for Mobile communications (GSM) standards. Services they offer include Short Message Service (SMS), Unstructured Supplementary Service Data (USSD) and calling. Alarm clock, calculator, and flashlight, are also common on basic phones. Feature Phones have same features of basic phone with added Internet-enabled services such as the downloading of music. Feature phones often also have a built-in camera, internet access (if enabled) on EDGE or 2.5G network. Smart phones have the same features of basic phones and feature phones but typically also feature graphical interfaces and

touchscreen capability, built-in Wi-Fi, and Global Positioning System (GPS) capability. If not touchscreen, QWERTY keypads are also sometimes characteristic. 3G+ Internet access.

The mobile phone has evolved from a simple voice device to a multimedia communications tool capable of downloading and uploading text, data, audio, and video from text messages to social network updates to breaking news, the latest hit song, or the latest viral video. Mobile telephony has become the most important mode of telecommunications in Africa. Between 2000 and 2012, World Bank IC4D Report (2012) shows the number of mobile phones in use world-wide grew from fewer than 1 billion to around 6 billion. Given technological convergence, mobile handsets can now function as a wallet, camera, television, alarm clock, calculator, address book, calendar, newspaper and navigational device combined. Farmers in Africa are accessing pricing information through text messages, mothers can receive medical reports on the progression of their pregnancy by phone, and money be sent and received even in remote areas where there are no banks. Mobiles are now creating opportunities for employment, education, and entertainment in developing countries. For a large part of the population, mobile telephony results an affordable and friendly technology, while Internet access is a reality for many businesses and public institutions, but it is still an expensive technology restricted to individuals with higher levels of education and incomes. The Millennium Development Goals (MDGs) provide a useful framework for assessing the development impact of mobile phones. As noted by the United Nations Development Programme “Mobile phones can enhance pro-poor development in sectors such as health, education, agriculture, employment, crisis prevention and the environment . . . that are helping to improve human development efforts around the world” (UNDP, 2012).

World Bank (2011) shows how farmers in Africa obtain pricing information via text messages, saving time and travel and making them better informed about where to sell their products, thereby raising their incomes. The expansion of mobile networks provides a unique and unparalleled opportunity to give rural smallholders access to information that could transform their livelihoods. The most common uses of SMS and USSD in the context of agriculture as explained in the World Bank Information for Development Report (2012) include access to price information, disease and meteorological information, and information on growing and marketing practices (extension services). A study (Aker 2010) conducted in Niger from 2001 to 2006 found that the introduction of mobile phones had reduced grain price dispersion by 6.4 percent and reduced price variation by 12 percent over the course of

one year. Another study on grain traders in Niger found that cell phones improved consumer welfare (Aker, 2008). Access to cell phones allowed traders to obtain better information about grain prices across the country without incurring the high cost of having to travel to different markets. On average grain traders with cell phones had 29 percent higher profits than those without cell phones.

M-banking and money transfer services has revolutionized how we move money. These provide mobile banking and micro finance service that reduces the need to 'meet in person' to conduct business and extends the reach of financial services to rural areas and many Kenyans who previously fell outside the formal banking system. This service now covers the purchase of goods and services. A unique facet of the ICT phenomenon in Kenya has been the widespread proliferation of mobile money. Starting with the M-PESA system launched by Safaricom in 2007 with the aim of providing banking services for rural users some distance away from their local branches. Today it has 14 million plus subscribers and facilitates payments for over 1,000 businesses. Since then the other three mobile network providers have launched similar services: Airtel has launched 'Airtel money', Orange has launched 'Orange money' and Yu has released 'Yu Cash'. Across the market, transaction numbers have increased from just 12 million in the financial year ending March 2008, to over 300 million in the financial year ending March 2011. Mobile money platforms have evolved since inception and have entered a new phase with the advent of bank-integrated mobile savings products. The first such product, M-KESHO, was launched in March 2010 as a partnership between Safaricom and Equity Bank. Kimenyi & Ndung'u (2009) attribute the rapid growth in mobile money in Kenya to four factors: a conducive legal and tax environment, private-public policy dialogue, strategic and prudent macroeconomic policies, and a guarantee of the existence of a contestable market discouraging dominance by initial entrants. Comminos et al. (2008) argue that the initial success of Kenya's mobile money transfer industry can be attributed to the high demand for remittances generated by rural/urban migration, while its rapid scaling is due to the mobile providers' growth strategy.

Governments around the world, in varying stages of economic development and with diverse technological and institutional capacities, are adopting or investigating mobile government (mGovernment). Information for Development Report (2012) points out that mobile government involves using mobile tools to change either the interactions between users and

government or the processes of government. In 2012 tools in use include mobile networks (such as broadband, Wi-Fi, and voice-centric), mobile devices (tablets, smartphones, feature phones), their associated technologies (voice calling, SMS text messaging, location detection, internet access), and software in the form of network services and applications. The report further reveals that, Mobile government matters because it has the potential to liberate users from the physical or location-related constraints inherent in conventional service delivery and traditional electronic government (e-Government) services. Also, mobile tools can expand the reach of conventional public services or government processes to citizens who are unserved or underserved, often because of their remote location or the non-availability of PCs and Internet access. Broad mobile coverage and widespread access to and familiarity with mobile telephones, give governments the opportunity to reach people who might not otherwise have easy access to these public services and processes.

Ling and Donner (2009) explains that messaging has become popular as a feedback mechanism for voting on TV reality shows and a way of providing value-added services such as banking or pricing information. As a form of asynchronous communication, it is particularly useful for coordinating meetings or reaching correspondents who are not available to talk. According to Puri et al. (n.d.) a survey of teachers in villages in four African countries, one-quarter reported that the use of mobile phones helped increase student attendance. A main factor was that teachers could contact parents to enquire about their child's whereabouts. Twaweza (2010) shows how mobile phones have also been used in Uganda to track school attendance so that school administrators can see patterns in attendance, for instance by village, by day of the week, and by season. Tracking attendance for pupils indirectly also tracks absenteeism among teachers. In addition, a number of educational systems in use SMS to provide students with examination results. Kenya has used SMS to send students Kenya Certificate of primary education (KCPE) and Kenya Certificate of Secondary Education (KCSE) examination results on request since 2010, reducing the need to wait in queues or to travel to their specific schools to get their results.

Mobile telephony has enabled the improvement of health care through mHealth. Qiang et al. (2012) asserts that mHealth encompasses any use of mobile technology to address health care challenges such as access, quality, affordability, matching of resources, and behavioral norms through the exchange of information. In a study in Kenya as demonstrated by Lester et al. (2010), weekly text messages were sent to AIDS patients to remind them to take their

antiretroviral drugs. Those who received the text messages had significantly higher rates of taking the drugs than those who did not receive them. The study noted that SMS intervention was less expensive than in person community adherence interventions on the basis of travel costs alone and could theoretically translate into huge health and economic benefits if scaled up.

Delloite (2011) points out that mobile telephony in Kenya generates significant economic impact through effects on the supply side of the economy, employment, increases in productivity and benefits gained by Kenyan consumers. Mobile services contribute to employment in several ways. These include the direct employment of the industry and related industries, the support employment created by outsourced work and taxes that the government subsequently spends on employment generating activities, and the induced employment resulting from the above employees and beneficiaries spending their earnings, and creating more employment<sup>6</sup>.

One of the most popular and impactful mobile campaigns is the Kenyans for Kenya campaign that raised more than Ksh 167,000,000 in funds in a few weeks from the M-Pesa platform alone to alleviate starvation levels in the country in 2011. A large number of contributions were also collected from other mobile money platform to contribute to the same cause raising in total more than half a billion shillings.

### **2.3 Conflict in Kenya**

Violent conflicts have negative and severe impacts on the communities that are involved in these conflicts. According to Pkalya et al. (2003) Loss of human life, property, displacements of large segments of the communities, disruption of socio-economic activities and livelihoods, increased hatred between communities, environmental degradation and threat to water catchments areas, increased economic hardships as a result of loss of livelihoods, high levels of starvation and malnutrition among the displaced groups and unprecedented dependency syndrome on relief food are the main negative impacts of the increasing and severe inter-ethnic armed conflicts. According to the NCMA report (2012), the major causes of conflict in Kenya are: Ethnicity and Political Conflicts, including Patronage and Ethnicisation of Politics; Boundaries and Administrative/Electoral Units; Political Intolerance; Politics of Citizenship; Ethnicisation of the State Politicizing Indignity where issues of “indigenous versus migrant groups” were found to be a major cause of conflict in Rift Valley and Coast provinces; Nature of Parties and Internal Party Democracy and

Discipline; Political Instrumentation of Gangs, among others. The report further argues that The most notable security triggers of conflict are ineffectiveness of security agencies, mushrooming of organized gangs, and proliferation of illicit small arms, decreased community safety and cattle rustling.

Höglund (2006) ascertains that elections do not only allow for political competition, participation and legitimacy, but also permit peaceful change of power, thereby making it possible to assign accountability to those who govern. This is why it is often argued that 'elections facilitate communication between the government and the governed, and also have symbolic purposes by giving voice to the public' As such, a democratic society is, expectedly, a non-violent and orderly society. This partly explains why elections have become part of the international peace-building strategy, which strongly links peace to democratic development.

Hansen (2009) points out that political violence in Kenya, although often at its extremes during election periods, also exists as an 'everyday phenomenon'. Assassinations of political leaders, prominent businessmen, civil society leaders, and other figures that possess significant influence on the allocation of resources or political developments in the country are far from exceptional. In early May 2009, Kenya's Daily Nation reported how assassins with political motives had killed 26 high-profile Kenyans over the course of only two months. Most of those Kenyans consulted by the author view such form of political violence as related to the violence surrounding election processes because it is many of the same factors that allow for their occurrence. Bellamy (2011) argues that violence is not entirely spontaneous and is usually incited or orchestrated by local or national political figures, often either state officials, politicians, or local leaders of different varieties. Attacks are often religious or ethnic in nature and can be triggered by a variety of national and local events. While Kenya has remained fairly stable and peaceful during most of the post-independence period, violence between ethnic groups has tended to erupt around elections since the introduction of competitive multiparty politics. There were ethnic clashes during the presidential elections in 1992, 1997, 2002, in 2005 during the referendum more recently violence and general lawlessness escalated to unprecedented levels following the General Elections in December 2007. The conflict resulted in loss of hundreds of lives, exodus of a quarter of a million people and widespread destruction of property. The unprecedented level of violence that Kenya experienced is just one of the many African examples that raise

questions about what factors determine voting behaviour in African countries and whether democracy can have stabilizing effects in countries so tribal dominated.

The predominant type of conflict among pastoral communities and along the international borders is the fight over natural resources. Kenya has witnessed sporadic occurrences internally amongst the Turkana and Pokot, the Karamajong and Turkana, and Turkana and communities to the east such as Rendile and Boran. Competition over commonly shared resources; mainly pastoral land and water is fuelled by the cultural practice of livestock raiding, cattle rustling and the associated desire for revenge.

Land is a dominant factor for conflict in the Coastal area, but more frequent in the Kwale County, Likoni, Bombolulu, Tana River County, the Rift Valley and the Mount Elgon Area. For example, in September 2012 disputes between the Orma and Pokomo communities over land and water use in the Tana River delta resulted in the death of over 100 people (Ndiku, 2013). Dhadho Godhana, the Assistant Livestock Minister, was arrested for inciting inter-communal violence, but the charges were later dropped. It is also emerging as a flashpoint in localities with valued resources, such, oil in Turkana and valued commercial hubs such as Lamu. The land management issues have often been politicized evidenced by signs of vested political interests about how land is allocated for instance, for re-settling landless communities, humanitarian emergencies, or resource exploitation. Local communities often see allocations as unjust and a means of depriving them of ancestral lands. Conflicts over land as an environmental resource have revolved around incompatible uses of land, access to and quality of land explains the NCMA Report (2012). With a population that is highly reliant on the environment for livelihood sustenance, land use is a critical factor in environmental management in Kenya. As the population expands, land remains a limited resource that is vital for the fulfillment of various livelihood options.

There are some minority communities with issues that have not been addressed, such as what is referred to as "*the unresolved massacres*" for example, the Wagalla Massacre. The Shifta war and other examples of the use of government force, the assassination of certain luminary politicians, political expedience in sharing resources and opportunities, and the political loyalties and interests that drive the development of different localities are all signals of this type of rivalry; thereby breeding disgruntlement amongst certain communities. According to Lorch (2010) the main trigger is the issue of land distribution. Since independence, the

successive governments have aggravated the growing conflict by distributing land to their supporters. She also adds other contributing factors such as serious lack of trust in the judiciary, deepening poverty and a rapidly growing population of unemployed youth that easily turned to gang violence. Most Kenyans define themselves in terms of their ethnicity. This is often apparent during individual greetings and introductions, where one might be asked to state where they are from. Since the administrative boundaries were originally installed along ethnic lines, this drives ethnic perceptions. Ethnicity is deeply rooted and it has always brought conflict in employment, sharing of resources, voting and even socialization.

Tololo (2008) argues that whether violent crimes committed by criminal groups, such as the Mungiki sect, should be categorized as organized economic or political when they do not occur in connection with election processes depend on the perspective taken explains. When the Mungiki sect was established in the 1980s, it had religious undertones and pursued a political agenda of ‘defending the culture and traditions of the Kikuyu tribe’. The Mungiki applies ‘mafia-like’ methods to control the Kenyan public transport sector and bribes local business owners.

#### **2.4 Elections violence in Kenya**

Elections periodically produce protest, violence, and even breakdown. Recent contests in Ethiopia, Kenya, Uganda, Zimbabwe, Sudan, and the Ivory Coast demonstrate the fragility of electoral outcomes. According to Human Rights Watch (2008) Violence during electoral periods in Kenya has killed at least 4,433 people and displaced over 1.8 million since the introduction of the multi-party system in 1991. In the run-up to the 1992 election violence erupted in the Rift Valley, the home of then President Moi. The Kalenjin community fought anyone who was not in support of KANU (Kenya Alliance of National Union). Ethnic violence during electoral periods, particularly in the diverse Rift Valley, Mombasa and informal urban settlements, became a fixture of Kenya’s multi-party political system. The 1979 general election in the Rift Valley was a blatant example of rigging and intimidation at the polls by the troops of the General Service Unit.

As Keefer (2007) argues, political leaders can employ monetary transfers through vote buying to signal commitment to a particular community. Similarly, Ferree and Horowitz (2010) contend that political leaders, especially incumbents, can use the allocation of public



expenditures to build credibility across ethnic lines. While Kenyatta was careful to maintain a degree of ethnic balance in the distribution of appointments, Kikuyus typically held many of the top positions in the most important ministries and offices (Tamarkin 1978; Throup 1987).

The use of dispersal as a perverse form of campaigning is captured in 1997 leaflets that said, “Majimbojuu, pwani Kwa Mijikenda,” (long live federalism, the Coast is for the Mijikenda) Daily Nation (25 August 1997). Circulation of these leaflets preceded targeted ethnic attacks, with the central message to those who were not members of the Mijikenda ethnic group being to leave of your own volition or be evicted. IRIN News, (18 January 2008) stated that politicians used grievances over land to mobilize support and reduced the complex problem of land tenure into a simplistic and dangerous ethnic dichotomy.

In the presidential election that was held on December 27th, 2007, the main contestants were the incumbent President Kibaki and candidate Odinga. These two candidates had previously cooperated under the National Rainbow Coalition (NARC) and, in the presidential election in 2002, together won against candidate Kenyatta who was backed by the then Moi administration. The two former allies contested for presidency in the 2007 election. Furthermore, the two candidates represented not only their own ethnic groups, but also other ethnic groups that were pulled in to each camp, thus polarizing the political support along the ethnic line. The candidates needed supports from other ethnic groups. For example, both Kibaki and Odinga fielded a vice president candidate from the Luhya tribe, the largest among the remaining ethnic groups, in order to attract Luhya votes (Gibson and Long, 2009). As a result, 75% of the Luhya voted for Odinga and 23% for Kibaki. Odinga, in addition, succeeded in acquiring regional support and gained 88% of votes from the Kalenjin people, to which the previous President Moi belonged. Among other smaller ethnic groups, the Kisii and Maasai took neutral stand. Under this intense competition, the exit poll predicted Odinga to be slightly in the lead for the presidential seat. Under this intense competition, the Opinion poll predicted Odinga to be slightly in the lead for the presidential seat. Immediately after the announcement of Kibaki’s re-election, violence broke out in Nairobi slums and other major cities and soon developed into a series of attacks throughout the country, quickly worsening the public order that was not to be restored for over two months (Commission of Inquiry on Post-Election Violence, 2008; Human Right Watch, 2008). Initially, the main targets of the violence were the Kikuyu people, to which President Kibaki belonged. They were attacked in various spots including Kibera Slum of Nairobi, in the city of Kisumu of Nyanza Province,

and locations in Coastal Province that are inhabited by Kikuyu and Luo people. In Rift Valley Province, not only spontaneous attacks but also more systematic raids, mainly organized by groups of Kalenjin origin, occurred (Commission of Inquiry on Post-Election Violence, 2008). The difference between violence that occurred in Rift Valley and other places is that the politicians in Rift Valley have been said to deliberately fuel the land dispute between the different ethnic groups in order to win more public support during the election campaign. Human Right Watch (2008) reports that several of Kalenjin politicians spread words to make their people believe that once ODM occupied the presidential office, they would be able to make the Kikuyu leave the province and would redistribute the land among indigenous ethnic groups.

