# Media and Environmental Awareness in Kenya: A Case of TV

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**Abstract**

Kenya's economy is highly dependent on natural resources. However, these natural resources are at risk of extinction due to environmental degradation. The general perception is that environmental degradation is partly due to lack of environmental awareness. Studies have shown that many Kenyans rely on and trust the media for information. This research sought to establish the role television as one of the media channels can play in creating awareness on environmental issues.This research used the media framing theory to show how frames such as timing, audience preferences and content influence the reception of environmental messages on television by audiences. To establish this, the researchers interviewed 30 key informants who included editors, TV producers, reporters and environmentalists. The researchers also used survey method where 200 respondents from Ruai division of Nairobi filled in questionnaires regarding their perception on the role of television in creating environmental awareness. Ruai division was purposively chosen because it is a semi urban area and also because it is home to Nairobi's sewerage plant hence bears the brunt of environmental degradation including air pollution.The findings of this study were that many of the respondents are aware of some of the environmental issues affecting Kenya today and much of this information is gotten from the media. The media was given credit for playing its traditional role of informing, entertaining and educating; however many felt that the media's potential in raising awareness on environmental issues has not been fully explored. Many of the respondents felt that due to their commercial nature the media in Kenya were skewed towards politics, sports and soap operas as these are thought to attract audiences and ultimately advertisers. Respondents also felt that the current television content on environmental issues was very little, aired at non-prime time and of poor quality. On quality, respondents felt that current TV shows on environment used technical terms while some were simply regurgitated from foreign media houses which made the stories irrelevant to local audiences. Poor content of environmental TV shows was attributed to limited environmental knowledge among reporters and editors and lack of synergy between environmentalists and media personnel. What about lack of training of environmental journalists?Based on the findings, the research put forward a few suggestions that could help fully realize the potential of TV in raising awareness on environmental matters in Kenya. These include the introduction of an award scheme for television stations that air environmental issues to act as an incentive. The researchers also recommend a collaboration mechanism between media personnel and environmental stakeholders to ensure frequent and quality content production on environmental issues. All these, if effected will lead to an increase in the level of awareness among Kenyans and ultimately save the environment from degradation.

**Keywords:** Environmental awareness, environmental degradation, media framing

## 1.0 INTRODUCTION

Media is a powerful tool that can foster development. If effectively used, media can play a huge role in raising awareness on environmental issues. The many environmental issues affecting productivity and causing loss of lives can be brought to people's notice through media. Armed with the right information, people can take preventative measures to shield themselves from harm and also take better care of their environment. Television in particular, can help reach out to masses through demonstrations on how to prevent environmental problems and cautionary measures to take incase disaster strikes.

Through media, issues that hinder development such as degradation of the environment can be highlighted and appropriate measures taken to stop their escalation.  According to Shanahan (2011) the media can inform vulnerable communities of impacts and how they can adapt them, and can promote mitigation activities that limit the amount of warming the earth experiences.

> The fight against climate change could be won or lost on the pages of newspapers, in TV and radio broadcasts and on the internet and mobile phones. This is because people need good information to make effective decisions-at the household or global level-and most people get their information about climate change from the media. (Shanahan, 2011:2)

Tengbers (1995:132-148) states that there are over 2600 global media channels supported by about  3000 satellites that disseminate information to 1.5billion people all over the world. The media therefore can be relied on as a powerful tool for creating awareness on environmental issues. According to Burgess (1990) the media has a critical role to play in helping to halt and reverse future expansion of environmental problems and to maintain existing efforts in the community.  Morgan (1997) is of the opinion that a significant amount of the public's knowledge of environmental issues is likely to come from the media. He further states that much of

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what people hear about issues such as greenhouse effect, global climate change, ozone depletion, water and air pollution is likely to come from the media (or from others who have heard it from the media) since our first-hand knowledge of the state of the environment is likely to be minimal.

However as Deacon (1999) notes this immense role of the media has not been fully realized as political or other development agenda is usually a priority and environmental protection is rarely high in the news agenda. The result is that most people are not aware of environmental challenges facing humanity and the consequences of this. The significance of these issues is not reflected in media reporting (McQuail, 1994).