The EU Election Observer Mission (2007) states that violence committed prior to the 2007 elections did seldom result in perpetrators being held accountable. The EU monitoring commission notes: ‘in most cases, abuses did not receive an appropriate response from the police and the judiciary and there was therefore impunity towards perpetrators’ When the most recent election violence erupted in December 2007, perpetrators had good reason to assume that also this time politically motivated violence would go unpunished as stated by Human Watch. So far, they have not been mistaken: the Waki Report concludes that out of more than 1,000 homicides related to the election violence, only 19 were prosecuted.

## **2.5 Mobile telephony and elections in Kenya**

According to Bardall (2010) Election violence monitoring has long been a key tool of civil society for violence prevention and mitigation. As recent experiences in Iran, Kenya, and Moldova have shown, new media technologies such as Twitter, short message system (SMS) messaging and YouTube have created a new horizon of possibilities for monitoring, harnessing election violence by documenting it in real time, and creating new access channels for citizens to hold their governments accountable. The introduction of ICTs to the issues of election-related violence has had far-reaching impacts for organized election and violence monitoring programs. In addition, ICTs have introduced a new generation of violence data collection and crisis mapping by generating a meaningful, spontaneous participation of everyday citizens armed with cell phones and laptops.

Firstly, the use of ICTs in election monitoring has been pioneered by several organizations in the past few years to enhance observation in a variety of ways. Kammerud (2009)

demonstrates a diverse series of examples of the use of SMS technology in domestic election monitoring comes from the National Democratic Institute (NDI), which introduced SMS technology as a reporting tool for election observation in two pilot projects in Indonesia (2005) and Palestine (2006) and has continued to integrate SMS into subsequent observation missions including Bahrain (2006), Albania (2007), Sierra Leone (2007), and Lebanon (2009). NDI's experience illustrates some of the numerous ways in which SMS messaging can facilitate the transmission of observation data. In Indonesia, NDI used SMS to overcome long wait times and coordination issues at observation data collection call centres, by creating a call-queue. The Palestine case was also notable in that SMS was combined with GIS digital mapping software to automate the process of tracking observer teams Schuler (2008).

Election violence monitoring is at an important crossroads and practitioners must reflect carefully on how to capitalize on the opportunities offered by ICT solutions without compromising existing standards, which may endanger lives, (Bardall, 2010). Three key elements necessary to an effective election violence monitoring initiative including the speed of data collection, transmission, processing and publication; the accuracy and richness of data to ensure accountability; and the ability to achieve these criteria at a reasonable and sustainable cost. As the NDI and Swift River examples illustrate, SMS and Internet technologies are being used to gather and filter increasingly rich data via ICTs. But because effective election-violence monitoring requires both incident reporting and situational reporting, further adaptation is needed. Furthermore, Kammerud (2009) adds that violence monitoring also demands the identification of a perpetrator, which is essential for filling the accountability gap and effectively using data to warn and prevent against further violence. The interpretation of data is equally critical in this perspective. Election violence monitoring programs must offer a capacity to distinguish incidents of minor political importance from those that may foreshadow risks of escalating violence or political breakdown. Without this depth of analysis, election violence monitoring risks losing its application for broader risk assessment and early warning based on broad trends. The absence of this type of differentiation may also create additional risks by placing undue importance on small disputes or ignoring the broader impact of other incidents.

The Election Observation Group (ELOG), a ten member consortium funded by NGOs, Civil society and faith based organization with technical assistance from the American organization National Democratic Institute (NDI) used an SMS based election monitoring

programme; Parallel Voter Tabulation which served as an extension to their tradition of formal election observation. In addition, ELOG mobilized almost 6,000 non-partisan citizen election observers countrywide. Using SMS to gather data from the observers, parallel vote tabulations provided an independent vote count as a check on the Independent Electoral and Boundaries Commission.

The effectiveness of election violence monitoring relies on three main factors: cost, accuracy and richness of data, and time of data capture. The opportunities presented by new social media technologies have revolutionized the cost and speed of violence monitoring; yet to date no analysis has been conducted of the accuracy of data generated through crowd sourcing nor for the lessons can the traditional and new approaches gain from each other. During the campaign, Election Day and post-election period of 2007 general elections, SMS messaging was widely used to incite or organize violence. To tackle the problem the government partnered with mobile service providers to monitor SMS messages and block offensive material reveals the *Daily Nation* (21 March 2013). The ability to monitor SMS was facilitated by the Communications Commission of Kenya requiring all mobile phone users to register their SIM cards between June 2010 and November 2012. Politicians were required to submit their SMS messages for vetting two days before they were to be released and all mass SMS messages had to be released between 8:00 A.M. and 6:00 P.M. in Swahili or English, not in local vernacular languages, states Ramah (2012).

Sisi Ni Amani, which is Kiswahili for ‘We are peace,’ is a grassroots peace building program that links local NGOs in Kenya to support peace efforts at the local level. While Sisi Ni Amani has programs that are not technology-focused, one of their core projects is a SMS text message subscriber service that provides information about leadership, local news, and provides a neutral source for information during tense periods such as elections (Sisi Ni Amani 2013). With Kenya’s 2013 elections fast approaching, it took the opportunity to tap into these same communication channels, particularly mobile phones, to prevent and de-escalate tensions and violence.’ (Sisi Ni Amani 2013)The Uwiano Platform for Peace, which was supported by the UNDP, NSC, and included input from grassroots NGOs such as Sisi Ni Amani, was developed to rapidly gather, validate, and share information to prevent violence during the 2010 Kenyan constitutional referendum (Ndeta, 2013). According to Chuma and Ojielo (2012), Amani Kenya @108 is part of the Uwiano Platform for Peace comprehensive peace architecture, which encourages information sharing between government, international,

and NGO actors in Kenya who are working to prevent violence It operates differently from Sisi Ni Amani's mobile phone SMS information sharing since it is rather a data collection and management program.

## **2.6 Theoretical Framework**

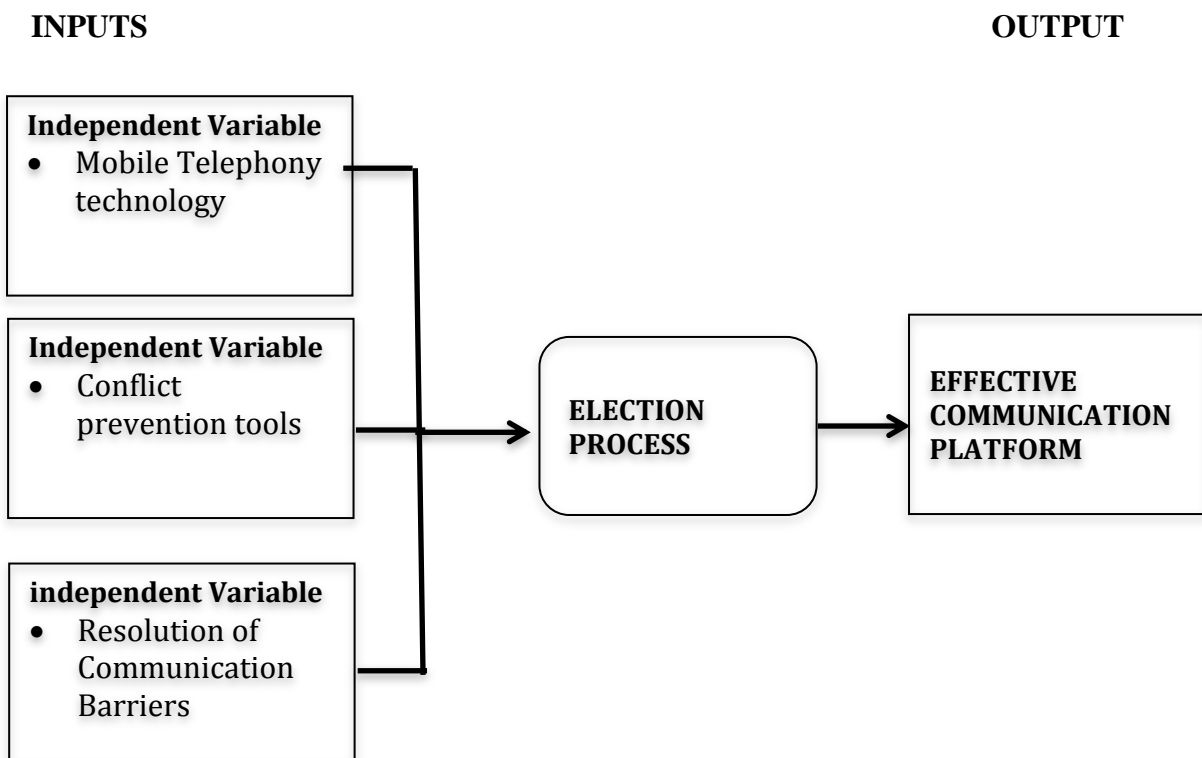
Network Society theory is used as the underpinning theoretical framework for the study. Network society as defined by Manuel Castells in 1996 is a society where the key social structures and activities are organized around electronically processed information networks. Castells predicted that people living in the Networked Society would be able to use connectivity to improve their lives and businesses. Baran & Davis, (2009) states that technology, especially new media, decisively shapes how individuals think, feel and act and how societies organise themselves and operate. Looking at the technological paradigm of a networked society, Technology is understood as material culture, is a fundamental dimension of social structure and social change as explained by Fischer (1992). Theorists who have argued that changes in communication technologies have had an important cultural impact have tended either to regard such changes as limited to social and institutional practices or, far more radically, have argued that such changes have also had profound psychological consequences, transforming the nature of human consciousness. Some believe that technology's strong influence on various aspects of society is mostly based on how much the technology is and can be used.

This theory has implications for this research because it suggests that new media are shaping the way communication is done during election period and how this communication is influencing voters. The new media that this research focuses on is on mobile telephony. As Mitchell (2002) writes "wireless connections and portable access devices create continuous fields of presence that may extend throughout buildings, outdoors, and into public space as well as private. This has profound implications for the locations and spatial distributions of all human activities that depend, in some way, upon access to information." This will help us study how the information shared during the election period influences the voters.

Finally, the mobile phone is a beneficial tool for organizing people's lives and for remaining contactable at all times (Ozcan & Kocak, 2003). The socialization of society, that is the construction of a shared cultural practice that allows individuals and social groups to live together (even in a conflictive togetherness), takes place nowadays in the networked,

digitized, interactive space of communication, centered around mass media and the Internet. Thus, the relationship between citizens and politicians, between the represented and the representative, depends essentially on what happens in this media- centered communication space. Not that the media dictate politics and policies. But it is in the media space that political battles of all kinds are fought, won, and lost. This will enable us find out how mobile phones can be used to facilitate and manage the collective action problems associated with conflict prevention as well.

## 2.7 Conceptual Framework



Source: Author

When mobile telephony is effectively used as a premeditated communication tool during election process and the barriers for communication taken care of then it forms an effective communication platform for the prevention of election violence.

## **CHAPTER THREE**

### **METHODOLOGY**

This section explains the procedure followed in conducting the study. It included research design, area of study, target population, data collection methods and techniques, data analysis and presentation respectively. The purpose of this study was to create a better understanding of the interplay between mobile phone use and elections. This entails a detailed study of the wider and local context factors influencing such technology, the processes of implementation in prevention of elections violence and ensuing change resulting from the implementation process.

#### **3.1 Research Design**

For this study a case study was adopted. Yin (1994) defines a case study as an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly defined. Yin (1994) argues that ‘case study allows an investigation to retain the holistic and meaningful characteristics of real-life events such as individual life cycles, organizational and managerial processes, neighbourhood change, international relations and the maturation of industries.’ Paré and Elam (1997) argue that case study research strategy makes the capture and understanding of context possible and can be used to achieve a variety of research aims using diverse data collection and analysis methods.

Embakasi Constituency has been chosen as the case study. The Constituency was chosen as the setting of this study because it is centrally located in the heart of Nairobi, the capital city of Kenya and characterized by perennial crisis of election violence. While no single location can serve as representative of a broader class of cases, Embakasi Constituency possess salient characteristics that serve as representative of the broader population in Kenya. Embakasi Constituency shares a number of important features with other multi-ethnic locations, particularly in Kenya, that ensure the findings from this study will be relevant elsewhere. Galliers, (1991) points out that case study strategy has been argued to be particularly useful for practice-based problems where the experience of the actors is important and the context of action is critical.

The interpretive researcher attempts to derive his or her constructs from the field by an in-depth examination of exposure to the phenomenon of interest. Through this approach,

categories and themes emerge that hopefully are closely linked to the experiences of the relevant study's participants (Orlikowski and Baroudi, 1991). Given the interpretive stance adopted in this research and the nature of the research question of understanding how mobile phone use is being adopted in Kenyan elections to prevent post-election violence, it is believed that the case study approach is the appropriate research.

### **3.2 Population**

The target population selected for the study was 382 selected from the population of Embakasi Constituency. According to the Independent Elections and Boundaries Commission (IEBC), the constituency has a population of 142,046 which was the target population.

### **3.3 Sampling**

Mugenda & Mugenda, (1999) define sampling as the process by which a relatively small number of individual, object or event is selected and analyzed in order to find out something about the entire population from which will be selected. Kothari (2004) states that the size of the sample should be determined by a researcher keeping in view the nature of the study. Sampling serves three purposes: It reduces the costs and time required to do the research; It often improves the quality of information by allowing more intensive data collection than would otherwise be possible; and, it reduces the burden on respondents. Krijcie and Morgan's sampling table in appendix II was used to select a sample of 382 respondents.

### **3.4 Data Collection tools**

The study used questionnaires to generate primary data for the study. Questionnaires were used to measure how people use the Mobile phones during election period and its impact on their perceptions and reactions during elections. 382 questionnaires were administered to the respondents from Embakasi Constituency who were selected randomly.

### **3.5 Data Instrument Pretesting**

The questionnaires were tested in Embakasi Constituency before actual data collecting to ascertain their reliability. The results deduced from the pre-test were used to refine the questionnaire to best meet the study objectives.



### **3.6 Data Analysis and presentation**

According to Sekaran (2003), data analysis procedure includes the process of packaging the collected information putting it in order and structuring its main components in a way that the findings can be easily and effectively communicated. The data obtained from the field was edited, coded and interpreted according to themes that emanated from the research objectives and questions. Mugenda and Mugenda (2003) say that such data must be cleansed, coded, key punched into a computer and analyzed. Both qualitative and quantitative approaches of data analysis were used for the study. The quantitative data was keyed into the computer for further analysis using Statistical Package for the Social Sciences (SPSS). The data analysis of qualitative research was generally inductive and interactive. It involved the identification of categories, themes, relations among both, and the cross verification of tentative answers to descriptive, associational, and causal questions, which was adopted for the study. The analysis was described or implied in the discussion of the findings.

### **3.7 Ethical consideration**

Confidentiality given by the respondents was upheld. All information given was used for academic purpose and all respondents were told to keep anonymity on the questionnaire. Personal and intrusive questions were avoided in designing the questionnaires.

## CHAPTER FOUR

### DATA ANALYSIS AND PRESENTATION

This chapter presents data analysis, interpretation and discussions. It begins with instrument return rate, demographic data of the respondents, and then followed by an examination of the mobile telephony use and its role in preventing electoral violence in Kenya: A case study of Embakasi Constituency during Kenya's 2013 general election.

#### 4.1 Instrument return rate

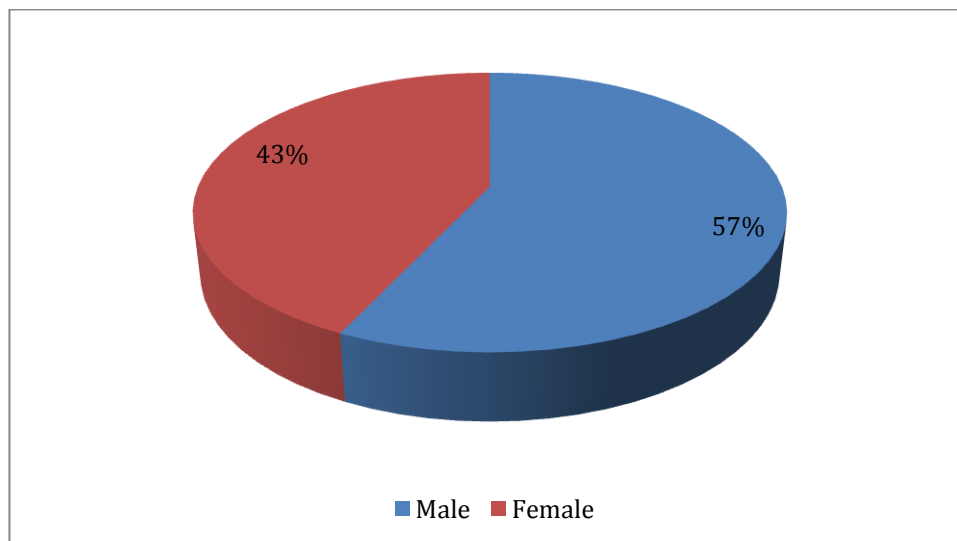
Questionnaires were used to collect data among the residents of Embakasi Constituency. A total of 382 questionnaire tools were issued and returned giving a response rate of 100 per cent that was deemed sufficient for data analysis. The responses were taken to be the true representation of the respondents' views due to the independence of the questionnaire method of data collection.

#### 4.2 Demographic information of respondents

The study sought to find out the demographic information of the respondents respective of their gender, age, academic qualifications, occupation voter registration status and access to mobile phones. The purpose of this information was to establish the general characteristics of the registered voters in the constituency as at March 2013 and their understanding of the use of mobile technology in election activities.

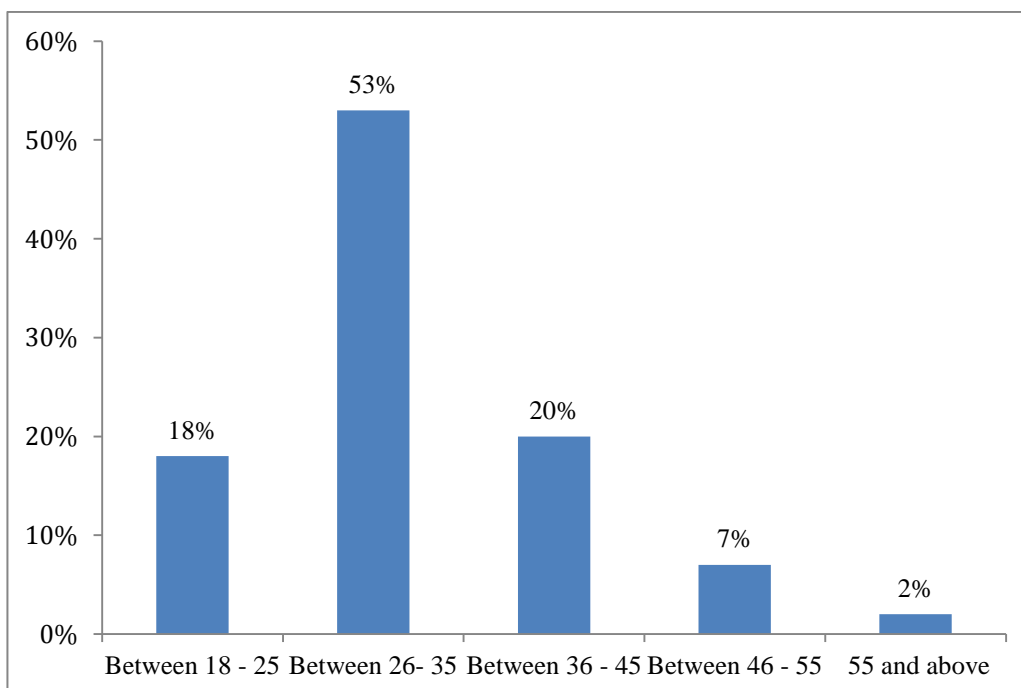
##### 4.2.1 Distribution of respondents by gender

To determine the distribution, the respondents were asked to indicate their gender. Their responses were as shown in Figure 4.1.



**Figure 4. 1**Distribution of respondents by gender

Findings in Figure 4.1 shows that whereas both genders actively participated in the election process, there were more male registered voters in the constituency than females. This could be attributed to the fact that males were more actively involved in the electoral process than the females. It could also be attributed to the fact that the females could have opted to register in other parts of the country out the fear of a recurrence of PEV. Embakasi Constituency was one of the hot spots in the previous (2007) elections that saw loss of lives, looting, maiming and ethnically motivated tensions. Results on the respondents' distribution by age were as shown in Figure 4.2



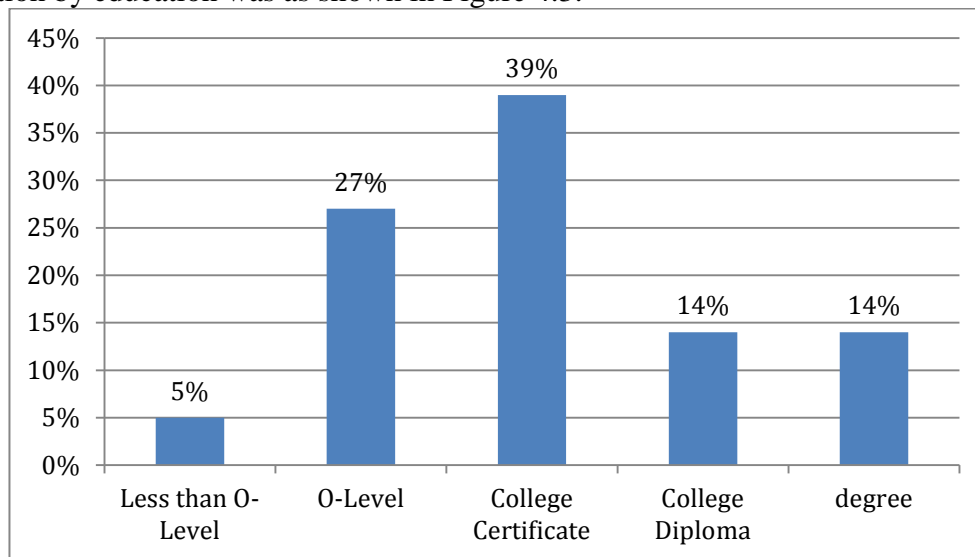
**Figure 4. 2 Distribution of respondents by age**

Data in Figure 4.2 shows that the majority of the voters were between 18 and 45 years of age. The greater proportion (53%) was 26-30 years of age with 20 percent aged 36-40 years while another 18 percent were 18-25 years old. This finding implied that the majority of the voters in the constituency were those within the working bracket probably working in businesses and establishments proximate to the city centre and the Nairobi's industrial area. To ascertain the distribution of their ages by gender, a cross tabulation was done and the results were as shown in Table 4.1

**Table 4. 1 Cross tabulation of respondents’ age by gender**

		Please indicate your gender		Total
		Male	Female	
Between 18 – 25	Frequency	38	31	69
	% within age	55.60%	44.40%	100.00%
Between 26- 35	Frequency	122	80	202
	% within age	60.40%	39.60%	100.00%
Between 36 – 45	Frequency	42	34	76
	% within age	55.00%	45.00%	100.00%
Between 46 – 55	Frequency	8	19	27
	% within age	28.60%	71.40%	100.00%
55 and above	Frequency	8	0	8
	% within age	100.00%	0.00%	100.00%
Total	Frequency	218	164	382
	% within age	57.00%	43.00%	100.00%

The majority (71.4%) of those aged 46-55 years were females while the majority (60.4%) of those aged 36-45 years were males. This implied that there were more youthful male registered voters than females. The observation further implied that the younger women could have opted to register elsewhere as voters as a way of avoiding the hot spot. Their distribution by education was as shown in Figure 4.3.



**Figure 4. 3Distribution of respondents by education**

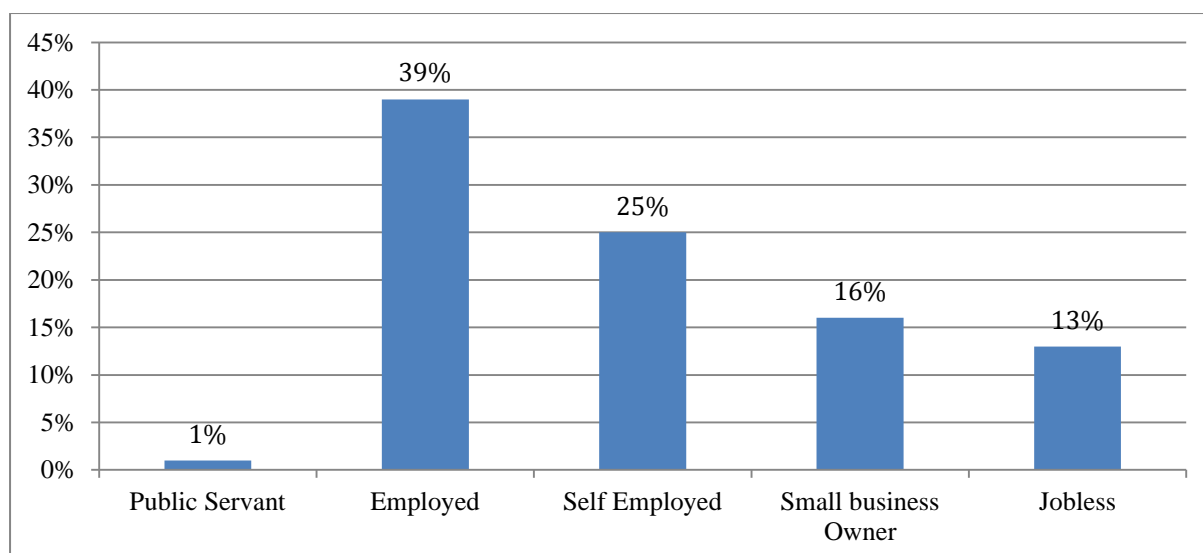
Varied education levels were presented with 39.4 percent of the voters holding college certificates, and 27.1 Percent holding O-Level education. A significant proportion of 14.1 percent held degrees with a similar proportion holding college diplomas. To ascertain their education level by gender, a cross tabulation was done and the results were as shown in table 4.2

**Table 4. 2 Cross tabulation of respondents ‘education by gender**

		Gender		Total
		Male	Female	
Less Than O-Level	Count	4	15	19
	% within highest level of education	20.00%	80.00%	100.00%
O-Level	Count	57	46	103
	% within highest level of education	55.60%	44.40%	100.00%
College Certificate	Count	84	65	149
	% within highest level of education	56.40%	43.60%	100.00%
College Diploma	Count	38	15	53
	% within highest level of education	71.40%	28.60%	100.00%
Degree	Count	31	23	54
	% within highest level of education	57.10%	42.90%	100.00%
Total	Count	214	164	378
	% within highest level of education	56.60%	43.40%	100.00%

In all the age segments there were more qualified males than females. Only a small proportion (5%) had less than O-level of education. This finding implied that the majority of the voters were literate and were able to understand the technological advancements including the mobile telephony technologies and were thus able to participate in the study by providing factual information of it use in the management of the election period.

Their distribution by occupation was as shown in Figure 4.4.



**Figure 4. 4 Distribution of respondents by occupation**

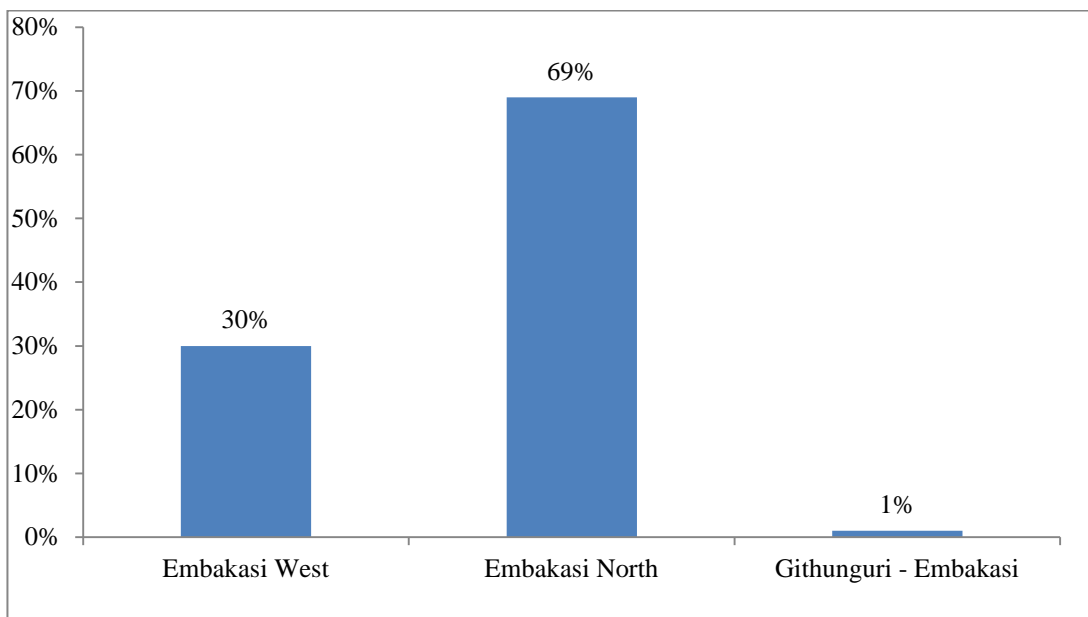
A greater proportion of the respondents 41.5% were employed in the private sector with a further 26.6% self-employed. Additionally, 17.0 % operated small businesses. Their distribution across gender was as summarised in Table 4.3

**Table 4. 3Cross tabulation of respondents ‘occupation by gender**

		Please indicate your gender		
		Male	Female	Total
Public Servant	Count	0	4	4
	% within Current occupation	0.00%	100.00%	100.00%
Employed	Count	84	65	149
	% within Current occupation	56.40%	43.60%	100.00%
Self Employed	Count	57	38	96
	% within Current occupation	60.00%	40.00%	100.00%
Small business Owner	Count	38	23	61
	% within Current occupation	62.50%	37.50%	100.00%
Jobless	Count	31	19	50
	% within Current occupation	61.50%	38.50%	100.00%
Total	Count	210	149	359
	% within Current occupation	58.50%	41.50%	100.00%
	% within gender	100.00%	100.00%	100.00%

Most of those in employment with private and public sectors were women while most of those who were self employed or run small businesses were male. Only 13.8% of all the respondents were jobless. This finding implied that the majority of the residents in the area were commercially engaged in one way or another and would be greatly inconvenienced should electoral chaos erupt within their neighbourhood. They were thus in a position to report on the effects of electoral violence in their neighbourhood.