Studies that have been done on television programming in Africa reveal that the bulk of airtime is taken up by foreign programmes (Mativo, 1989). A case study of 6 African countries: Ivory Coast, Nigeria, Senegal, Uganda, Zimbabwe and Kenya (Varis, 1985) showed that programming was characterized by high dependence on imported programs, a marked absence of indigenous programs and an entertainment category which occupied 48% of total broadcast time.

Kenya has a diverse and sophisticated media that enjoys considerable freedom of speech. An estimated 301 radio stations and 83 television stations have been licensed by the Communications Commission of Kenya (CCK, 2014). In a 2012 survey of 3000 respondents conducted by the Media Council of Kenya, 85% of respondents said they used radio, followed by television at 83%, newspapers at 68% and Internet and mobile phones at 42% and 41% respectively.

Whereas radio is popular and has the widest reach especially in rural Kenya, television is particularly important for reaching out to people in urban areas. Many people who do not own a TV set at home still manage to watch it elsewhere.

The effects of human activities such as economic development, population growth and land degradation are slowly taking a toll on the environment. Whereas technological advances in agriculture, industry and transportation have greatly improved man's way of life by providing raw materials, they have also resulted in pollution of land, atmosphere, vegetation and rivers (Okojie, 1991). According to Dalelo (2007) there is need to create awareness on the role played by human beings in reducing or worsening environmental deterioration.

The public has the right of access to environmental information held by public authority and making information about the environment publicly available is essential for achieving sustainable development (EIR, 1992). With access to environmental information, the people have full knowledge of the implications of their activities on the environment and are able to participate more effectively in decision making processes that affect the environment (UNESCO, 1992).

Awareness of the effects of human activities on the environment came to light in the 1960's when the world saw the first photograph of the earth that depicted it as a fragile and finite space shift. Since then there has been a paradigm shift as humans realized there was a need to take better care of their environment (Dryzek, 1997).

In 1972, the first United Nations Conference on Human and Environment (UNCHE) was held in Stockholm, Sweden. During this conference it became apparent that environmental problems were not a local phenomenon but rather needed to be viewed from a global perspective (Corell 1999). This set the agenda for subsequent conferences which focused on involving both developed and developing countries in pursuing sustainable socioeconomic development through eco friendly means.

During the 2007 World Environmental Conference (WEC), the then United Nations Secretary General Ban Ki-Moon called on nations to work together towards ensuring environmental sustainability.

> This is a marathon not a sprint. But if we work together, we can forge an effective long term response to climate change. Every country must be part of the solution. Every country has a role to play. Environmental awareness needs a political answer. This is an emergency and emergency situations need emergency actions. (Ban-Ki Moon, 2007 WEC in Indonesia)

Today, different countries have put in place mechanisms for environmental development and protection. Kenya, being a member of the United Nations has different organizations and policies aimed at protecting the environment. The country has a Ministry of Environment and Mineral Resources whose responsibility is to promote, monitor, conserve and sustainably manage environment and mineral resources for national development. This ministry works hand in hand with the National Environment Management Authority (NEMA) to ensure proper management of environmental resources in Kenya.

In addition, several civil society organizations, individuals and corporate bodies have come up with initiatives on environmental conservation. In terms of policy, the major law governing the use and conservation of environment and natural resources is the Environment Management and Coordination Act (EMCA) of 1999. EMCA provides for the establishment of an appropriate legal and institutional framework for the management of the environment and related matters.

NEMA (2014) identifies pollution, poor land use, global warming, deforestation and poor waste management as the major environmental problems affecting Kenya. These problems arise due to over-exploitation of natural resources and emission of wastes and pollutants.

Poverty and illiteracy are causes as well as consequences of environmental degradation. The high level of

poverty and illiteracy in Africa is directly linked to the current level of environmental pollution and degradation in the continent. The poor and the illiterate are often more interested in issues related to their daily survival than environmental management; this lack of interest and awareness often leads to more reckless environmental behavior which in turn breeds more environmental problems and leads to a vicious cycle of poverty (Ekpeyong, 2009).