Further enquiries were made to confirm their residence status. They were therefore asked to indicate their location of residence and the results were as shown in Figure 4.5



**Figure 4. 5 Distribution of respondents by residence in 2013**

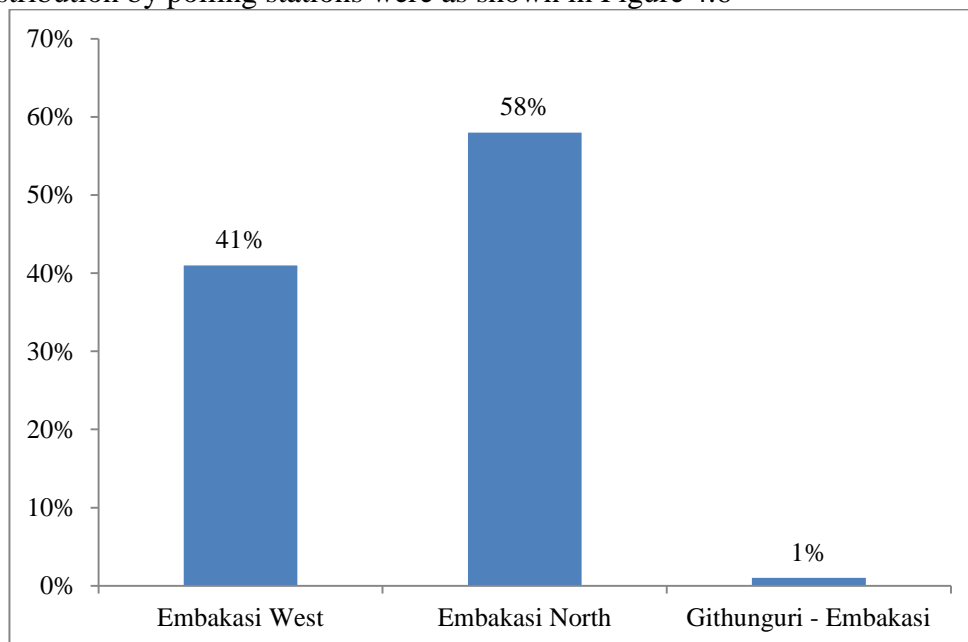
Findings in Figure 4.5 show that the majority of the respondents lived in Embakasi west (30%) and Embakasi North (68%). Embakasi Constituency is cosmopolitan. Most of the residents come from different ethnic orientation, which consequently comes with different political aspirations. As such the constituency is a hotspot whenever difference of opinions touching on ethnicity and political expectations arise. Their distribution by polling stations were as shown in Table 4.4

**Table 4. 4 Distribution of respondents by residence in 2013**

		Please indicate your gender		
		Male	Female	Total
Embakasi West	Count	73	42	115
	% within Constituency	63.30%	36.70%	100.00%
Embakasi North	Count	141	122	263
	% within Constituency	52.90%	47.10%	100.00%
Githunguri – Embakasi	Count	4	0	4
	% within Constituency	100.00%	0.00%	100.00%
Total	Count	218	164	382
	% within Constituency	57.00%	43.00%	100.00%

Table 4.4 confirms that the majority of the respondents lived in Embakasi North, and that there were more males voters than females across the residential area. This finding is centrally to the findings of the 2009 national census which indicated that there were more female residents in the constituency than males.

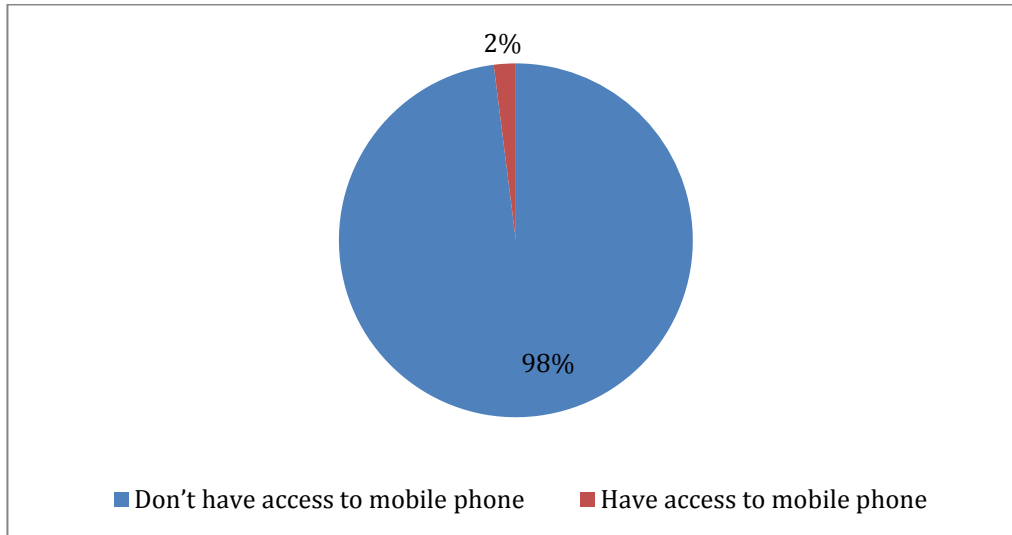
Their distribution by polling stations were as shown in Figure 4.6



**Figure 4. 6 Distribution of respondents by polling station**

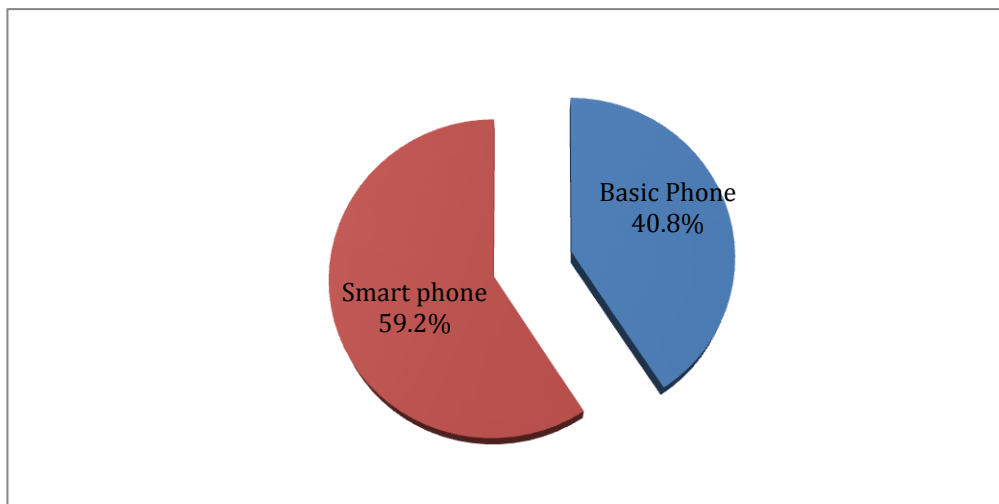


Findings show that the majority voted in Embakasi West (41%) and embakasi north (58%). This implied that the respondents resided and voted in their respective areas of residence and were thus able to report factually on the events surrounding the 2013 elections. To ascertain their access and use of mobile telephony network, the responds were required to indicate whether they owned or had access to a mobile phone. The results were as shown in Figure 4.7.



**Figure 4. 7 Distribution of respondents by access to a mobile phone**

Findings in Figure 4.7 show that the majority (98%) had access to mobile phones and were thus able to contribute to this study by responding to specific requests on the use of mobile telephone technology during the 2013 election. The respondents were further required to indicate the type of mobile phone they owned or had access to. The results were as shown in Figure 4.8



**Figure 4. 8 Distribution of respondents by type of phone**

Findings show that 59.2% of the residents had smart phones and were thus able to receive and send texts and high-resolution graphics, pictures and videos. This kind of mobile phone is able to connect to the internet at all times suggesting that who owned the smart phone had access to internet too. On the other hand 40.8% had access to a basic phone and were only able to send and receive texts and low-resolution graphics.

Information was also sought on the pattern of the residents' use of mobile phones. The results were as shown in Table 4.7.

**Table 4. 5Phone usage patterns on calls**

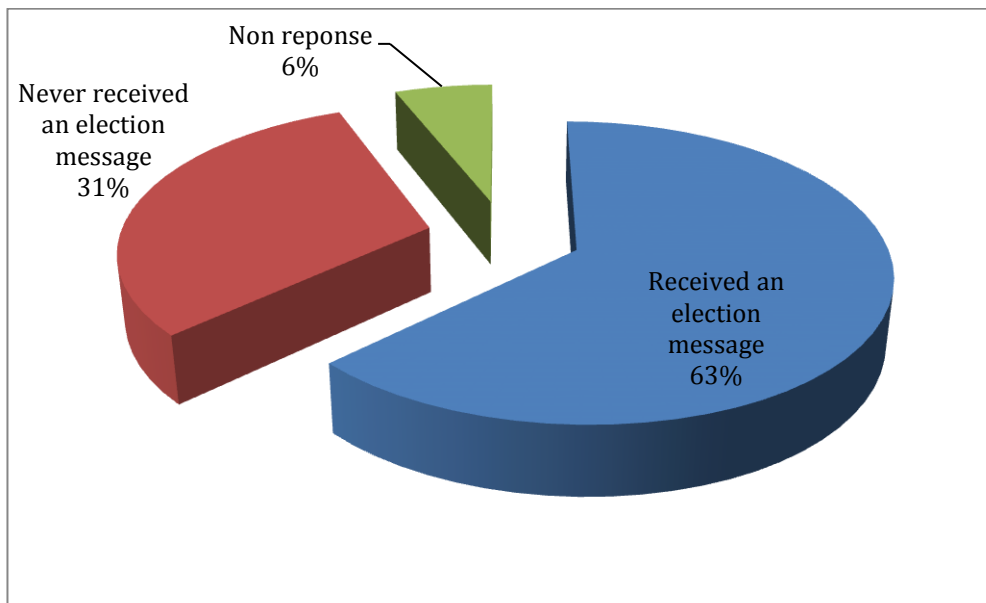
	Make calls		Receive calls		Send SMS		Receive SMS		Chat on facebook		Chat on twitter		Chat on whatsapp	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%
	Rarely	19	5	31	8	54	14	31	8	134	35	173	45	126
Less than 20%	42	11	46	12	107	28	80	21	80	21	61	16	61	16
21 - 40%	92	24	57	15	88	23	99	26	31	8	38	10	8	2
41 - 60%	145	38	137	36	57	15	96	25	73	19	53	14	23	6
61 - 80%	73	19	92	24	57	15	57	15	34	9	11	3	126	33
Non response	11	3	19	5	19	5	19	5	30	8	46	12	38	10
<b>Total</b>	<b>382</b>	<b>100</b>	<b>382</b>	<b>100</b>	<b>382</b>	<b>100</b>	<b>382</b>	<b>100</b>	<b>382</b>	<b>100</b>	<b>382</b>	<b>100</b>	<b>382</b>	<b>100</b>

Findings show that 57% -60% of the residents had dedicated at least 40% of their phone usage to making and receiving voice calls while 30-40% of the residents dedicated at least 40% their phone to the use of SMS. On the social media, 28 percent of the residents were dedicated to Facebook, 17 percent to twitter and 40 percent to whatsapp. They indicated having dedicated at least 40% of their phone usage to social media. This finding implied that the residents had access to three platforms namely, voice calls, SMS, and Social media during the 2013 election. They were thus able to respond to specific questions on the use of the three services as sought in this study.

### **4.3 Use of mobile telephony based platforms as conflict prevention tool during elections**

The first objective of the study was to establish how mobile telephony-based platforms have been used as conflict prevention tool during elections. To achieve this, sets of questions were

posed to the respondents on the content and context of communication over the election period. Firstly they were to indicate when they received any political message over the period. Their responses were as shown in Figure 4.9



**Figure 4. 9 Proportions that received election messages**

Findings in Figure 4.4 shows that 63% of the residents received at least one political message confirming that mobile phone telephony communication was actively used during the 2013 elections. On the type of the message received, the response was as shown in Table 4.6.

**Table 4. 6 Type of election message received**

Communication status	Call		SMS		Social Media	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Yes	61	16	225	59	61	16
No	19	5	19	5	12	3
Non response	302	79	138	36	309	81
<b>Total</b>	<b>382</b>	<b>100</b>	<b>382</b>	<b>100</b>	<b>382</b>	<b>100</b>

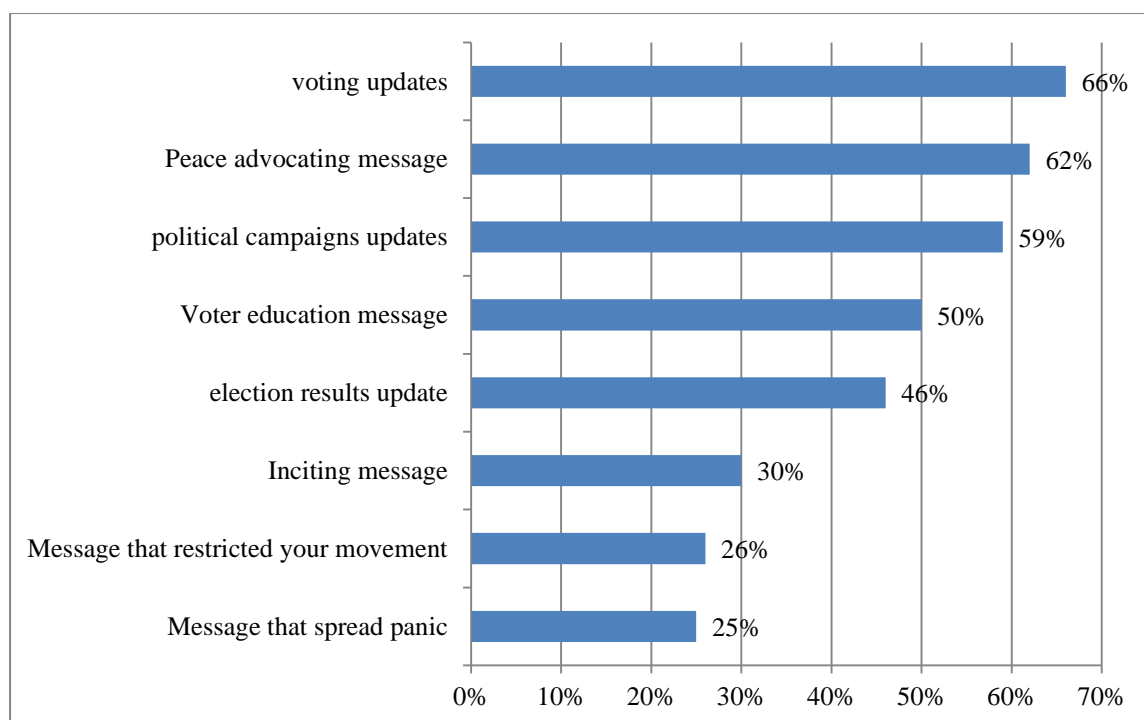
Findings show that all the three modes of mobile telephony platforms were actively used over the election period. While 16 percent of the residents received voice calls and social media messages, 59 percent received SMS suggesting that the highly patronized mobile telephony communication mode was SMS.

Information was further sought on the issues that were discussed in the election messages received. The statements were presented in the form of a likert scale. The respondents were to indicate the extent to which they agreed or disagreed with the statements. They were to indicate the Level of “agreement” as Strongly Disagree, Disagree, Agree or Strongly Agree. Descriptive statistics were used to analyze the data where Strongly Agree was coded as (4), Agree (was coded as 3), Disagree (as 2), and Strongly Disagree (as 1). The results were as shown in Table 4.7.

**Table 4. 7 Most commonly discussed issues on phone during the election period**

<b>Topic of Discussion</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std. Dev</b>
Update involving voting	382	1	4	2.8706	.66883
Peace advocating message	380	1	4	2.7826	.86222
Vote education message	379	1	4	2.5761	.81515
Updates involving campaigns or voting	382	1	4	2.5393	.85355
Message on election results	381	1	4	2.5165	.97025
Message that restricted your movement	382	1	4	2.0674	.91450
Inciting message	380	1	4	2.0111	.94208
Message that spread panic	382	1	4	1.9889	.94208
Valid N (listwise)	382				

From the descriptive statistics, mean scores of more than 2.5 indicated that the topic had a high frequency of discussion while the factors with a mean of less than 2.4 were taken to be low frequency discussion topics. Findings in table 4.9 show that voting updates, Peace advocating messages, Voter education messages, election campaigns updates and Messages on election results were most frequently shared messages among the residents. On the other hand Messages that restricted your movement, inciting messages and Messages that spread panic were also shared among the residents even though they were low in frequency. The frequency of the messages were as summarized in Figure 4.10



**Figure 4. 10 Frequency of messages shared over the 2013 election period**

Findings in Figure 4.10 show that indeed mobile telephony based platforms were used over the election period. However both positive and negative messages were shared as far as prevention of election violence was concerned. Whereas 62% of the residents received messages advocating peace during the election, 30 percent received inciting messages, 26 percent received messages that restricted their movements and another 25 percent received messages that spread panic.

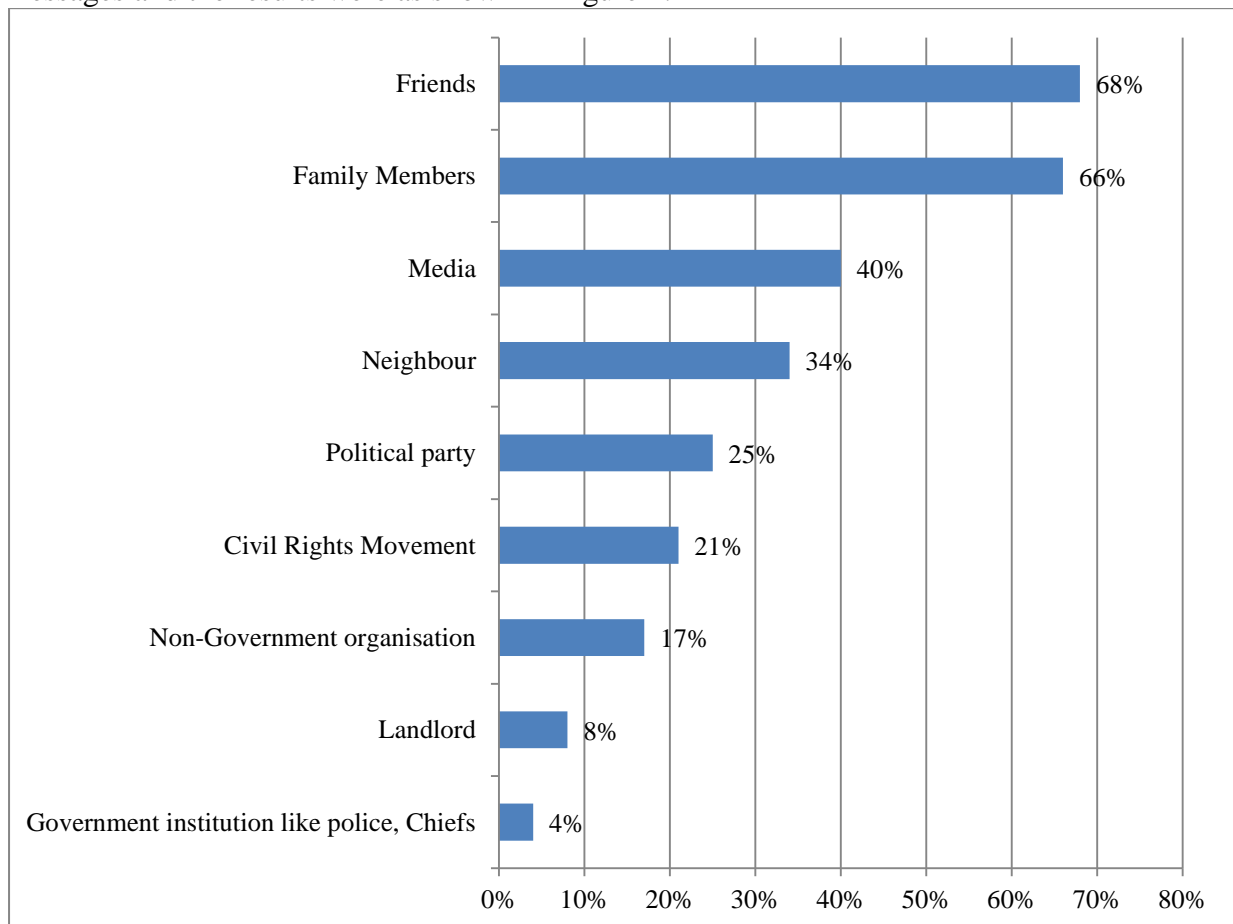
#### **4.4 Effectiveness of mobile telephony based platforms on prevention of election violence**

The second objective of the study was to ascertain the effectiveness of mobile telephony based platforms on prevention of election violence. To achieve this, the respondents were required to indicate whether they knew the sources of the election messages they received on their phones. The results were as shown in Table 4.8

**Table 4. 8 Knowledge of the sources of election messages**

<b>Knowledge of source</b>	<b>Frequency</b>	<b>Percent</b>
Yes to all	53	14
Yes to some all	237	62
No to all	92	24
<b>Total</b>	<b>382</b>	<b>100</b>

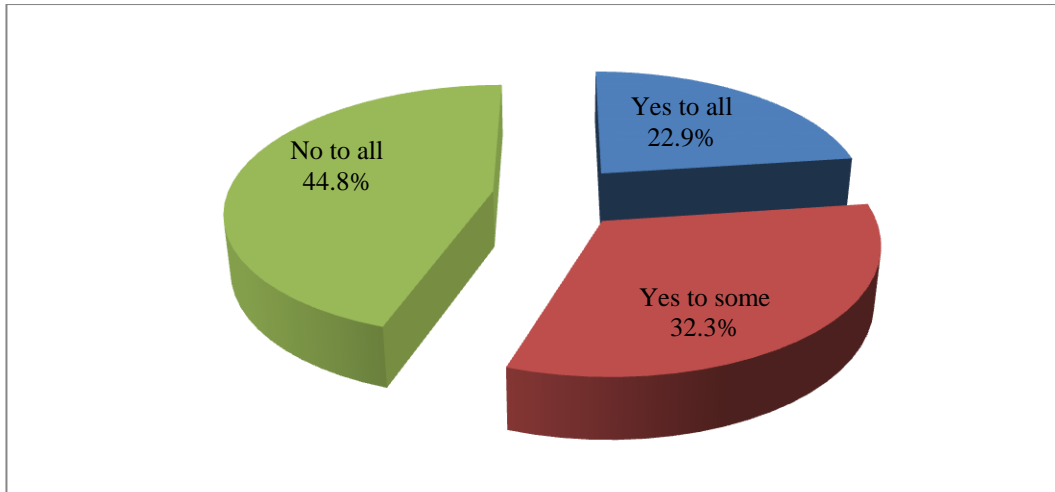
Findings in Table 4.8 indicate that 14 percent of the residents exchanged the election messages with people that were well known to them suggesting that they were actively engaged in electoral process with people they knew very well. However 62 percent indicated receiving messages from both people they knew and others they did not suggesting that the mobile telephony based platforms were prone to intrusion where mobile phone users exchanged information with people unknown to them. A further 24 percent of the residents confirming receiving messages from people not know to them at all. For the residents who knew the source of the messages, further Information was sought on the sources of the messages and the results were as shown in Figure 4.11



**Figure 4. 11 Sources of the phone messages during the election period**

Findings show that the main sources of election messages were friends (68%) and family members (66%). These findings confirm that family and friends could generate election messages that could end up being forwarded to acquaintances and most likely end up with strangers. Other identifiable sources of information were the Media, Neighbours, Political Parties, Civil Rights Movements, NGOs, and Government Institutions.

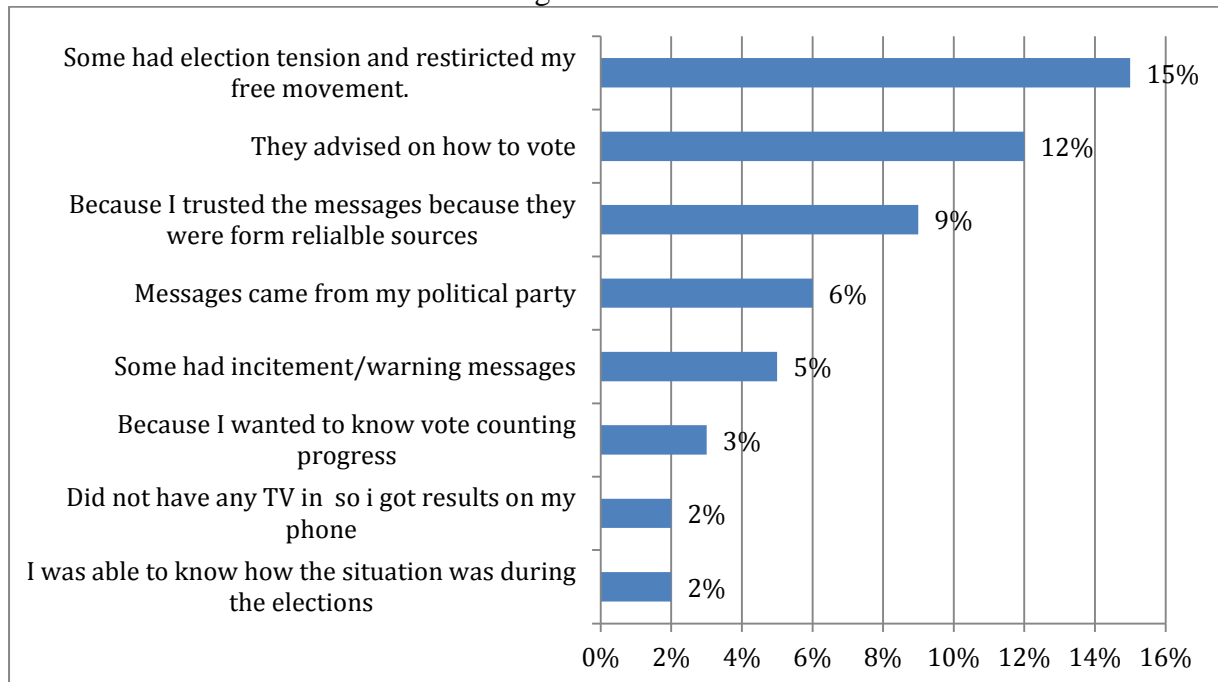
The influence of the phone messages on the residents were as summarized in Figure 4.12



**Figure 4. 12 Influence of the election messages on the voters**

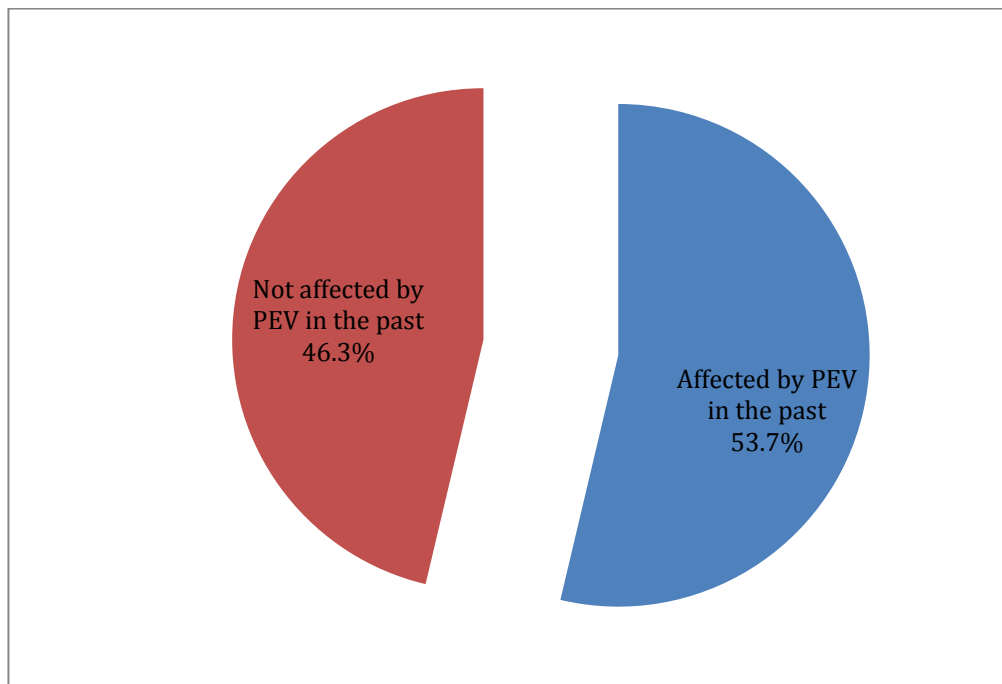
From the responses in Figure 4.12, majority of the residents indicated being influenced by the messages to some extent with 22.9% being influenced by all the messages and another 32.3 % being influenced by some of the messages. Only 44.8 percent indicated not being influenced at all. This finding confirms that mobile telephony based platforms are powerful tools of influence and could be used in the management of the election processes. If positively used, their influences could be used towards prevention of election violence.

Information was also sought on what influenced the residents from the phone messages they received. The results were as shown in Figure 4.13



**Figure 4. 13 Reasons for the influence of the phone messages on the residents**

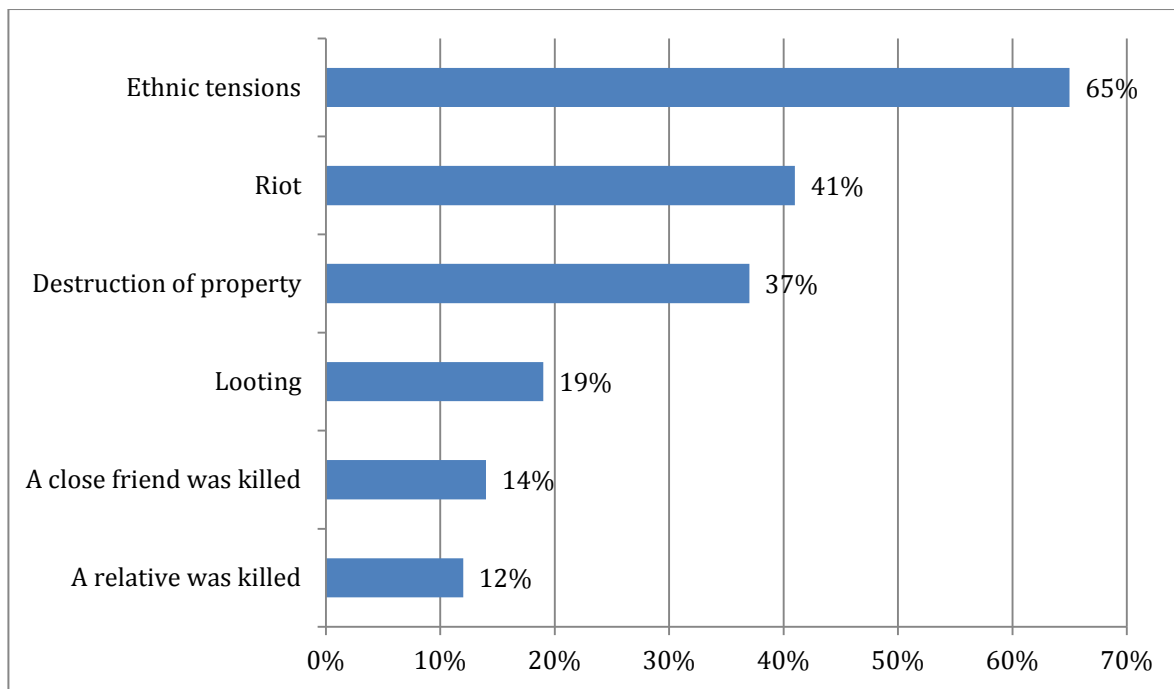
Reasons for the phone messages' influence on the residents was because some of the messages had election tension that restricted free movement. Embakasi Constituency was a hot spot in the previous 2007 election and the majority of the residents feared a repeat. As a result, messages on potential violence were quite weighty and influenced residents to a great extent. Additionally, the 2013 election presented a new pattern of voting unprecedented before as a result of the enactment of the Kenya constitution 2010. As such, the mobile telephony based platforms were effectively used in voter education, which greatly influenced the residents in the area of study. The residents also favoured and trusted messages from reliable sources and which media houses would eventually replicate. To understand the effect of the negative and restrictive messages on the residents, the respondents were asked to indicate if they were affected by the PEV of 2008. Their responses were as summarized in Figure 4.14.



**Figure 4. 14 Proportion of the residents previously affected by PEV**

Figure 4.14 confirms that 53.7 percent of the residents were previously affected by PEV confirming that restrictive and negative messages created tension in them and would therefore be greatly influenced by such messages. Some of the effects of the previous PEV that the residents faced were as summarized in Figure 4.15.