According to World Development Report (2013), millions of people around the world are likely to be pushed back into poverty because climate change is undermining economic development in poor countries. The report further states that droughts, floods, heat waves, sea-level rises and fiercer storms are likely to accompany increasing global warming and will cause severe hardship in areas that are already poor or were emerging from poverty.

Another consequence of environmental degradation is the increased susceptibility to disasters such as mudslides, earthquakes, floods and droughts. The perennial floods in Budalangi and Kano plains in Western Kenya have become a norm. Drought occurs everywhere in the world but its damage is not as severe as in Africa (NMA, 1991). The Northern parts of Kenya are the worst affected by drought. In 2007, hundreds of people were left homeless following a mudslide in Central Kenya.

From the above discussion it is clear that there is a need for people to be aware of the effects of human activities on the environment and measures they can take to control this. In 1992 United Nations Conference on Environment and Development (UNCED) was held in Nigeria. The conference came up with AGENDA 21 which spelt out the strategies for improving the quality of the environment. This document emphasized the need for environmental education as a weapon that could be used by all nations to arouse people's consciousness, positively change their attitudes and instill in them those values and skills that can promote effective environmental management (UNESCO, 1992).

## 1.2 Statement of the Problem

According to a survey done in 2014 by Ipsos Synovate, a research firm, media is the most trusted institution in the country. The media therefore can play a major role in setting the agenda on environmental issues by giving priority to the environment to not only create awareness but also save lives. The media has the power to change the mindset of individuals so that they in turn can take care of their environment.

Television in particular, is a reliable form of media for creating awareness on environmental issues as it combines both audio and visual, and is more persuasive than other media forms. According to Ansah (1991) television as a tool for development has a distinct advantage over radio because of its combination of sight and sound. Television has been found to be effective in situations where radio is limited, like in cases where demonstration is necessary to show a way of doing things such as mixing of fertilizer or oral rehydration therapy.

Environmental problems which threaten the present day existence as well as the future of humanity can be brought to peoples notice by the media. However, a review of current media programmes and news reveals that very few media houses give priority to environmental issues in their programming. Most television stations concentrate on political stories at the expense of environmental issues. Environmental issues only make front page news when a disaster strikes.

Many civil society organizations engage in environmental conservation activities but their efforts are barely recognized by media which leaves the public and policy makers unaware of what progress has been made in environmental conservation. There is need for the public to be informed of what environmental conservation entails so that they can take up an active role in protecting their environment. Policy makers need to be aware of the progress made in environmental awareness activities so that they, through eco-friendly policies can help regulate causes and consequences of environmental problems. The war on environmental degradation can only be won if supported by clear information dissemination mechanisms. As NEMA (2014) puts it there is need to create awareness on the value of the environment in order to enhance individual and corporate responsibility towards the same. Participation in environmental activities will influence ownership, positive change of attitude and behavior.

This research sought to evaluate the potential ability of the television in raising awareness on environmental issues vis-à-vis the actual role television is playing. There is need to assess the role of television in not only raising awareness but also change in attitude among masses on environmental issues.

## 1.3 Objectives

The main objective of this research was to find out the role of television in the creation of environmental awareness and providing information on environmental protection among Kenyans.

The specific objectives were as follows:
1. To identify the level of environmental awareness in Kenya.
2. To analyze the TV content in the coverage of environmental matters.
3. To establish the relevance of the environmental information covered by television stations in Kenya to

audiences.

4. To evaluate the role of television in creating awareness on environmental issues.

## 1.4 Research Questions

This study sought to answer the following questions:

1. What is the awareness level on environmental issues among Kenyans?
2. What is the status of television content and coverage of environmental matters?
3. How relevant are TV environmental messages relevant to Kenyans?
4. How effective is television as a tool for creating awareness on environmental matters?

## 1.5 Justification of the Study

This research was motivated by the fact that all Kenyans have a right to access information and a responsibility to protect their environment as stipulated in the Constitution. The media being the main channels through which Kenyans access information therefore have a major role to play in ensuring that citizens have sufficient information on environmental issues and can take action to save Mother Nature.