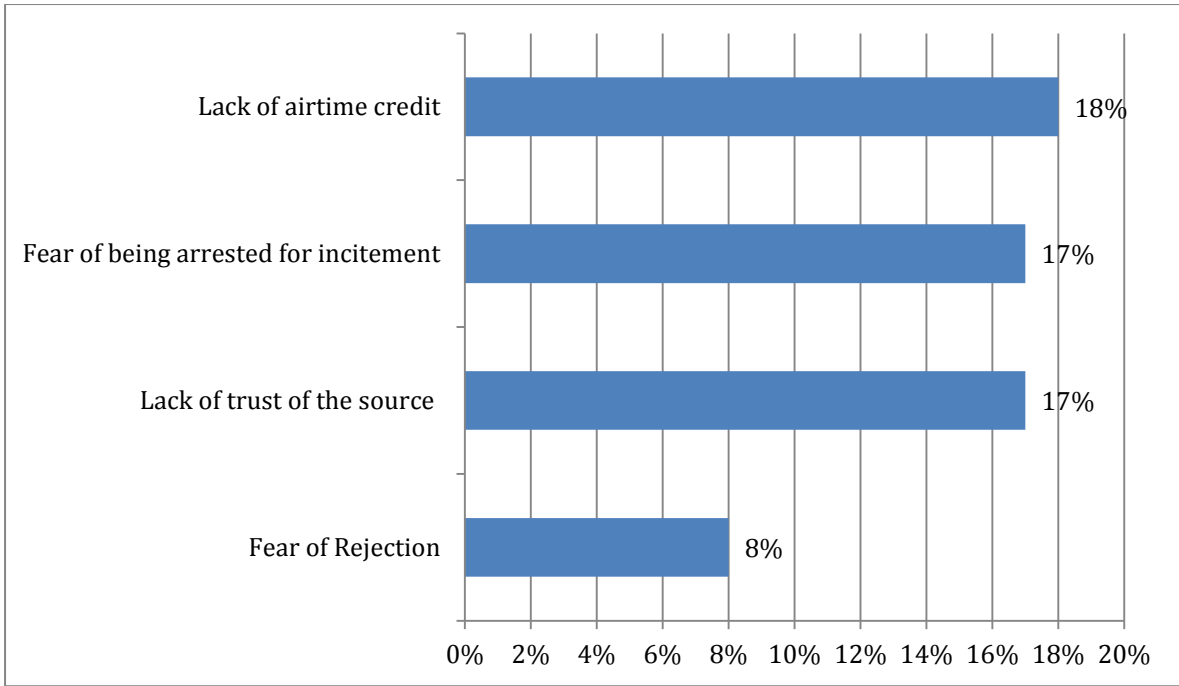


**Figure 4. 15 Effect of past PEV on the residents**

Findings in Figure 4.15 show that the residents had previously suffered ethnic tensions, riots, destruction of property and loss of lives to loved ones. This finding confirmed that the influences of the messages received on the mobile telephony based platforms on the residents were justified.

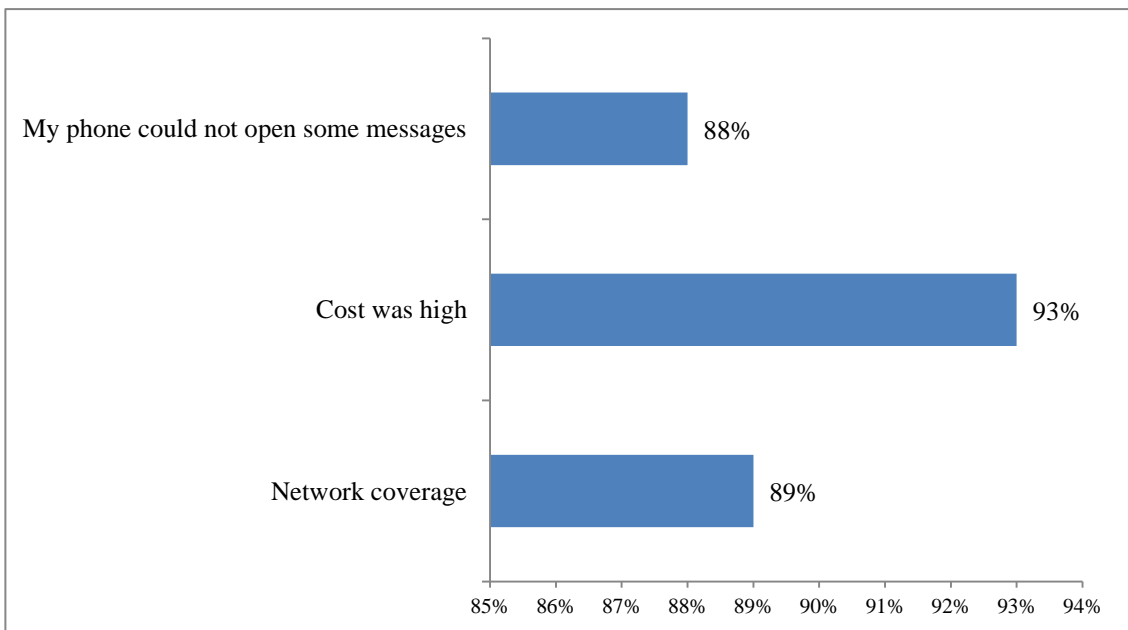
#### **4.5 Barriers of using mobile phones as a communication plan during elections**

The third objective was to establish the barriers of using mobile phones as a communication plan during elections. To establish this, the residents were asked to indicate whether they experienced any challenges in sharing the information they received with other people around them. While 67.1 percent of them indicated facing no challenges, a substantial 32.9 percent indicated facing challenges. Findings on the specific challenges faced were as summarized in Figure 4.16



**Figure 4. 16 Challenges experienced by respondents**

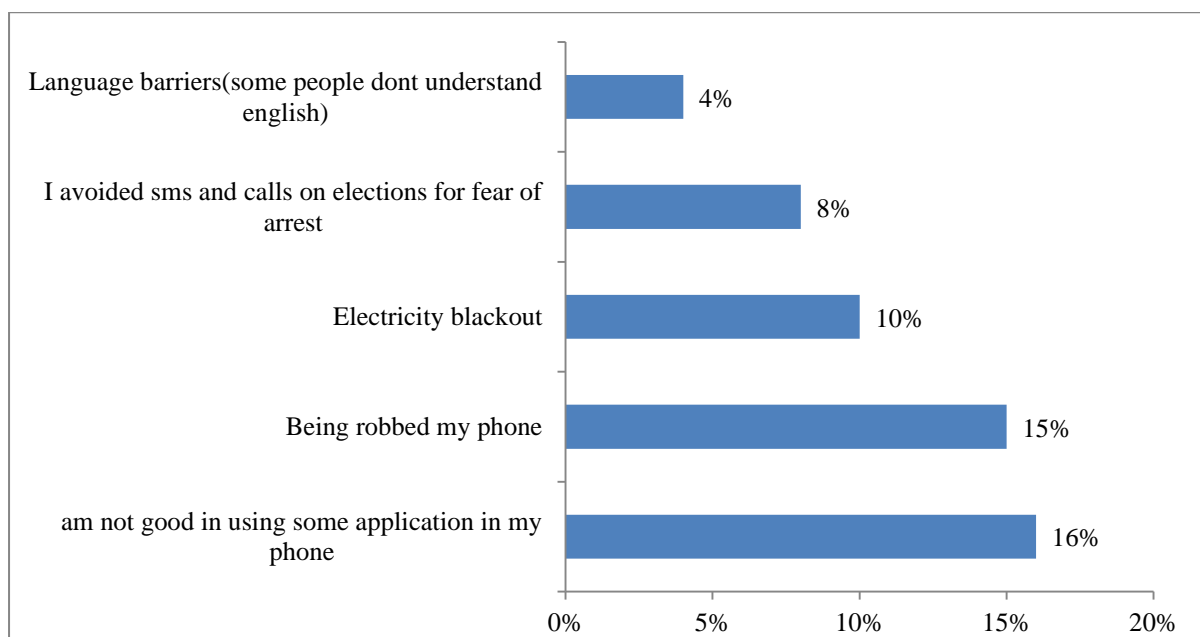
Findings in Figure 4.16 show that the challenges mainly faced by the residents included lack of airtime credit, fear of being arrested for incitement, lack of trust of the sources of information and fear of rejection by friends and family members. The residents were further asked to indicate the barriers they faced in using mobile phones as a communication plan during elections. The results were as shown in Figure 4.17



**Figure 4. 17 Barriers experienced by respondents**

Findings in Figure 4.17 show that the barriers experienced faced by the residents included lack of network coverage, high cost of mobile messages and that some messages could not open in some of the phones. This finding confirmed that the area under study was not adequately covered by the mobile operators’ network signals. As such mobile phones as a communication plan during elections would suffer a limitation because some residents are not adequately covered by the mobile signals. The cost of communication in Kenya remains high a fact that would hinder many Kenyans from participating in mobile telephony communication plan during elections, especially if they were required to reply or spread the messages further. fear of being arrested for incitement suggested that the residents required a disclaimer on the election messages if they were to participate in any form of election messages on any mobile telephony communication plan.

Other barriers experienced by the residents are summarized in Figure 4.18.

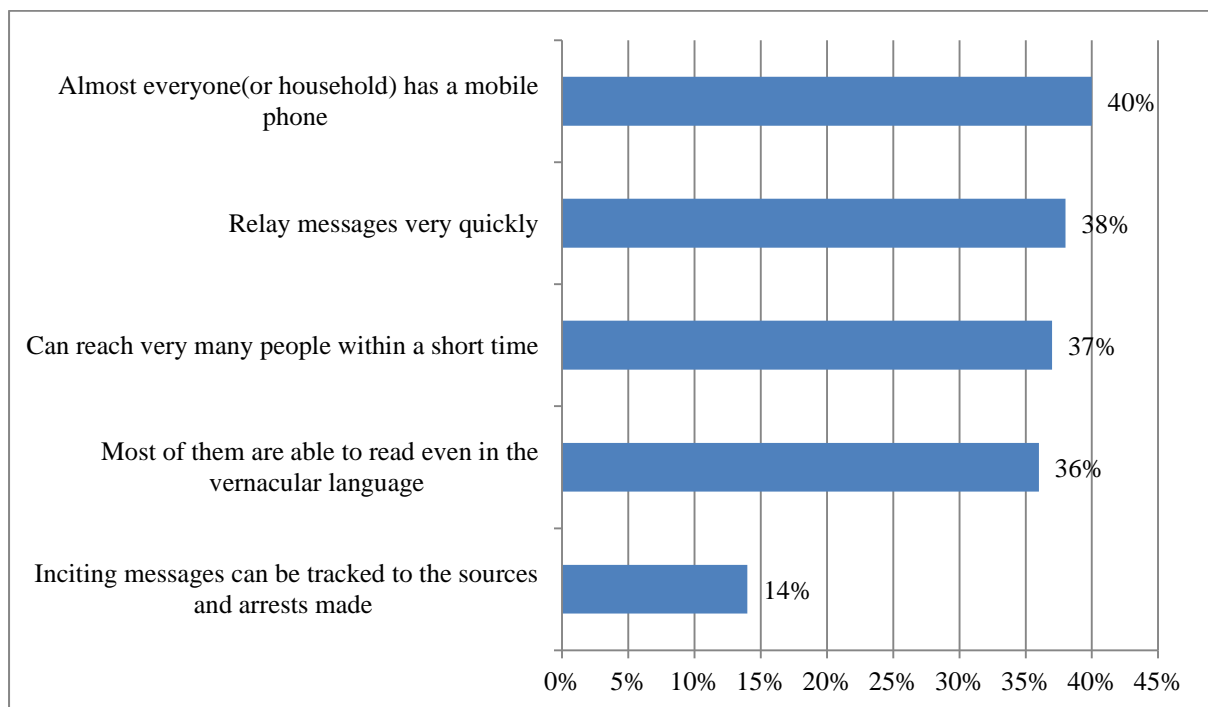


**Figure 4. 18 Barriers experienced by respondents**

Findings in Figure 4.18 indicate additional barriers to include language concerns, fear of law enforcement, lack of electricity, fear of losing phones and inexperience in the use of some features of the mobile phones.

#### 4.6 Enhancement of mobile telephone based applications in prevention of violence

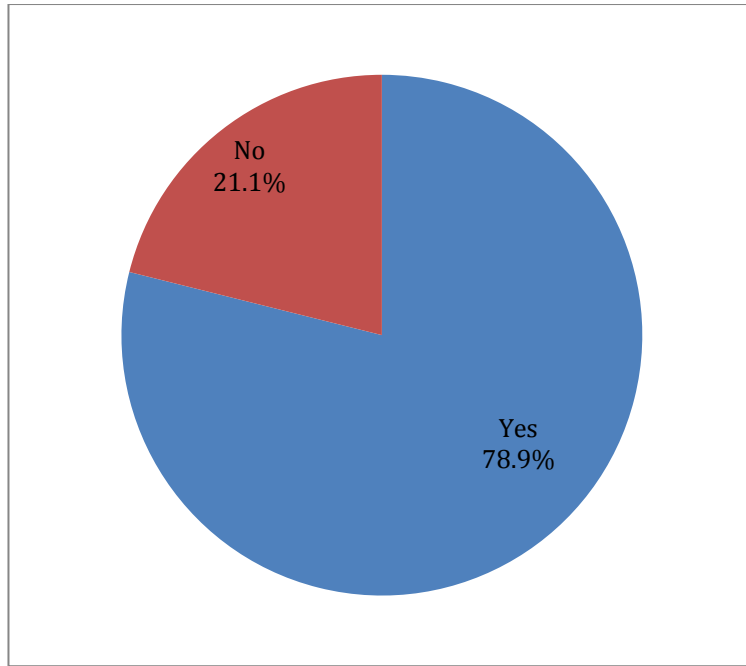
The fourth objective was to ascertain how the use of mobile telephone based applications could be enhanced to increase their effectiveness in prevention of violence. To establish this, the residents were first required to indicate their opinion on whether mobile phones should be used as a communication tool for prevention of violence during elections. It was found out that 74.7 percent of the residents believed that mobile phones should be used. The reasons for this support were as summarized in Figure 4.19.



**Figure 4. 19 Reasons in favour of mobile phones in prevention of violence during elections**

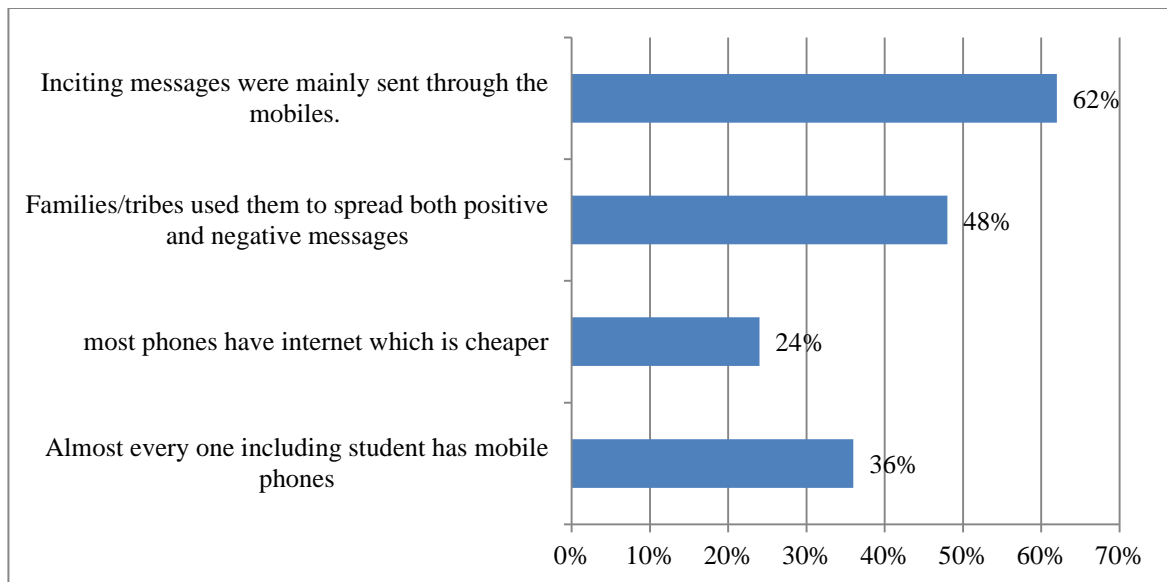
Findings in Figure 4.19 show that other reasons in favour of mobile phones as a communication tool for prevention of violence during elections include; almost every household has access to a mobile phone, relaying SMS messages is very quick and the message could reach many people within a short time. Additionally, the general Kenyan population is able to read and write even in vernacular languages. By any chance, inciting messages could easily be traced to their source.

When the residents were asked whether mobile telephone communication during post election period has an influence on election violence, their responses were as summarized in Figure 4.20



**Figure 4. 20 Whether mobile telephone communication plan influences election violence**

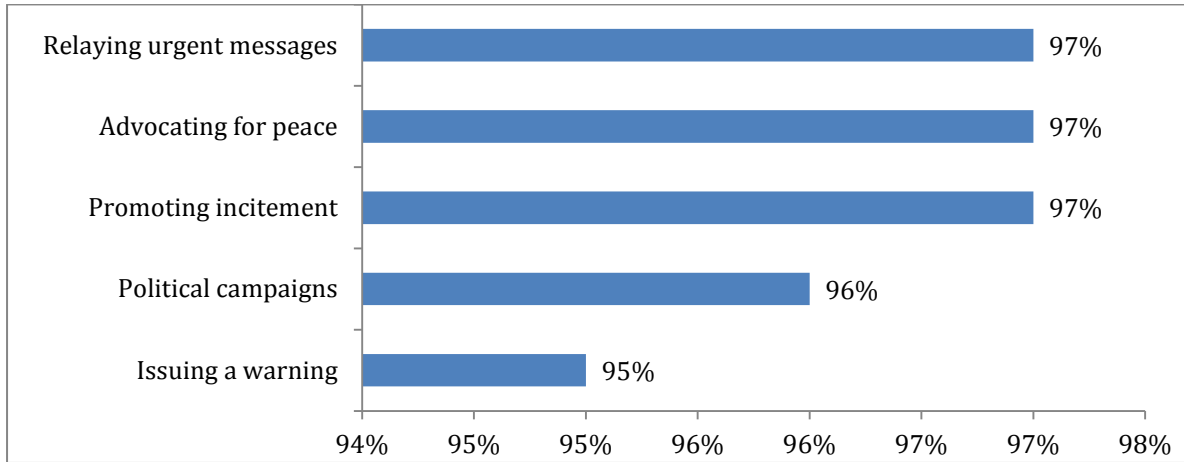
Findings in Figure 4.20 show that 78.9 percent of the residents believed that mobile telephone communication during 2007 post election period had an influence on election violence. The reasons for this support were as summarized in Figure 4.21.



**Figure 4. 21Reasons why mobile telephone communication influences election violence**

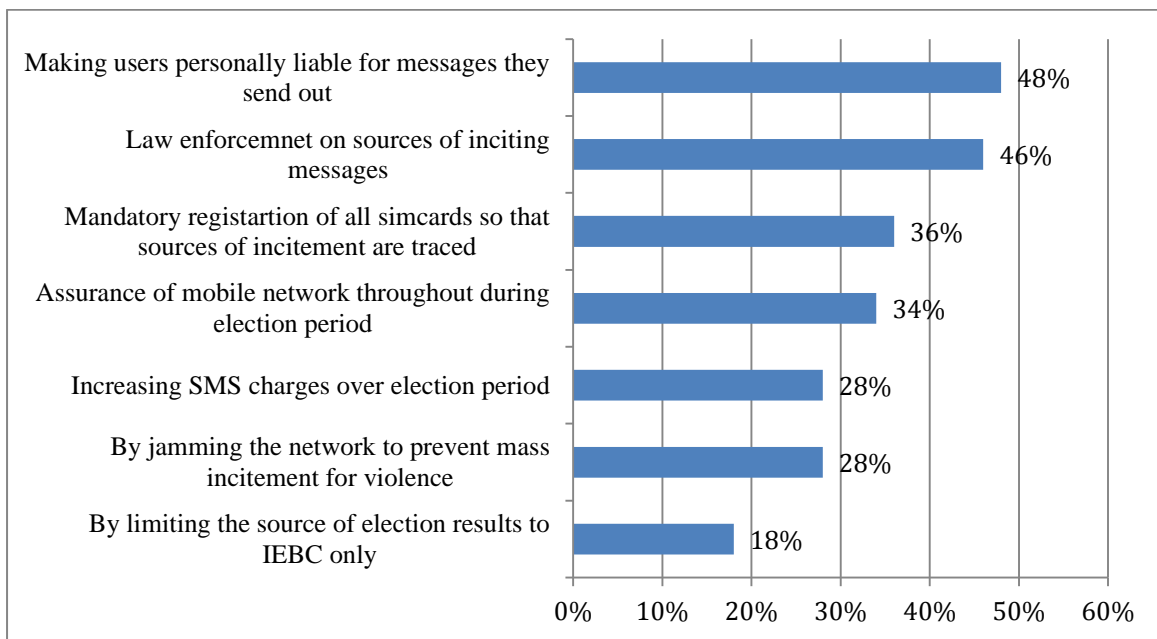
Findings in Figure 4.21 indicate that the mobile phone platform was the most commonly used form of incitement, an indicator that it could easily be used to perpetrate election violence if not properly monitored. The finding suggests that if it was turned out to be a tool of spreading peace messages as opposed to inciting messages, then it could effectively control election violence. Mobile phones are accessible to households and one doesn't have to look

for a radio or Television to get news updates. The addition of internet accessibility makes information cheaper to access a fact that could be attributed to the usage of social media as a source of information.



**Figure 4. 22 Rating of mobile phone as an effective tool for prevention of violence.**

The respondents were further asked to indicate what they thought could be improved to make mobile phones effective for prevention of election violence. Their responses were collated and summarized in Figure 4.23



**Figure 4. 23 Improvements necessary for effectiveness of mobile phones**

As summarized in Figure 4.23, some of the improvements suggested to make mobile phones effective for prevention of election violence include making mobile phone users personally

liable for the messages they send out. This was proposed by 48 percent of the respondents who further indicated that strict law enforcement on those who originate inciting messages could effectively curb incitement and consequently prevent election violence. Additional suggestions included mandatory registration of all SIM cards to help track the sources of incitement, and limiting the source of election results to the elections body exclusively.

There were mixed reactions as to whether availability of mobile network signal hindered or encouraged incitement. As such, some residents believed increasing its charges or removing it altogether over the election period would promote peace. On the other hand, others believed that a continuous signal kept them in touch with the reality on the ground in real time.

## **CHAPTER FIVE**

### **ANALYSIS, AND DISCUSSIONS**

This chapter presents the analysis and discussions on the mobile telephony use and its role in preventing electoral violence in Kenya, in the case study of Embakasi Constituency during Kenya's 2013 general election. It begins with the demographic data of the respondents, then examines how mobile telephony platforms have been used as conflict prevention tool during elections, establishes the extent to which mobile telephony based platforms are an effective conflict prevention tool during elections, determines the barriers of using mobile telephony as a communication tool during elections and lastly establishes how mobile telephone based applications can be enhanced to increase its effectiveness in prevention of violence.

#### **5.1 Demography**

The majority of the voters were between 18 and 45 years of age with 53% being 26-30 years of age and another 20 percent being 36-40 years. This implied that the majority of the voters in the constituency were those within the working bracket probably working in businesses and establishments proximate to the city centre and the Nairobi's industrial area. Embakasi Constituency was one of the hot spots in the previous (2007) elections that saw loss of lives, looting, maiming and ethnically motivated tensions. Whereas both genders actively participated in the election process, there were more male registered voters in the constituency than females implying that they could have opted to register in other parts of the country out the fear of a recurrence of PEV. This could be affirmed by the fact that the 2009 national census indicates that there were more women in the constituency than males. The women therefore could have opted to register elsewhere as voters as a way of avoiding the hot spot. The chi square was ( $X^2=4.112$ ,  $df = 4$ ,  $Sig = .391$ ) implying that the variation between both genders was not significant.

Varied education levels were presented with 39.4 percent of the voters holding college certificates, and 27.1 Percent holding O-Level education. A significant proportion of 14.1 percent held degrees with a similar proportion holding college diplomas. Only a small proportion (5%) had less than o-level of education. The majority of the voters were therefore literate and were able to understand the technological advancements including the mobile telephony technologies that were used during the election period.



Regarding their occupation, 41.5 percent were employed in the private sector, 26.6 percent were self-employed, 17.0 percent operated small businesses and 13.8 percent of all the respondents were jobless. Most of those in employments with private and public sectors were women while most of those who were self employed or run small businesses were male. the majority of the residents in the constituency were therefore commercially engaged in one way or another and would be greatly inconvenienced should electoral chaos erupt within their neighbourhood. They were therefore in a position to report on the effects of electoral violence in their neighbourhood. The chi square was ( $X^2=1.658$ ,  $df = 4$ ,  $Sig = .798$ ) implying that the variation between both genders on occupation was not significant. Most of the residents come from different ethnic orientation, which consequently comes with different political aspirations. As such the constituency is a hot spot whenever difference of opinions touching on ethnicity and political expectations arise.

Almost all the residents (98%) had access to mobile phones with no significant variations on the distribution across genders ( $X^2=.043$ ,  $df = 1$ ,  $Sig = .676$ ). The majority of the residents (59.2%) had smart phones, an indication that they were able to receive and send texts and high-resolution graphics, pictures, videos and internet too. The remaining portions of the residents had access to a basic phone and were only able to send and receive texts and low-resolution graphics. A study by Business Monitor International, May (2012) predicted that total mobile subscriptions in the country would reach 39.5 million by 2016, a penetration rate of 83.1%. the findings of this study shows that this prediction has been long surpassed with 98 percent of the respondents with access to mobile phones..

Further analysis shows that 57% -60% of the residents had dedicated at least 40% of their phone usage to making and receiving voice calls while 30-40% of the residents dedicated at least 40% their phone to the use of SMS. On the social media, 28 percent of the residents were dedicated to Facebook, 17 percent to twitter and 40 percent to whatsapp. They indicated having dedicated at least 40% of their phone usage to social media. The residents therefore had access to three platforms namely, voice calls, SMS, and Social media during the 2013 election.

## **5.2 Use of mobile telephony based platforms as conflict prevention tool during elections**

Mobile phone telephony communication was actively used during the 2013 elections as was confirmed by 63% of the residents who received at least one political message. The chi

square was ( $X^2=1.255$ ,  $df = 1$ ,  $Sig = .182$ ) implying that there was no significant variations across gender on the use of mobile telephony based platforms as conflict prevention tool during elections. Three modes of mobile telephony platforms were actively used over the period namely voice calls, social media and SMS. According to the latest statistics from CCK, 99% of internet access is from a mobile device (phone, modem, tablets etc.) This represents about 17 million internet users in Kenya. The study shows that the most patronized mode was SMS.

It was established that the main discussion points were voting updates, peace messages, voter education messages, election campaigns updates and messages on election results. These were positive developments on the use of mobile telephony in advocating for peace during the electioneering period. However, messages that restricted your movement, inciting messages and Messages that spread panic were also shared among the residents even though they were low in frequency. According to a study by iHub Research (2012) majority of text campaigns are not opt-in lists and there have been numerous of complaints on unsolicited marketing text messages by subscribers. This study confirms that this is still a major concern in use of mobile messaging.

According to Bardall (2012) the Sierra Leonean example is particularly encouraging for the use of SMS messaging to provide textured data on the quality of an election and on incidents of violence and intimidation. The case is all the more significant given its application in a country with one of the world's poorest infrastructures. The adaption of SMS election observation methods to election-related violence monitoring is clearly a next step to enhancing the efficiency and sustainability of violence monitoring programs.

### **5.3 Effectiveness of mobile telephony based platforms on prevention of election violence**

Findings show that only 14 percent of the residents exchanged the election messages with people that were well known to them. Instead, 62 percent of the residents received messages from both people they knew and others they did not with a further 24 percent of the residents confirming receiving messages from people not know to them at all. The chi square was ( $X^2=.095$ ,  $df = 2$ ,  $Sig = .953$ ) implying that there was no significant variations across gender on the knowledge of the message sources. This finding implied that the mobile telephony based platforms were prone to intrusion since majority of the mobile phone users exchanged information with people unknown to them. This compromises the effectiveness of mobile telephony based platforms on prevention of election violence.

The known sources of election messages were friends (68%) and family members (66%). Other identifiable sources of information were the Media, Neighbours, Political Parties, Civil Rights Movements, NGOs, and Government Institutions. These findings confirm that family and friends could generate election messages that could end up being forwarded to acquaintances and most likely end up with strangers. Majority of the residents indicated being influenced by the messages to some extent with 22.9% being influenced by all the messages and another 32.3 % being influenced by some of the messages. This confirms that mobile telephony based platforms are powerful tools of influence and were effectively used during the election processes. The 2013 election presented a new pattern of voting unprecedented before as a result of the enactment of the Kenya constitution 2010. As such, the mobile telephony based platforms were effectively used in voter education, which greatly influenced the residents on knowledge on how to vote correctly.

Messages on potential violence were quite weighty and influenced residents to a great extent because the residents had previously suffered ethnic tensions, riots, destruction of property and loss of lives to loved ones. Embakasi Constituency was a hot spot in the previous 2007 election and the majority of the residents feared a repeat. The residents favoured and trusted messages from reliable sources and especially those verifiable through the media houses. The question of data accuracy as explained in the study by Bardall (2012) is critical to practitioners from all fields that are considering applying the technology. The source of the information as confirmed by this study has to be accurate and reliable. They would in turn forward the messages to their friends and relatives even to those who did not have access to either radio or TV. Mobile telephony based platforms were therefore seen as effective tools on the dissemination of real time information thus contributing to prevention of election violence.

#### **5.4 Barriers of using mobile phones as a communication plan during elections**

The barriers faced by the residents using mobile phones as a communication plan during elections included lack of network coverage, high cost of mobile messages and that some messages could not open in some of the phones. This finding confirmed that the area under study was not adequately covered by the mobile operators' network signals. As such mobile phones as a communication plan during elections would suffer a limitation because some residents are not adequately covered by the mobile signals. The cost of communication in Kenya remains high a fact that would hinder many Kenyans from participating in mobile telephony communication plan during elections, especially if they were required to reply or

spread the messages further. The fear of being arrested for incitement suggested that the residents required a disclaimer on the election messages if they were to participate in any form of election messages on any mobile telephony communication plan. Other challenges faced by the residents include of trust of the sources of information, language concerns, fear of law enforcement, lack of electricity, fear of losing phones and inexperience in the use of some features of the mobile phones.

### **5.5 Enhancement of mobile telephone based applications in prevention of violence**

Some of the improvements suggested to make mobile phones effective for prevention of election violence include making mobile phone users personally liable for the messages they send out. This was proposed by 48 percent of the respondents who further indicated that strict law enforcement on those who originate inciting messages could effectively curb incitement and consequently prevent election violence. Additional suggestions included mandatory registration of all SIM cards to help track the sources of incitement, and limiting the source of election results to the elections body exclusively. Ramah (2012) reveals that, to tackle the problem of SMS messaging being used to incite or organize violence, the government partnered with mobile service providers to monitor SMS messages and block offensive material. The ability to monitor SMS was facilitated by the Communications Commission of Kenya requiring all mobile phone users to register their SIM cards between June 2010 and November 2012. This study reveals that there were still incidences of incitement through SMS messaging and social media, which raises the issue of enforcement.

There were mixed reactions as to whether availability of mobile network signal hindered or encouraged incitement. As such, some residents believed increasing its charges or removing it altogether over the election period would promote peace. On the other hand, others believed that a continuous signal kept them in touch with the reality on the ground in real time. In keeping with agenda item 4 of the National Dialogue and Reconciliation Agreement, in February 2008 the Kenyan parliament passed the National Cohesion and Integration Act. The Act established laws on ethnic and religious discrimination and created penalties for hate speech. To monitor compliance with the Act, in September 2009 the government established the National Cohesion and Integration Commission (NCIC) with a mandate to, “facilitate and promote equality of opportunity, good relations, harmony and peaceful coexistence between persons of different ethnic and racial backgrounds.” According to the occasional paper by Responsibility to Protect (2013) the NCIC played a critical role in ensuring that hate speech would not play a similar role during the 2013 election. It did so by developing guidelines for

journalists and media outlets on responsible journalism, conducting awareness training regarding hate speech, warning that perpetrators would be held accountable should they violate the Act, investigating and hearing complaints regarding hate speech and initiating prosecutions. This, coupled with other programs of the NCIC, prohibited public intolerance between ethnic protagonists. Little effort was put on enforcement of the law when it comes to spread of hate speech through text messaging and social media as depicted by this study. As much as there was a reduction in the number of hate speeches through mobile telephony, there needs to be more reinforcement of the law to make this mode of communication an effective tool for prevention of election violence.

## **5.6 Discussion**

The socialization of society, that is the construction of a shared cultural practice that allows individuals and social groups to live together even in a conflictive togetherness, takes place nowadays in the networked, digitized, interactive space of communication, centered around mass media and the Internet. Thus, the relationship between citizens and politicians, between the represented and the representative, depends essentially on what happens in this media-centered communication space. Politics is based on socialized communication, on the capacity to influence people's minds. Yet, the main issue is not the shaping of the minds by explicit messages in the media, but the absence of a given content in the media explains Thompson (2005). What does not exist in the media does not exist in the public mind, even if it could have a fragmented presence in individual minds. According to Pew Research Centre (2006) the need to format the message in its media form has considerable implications, as it has been established by a long tradition in communication research. It is not entirely true that the medium is the message, empirically speaking, but it certainly has substantial influence on the form and effect of the message.

Mobile phones are accessible to households and one doesn't have to look for a radio or Television to get news updates. The addition of internet accessibility makes information cheaper to access a fact that could be attributed to the usage of social media as a source of information. The mobile phone platform was the most commonly used form of incitement, an indicator that it could easily be used to perpetrate election violence if not properly monitored. If it was turned around out to be a tool of spreading peace messages as opposed to inciting messages, then it could effectively control election violence. Some of the improvements suggested to make mobile phones effective for prevention of election violence include

making mobile phone users personally liable for the messages they send out, mandatory registration of all SIM cards to help track the sources of incitement, and limiting the source of election results to the elections body (IEBC) exclusively.

## CHAPTER SIX

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter deals with the summary, conclusions and recommendations of the study on mobile telephony use and its role in preventing electoral violence in Kenya, a case study of Embakasi Constituency during Kenya's 2013 general election.

#### **6.1 Summary of the study**

The main objective of this study is to examine the role of mobile telephony use in preventing electoral violence in Embakasi Constituency during Kenya's 2013 general election. The researcher developed four research questions from which the four research objectives were drawn. The questions were; How have mobile telephony based platforms been used as conflict prevention tool during elections?, To what extent is the use of mobile telephony based platforms an effective tool for prevention of election violence?, What are the barriers in using mobile phones as a communication plan during elections? and, How can the use of mobile telephone based applications be enhanced to increase its effectiveness in prevention of violence? Related literature to the use of mobile telephony platforms in communication was reviewed. The theoretical framework was based on Networked Society theory by Manuel Castells formulated in 1996.

The study targeted the all the residents of Embakasi Constituency. Krijcie and Morgan's sampling table was used to select a sample of 382 respondents. Questionnaire tools were used to collect the required information. The return rate was 100%. Data was analyzed using charts, frequencies, percentages, and descriptive statistics generated by the use of Statistical Package for Social Sciences (SPSS).

#### **6.2 Summary of findings**

##### **6.2.1 Demography**

Those whereas both genders actively participated in the election process, there were more male registered voters in the constituency than females. This was attributed to the fact that males were more actively involved in the electoral process than the females. At the same time the females could have opted to register in other parts of the country out the fear of a recurrence of PEV since Embakasi Constituency was one of the hot spots in the previous (2007) elections that saw loss of lives, looting, maiming and ethnically motivated tensions.

The majority of the voters were between 18 and 45 years of age. In terms of education, 14.1% held degrees, 14.1% college diplomas, 39.4% college certificates, and 27.1% O-Level education. A small proportion of 5% had less than o-level of education in terms of occupation, 41.5% were employed in the private sector, 26.6% self employed, 17.0 % operated small businesses while 13.8% were jobless. The majority (98%) had access to mobile phones and were thus able to contribute to this study by responding to specific requests on the use of mobile telephone technology during the 2013 election. during the 2013 election the residents had access to three mobile telephony platforms namely, voice calls, SMS, and Social media.

### **6.2.2 Use of mobile telephony based platforms as conflict prevention tool during elections**

The first objective of the study was to establish how mobile telephony-based platforms have been used as conflict prevention tool during elections. it was established that 63% of the residents received at least one political message during the 2013 elections, with 16 percent receiving voice calls, 16 percent social media messages, and 59 percent receiving SMS.

The most frequently shared messages among the residents were; voting updates (66%), Peace advocating messages (62%), political campaign updates (59%), political campaigns updates (59%), Voter education messages (50%), and Messages on election results (46%). Other messages shared were; Messages that restricted movement (26%), inciting messages (30%) and messages that spread panic (25%).

### **6.2.3 Effectiveness of mobile telephony based platforms on prevention of election violence**

The second objective of the study was to ascertain the effectiveness of mobile telephony based platforms on prevention of election violence. It was established that while 14 percent of the residents exchanged the election messages with people that were know to them, 63 percent received messages from both people they knew and others they did not know and a further 24 percent of the residents received messages from people not know to them at all. For the residents who knew the source of the messages, it was established that the main sources of election messages were friends (68%), family members (66%), Media (40%),



Neighbours (34%), Political Parties (25%), Civil Rights Movements (17%), NGOs (8%), and Government authorities (chief)(4%).

Majority of the residents were influenced by the messages to some extent with 22.9% being influenced by all the messages and another 32.3 % being influenced by some of the messages. Only 44.8 percent were not influenced by the messages at all. Reasons for the influence on the residents were because the messages came from reliable sources, and that others had election tension that restricted freedom of movement. The influence was also motivated by the fact that 53.7 percent of the residents were previously affected by PEV where they suffered ethnic tensions, riots, destruction of property and loss of lives to loved ones. The influences of the messages received on the mobile telephony based platforms on the residents were therefore justified.

#### **6.2.4 Barriers in using mobile phones as a communication plan during elections**

The third objective was to establish the barriers of using mobile phones as a communication plan during elections. It was established that the main challenges faced by the residents included lack of airtime credit, fear of being arrested for incitement, lack of trust of the sources of information, fear of rejection by friends and family members, lack of network coverage, high cost of mobile messages and that some messages could not open in some of the phones. Others included language concerns, fear of law enforcement, lack of electricity, fear of losing phones and inexperience in the use of some features of the mobile phones.

#### **6.2.5 Enhancement of mobile telephone based applications in prevention of violence**

The fourth objective was to ascertain how the use of mobile telephone based applications could be enhanced to increase their effectiveness in prevention of violence. It was established that; almost every household has access to a mobile phone, relaying SMS messages was very quick and that a phone message could reach many people within a short time. Additionally, the general Kenyan population is able to read and write even in vernacular languages, and that inciting messages could easily be traced to their source by law enforcement.

The mobile phone platform was the most commonly used form of incitement, an indicator that it could easily be used to perpetrate election violence if not properly monitored. if it was turned around out to be a tool of spreading peace messages as opposed to inciting messages,

then it could effectively control election violence. Mobile phones are accessible to households and one doesn't have to look for a radio or Television to get news updates. The addition of internet accessibility makes information cheaper to access a fact that could be attributed to the usage of social media as a source of information. Some of the improvements suggested to make mobile phones effective for prevention of election violence include making mobile phone users personally liable for the messages they send out, mandatory registration of all SIM cards to help track the sources of incitement, and limiting the source of election results to the elections body (IEBC) exclusively.

### **6.3 Conclusion**

This finding confirms that mobile telephony based platforms are powerful tools of influence and could be used in the management of the election processes. If positively used, their influences could be used towards prevention of election violence. In areas not adequately covered not adequately covered by the mobile operators' network signals, the use mobile telephony as a communication plan during elections would suffer a limitation because some residents would not be reached. The cost of communication in Kenya remains high a fact that would hinder many Kenyans from participating in mobile telephony communication plan during elections, especially if they were required to reply or spread the messages further. Fear of being arrested for incitement suggested that the residents required a disclaimer on the election messages if they were to participate in any form of election messages on any mobile telephony communication plan.

Mobile telephony platform was the most commonly used form of incitement, an indicator that it could easily be used to perpetrate election violence if not properly monitored. If it was turned around out to be a tool of spreading peace messages as opposed to inciting messages, then it could effectively control election violence. Strict law enforcement on those who originate inciting messages could effective curb incitement and consequently prevents election violence. Mobile phones are accessible to households and one doesn't have to look for a radio or Television to get news updates. The addition of internet accessibility makes information cheaper to access a fact that could be attributed to the usage of social media as a source of information.

### **6.4 Recommendations**

Based on the findings of the study the following recommendations are made:

1. That the Ministry of Information and Communication encourages the uptake of mobile telephony platform as it was found to have an effective reach to very many people within a short time.
2. That the Ministry of Internal Security develops a framework and a mechanism of tracking and bringing to book the perpetrators and originators of criminally instigated acts on the mobile telephony networks
3. That the Kenyan parliament enacts a substantive law with punitive penalties on cyber crimes including those perpetrated over the mobile telephony networks.
4. That the ministry of internal security enforces the law on the perpetrators and originators of criminally instigated acts on the mobile telephony users.
5. That the Ministry Of Information and Communication in conjunction with the mobile telephony service providers develops a framework for accountability checks for the users intending to send mass SMS
6. That IEBC develops official mobile application from where the citizens can access reliable information on civic education, voter education, voting progress, and election results in real time.
7. That the official political parties develop respective official mobile application from where the citizens can access reliable information on campaign trail and respective party activities in real time.

## **6.5 Areas of further research**

Based on the findings of the study further research is suggested on

- i. The use and role of mobile telephony platforms in the management of election in non-volatile spots in Kenya.
- ii. The use and role of mobile telephony platforms in the day to day administration of the various electoral or administrative zones in Kenya

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## APPENDICES

### APPENDIX I: RESEARCH QUESTIONNAIRE

You have been selected to participate in this study that seeks to find out the use of mobile telephone based platforms as a tool for prevention of election violence in Kenya. Kindly respond to the questions truthfully and honestly as possible. You are not required to write your name anywhere in the questionnaire. The information you provide will be treated with strict confidence. Please answer the questions by putting a tick in the appropriate box or by writing in the space provided.

#### SECTION A: GENERAL INFORMATION

1. **Please indicate your gender:**

Male{  }                      Female{  }

2. **Please indicate your Age:**

Between 18-25{  }              Between 26-35 {  }              Between 36-45{  }  
Between 46-55 {  } Above 55 {  }

3. **Please indicate your Highest Level of Education**

Less than O-level{  }      O-level{  }      College certificate{  }      college      diploma{  }  
degree{  }                      post graduate degree {  }

4. Do you have an ID?

Yes {  }      No {  }

5. Are you a registered as voter?

Yes {  }      No {  }

6. Did you vote in 2013

Yes {  }      No {  }

7. Where were you living in 2013? (Constituency  
)\_\_\_\_\_

8. Where did you vote in 2013 (Constituency )\_\_\_\_\_

9. Current Occupation

Public Servant{  }                      employed{  }                      Self -employed{  }  
Small business owner{  }                      Jobless {  }                      other\_\_\_\_\_

10. Do You own or have access to a mobile phone?

Yes{  }              No{  }

11. Please indicate the type of phone you have access to :

Basic Phone {  }              Smartphone {  }

12. On average how do you use your phone in a given day?

	Rarely	Less than 20%	20-40%	40%- 60%	60%-80%
To make calls					
To receive calls					
To send sms					
To receive sms					
To chat on Facebook					
To chat on Twitter					
To chat on Whatsap					
Other_____					

**SECTION B: MOBILE USE AND ELECTIONS**

13. Have you ever received a message on politics on your phone?

Yes [ ] No [ ]

14. In what format was it? (tick all that apply )

Call	
SMS	
Social media	

15. Have you ever received a message on elections?

Yes [ ] No [ ]

16. What type of message was it? (tick all that apply )

Call	
SMS	
Social media	

17. The following are the most commonly discussed issues on phone during the election period. Please indicate whether you received any of them

Statements	Strongly Disagree	Disagree	Agree	Strongly Agree
Voter Education Message				
Inciting message				
Peace advocating message				
Updates involving campaigns or voting				
Updates involving voting				
message that restricted your movement				
Message on election results				
Messages that spread panic				

Other please explain\_\_\_\_\_

18. Did you know the source of information received?

Yes to all { }

Yes to some { }

No to all { }

19. If yes, please tick the sources of the messages you received

Friends	
Family members	
Government institution like Police, chiefs	
Non –Governmental organization	
Media	
Civil Rights movements	
Political Party	
Neighbor	
Landlord	

20. Did the messages influence you in any way?

Yes { }

Somehow { }

Not at all{ }

Please explain \_\_\_\_\_  
\_\_\_\_\_

21. Have you in the past been affected by election violence?

Yes [ ]

No [ ]

22. If yes what type of election violence?

Looting	
Riot	
Destruction of property	
Ethnic tensions	
A relative was killed	
A close friend was killed	
Other (Specify) _____	

### SECTION C: BARRIERS OF MOBILE PHONES USE DURING ELECTIONS

23. Have you ever shared any election related information received on your phone?

Yes{ }

No{ }

b) If yes, what made you share the information received on your phone?\_\_\_\_\_

24. Did you experience any challenges in sharing the information you received with other people around you? Yes{ } No{ }

If yes, Please tick the challenges you faced.

Fear of rejection	
Airtime	
Lack of trust of the source	
Fear of being arrested for incitement	

25. The following is a list of barriers experienced by users of mobile phones as a communication tool. Please tick the extent to which the barriers affected you during the 2013 election period.

Statements on the barriers	Strongly Disagree	Disagree	Agree	Strongly Agree
Network coverage				
Cost was high				
My phone could not open some messages				

26. List any other barriers you experienced while using mobile phones as a communication during the 2013 election period? \_\_\_\_\_

**SECTION E: ENHANCEMENT OF MOBILE TELEPHONY COMMUNICATION DURING ELECTIONS**

27. Do you think mobile phones should be used as a communication tool for prevention of violence during elections?

Yes{ }                      No{ }

Briefly explain \_\_\_\_\_

28. Do you think mobile telephone communication during past election period has an influence on election violence?

Yes{ }                      No{ }

Briefly explain \_\_\_\_\_

29. In your opinion, Please rate the influence of mobile phone use on the following:

Influence	Very Low	Low	Average	High	Very High
Promoting incitements					
Advocating for peace					
Issuing a Warning					
Relaying urgent messages					
For Political campaigns					

30. What do you think could be improved to make mobile phones effective for prevention of election violence? \_\_\_\_\_

*Thank you for your cooperation*

## APPENDIX II SAMPLING TABLE

Required Sample Size <sup>†</sup>								
Population Size	Confidence = 95%				Confidence = 99%			
	Margin of Error				Margin of Error			
	5.0%	3.5%	2.5%	1.0%	5.0%	3.5%	2.5%	1.0%
10	10	10	10	10	10	10	10	10
20	19	20	20	20	19	20	20	20
30	28	29	29	30	29	29	30	30
50	44	47	48	50	47	48	49	50
75	63	69	72	74	67	71	73	75
100	80	89	94	99	87	93	96	99
150	108	126	137	148	122	135	142	149
200	132	160	177	196	154	174	186	198
250	152	190	215	244	182	211	229	246
300	169	217	251	291	207	246	270	295
400	196	265	318	384	250	309	348	391
500	217	306	377	475	285	365	421	485
600	234	340	432	565	315	416	490	579
700	248	370	481	653	341	462	554	672
800	260	396	526	739	363	503	615	763
1,000	278	440	606	906	399	575	727	943
1,200	291	474	674	1067	427	636	827	1119
1,500	306	515	759	1297	460	712	959	1376
2,000	322	563	869	1655	498	808	1141	1785
2,500	333	597	952	1984	524	879	1288	2173
3,500	346	641	1068	2565	558	977	1510	2890
5,000	357	678	1176	3288	586	1066	1734	3842
7,500	365	710	1275	4211	610	1147	1960	5165
10,000	370	727	1332	4899	622	1193	2098	6239
25,000	378	760	1448	6939	646	1285	2399	9972
50,000	381	772	1491	8056	655	1318	2520	12455
75,000	382	776	1506	8514	658	1330	2563	13583
100,000	383	778	1513	8762	659	1336	2585	14227
250,000	384	782	1527	9248	662	1347	2626	15555
500,000	384	783	1532	9423	663	1350	2640	16055
1,000,000	384	783	1534	9512	663	1352	2647	16317
2,500,000	384	784	1536	9567	663	1353	2651	16478
10,000,000	384	784	1536	9594	663	1354	2653	16560
100,000,000	384	784	1537	9603	663	1354	2654	16584
300,000,000	384	784	1537	9603	663	1354	2654	16586

Source: Krijcie & Morgan (1970)