There is an information gap on the role of media in raising awareness on environmental issues in Kenya. There is very little research done on how media can be used as an effective advocacy tool for raising awareness on environmental matters. This research therefore aimed to help fill that gap by establishing the role television plays in disseminating environmental information to Kenyans.

## 1.6 Scope and Limitation of the Study

All forms of media play a role in the dissemination of environmental information; however, this research is limited to television due to time and financial constraints. The research only focused on four television stations; Kenya Television Network (KTN), Nation Television (NTV), Citizen Television and Kenya Broadcasting Cooperation (KBC). This is because these are the main stations in the country and are available on free to air channels which makes them accessible to Kenyans from all walks of life.

This study relied on both primary and secondary sources of information. The main limitation of secondary data is that there is very little research done in the role of media in environmental awareness across the world.

## 2.0 LITERATURE REVIEW
### 2.1 Introduction

This chapter provides a review of literature on the role of TV in creating environmental awareness. It has two major sections; a critique of literature relevant to the study and a theoretical framework segment. The former includes a review of the state of media in the global arena, the state of media in Kenya, the level of environmental awareness both at local and international level as well as the role media can play in raising environmental awareness while the latter looks at the theoretical as well as conceptual framework relating to the study.

## 2.2 Media in the Global Arena

Mass media has been defined as a "means of communication designed to reach and influence large numbers of people" (Encyclopedia Brittanica, 1980). According to Defleur (1996) mass communication is technology which helps a message to be transmitted among a large number of people at the same time. Thus, it includes newspapers, magazines, television, radio, cinema and the internet. According to Lee (2009) mass communication history is fairly short. "Mass communication primarily developed in just the last 500 years. Earlier developments, along with technological advances and social change, helped spark the demand and innovation necessary for creating today's mass media " (Lee 2009, p. 2) .

According to McQuail (2004) books are the oldest form of media. Laws and proclamations were printed by royal and early authorities making them among the earliest forms of mass communication. Lee (2009) states that books were not reproduced for the masses, however, until the invention of the printing press in 1456AD. It was almost 200 years after the invention of printing before what we now recognize as a prototypical newspaper came to being (McQuail, 2004).

Radio emerged as a mass medium in the 1920s, thanks to the growing popularity of mass entertainment and technological advancements stemming from the development of the telegraph, telephone and the wireless (Lee, 2009). McQuail (2004) states that, radio seems to have been a technology looking for a use, rather than a response to a demand for a new kind of service. According to Williams (1975: 25) "unlike all previous communications technologies, radio and television were systems primarily designed for transmission and reception as abstract processes, with little or no definition of preceding content." Radio and television "both came to borrow from existing media, and most of the popular content forms of both are derivative from film, music, stories, news and sport (McQuail, 2004:12).

The popularity of radio was soon replaced by a worldwide race to add pictures. The invention of television stemmed from a need to have pictures and sounds transmitted and thus act as a window to the world in real time (McQuail, 2004). Television, considered to be the most important invention of the twentieth century- hit its stride in the 1940s, followed by cable television and satellite communications in the latter half of the century (Lee, 2009). Television has been continuously improved with addition of new features thanks to technological advancements. An important feature of television is "the sense of intimacy and personal involvement it seems able to cultivate between the spectator and presenter of the actors and participants on the screen" (McQuail 2004:13). McQuail (2004) further states that television is the most "massive" of the media in terms of reach and time spent globally.

The internet is the newest medium. According to Castells (2001) the internet began primarily as a noncommercial means of intercommunication and data exchange between professionals, but its more rapid advances have been fuelled by its potential as a purveyor of goods and many profitable services and as an alternative to other means of personal communication. The internet has revolutionalised communications and is considered a supplement as well as a competitor to the traditional forms of communication.

**2.3 Media in Kenya**
**2.3.1 Historical Perspective of Growth of Media in Kenya**
The history of media in Kenya is best understood by looking at the political periods that have shaped the country. Mbeke (2008), states that, Kenya's unique history of colonialism, post independence political competitions, authoritarianism and subsequent political and economic liberalization has had an immense effect on the pace and depth of media development.

During the pre-colonial period, media in Kenya was predominantly owned by settlers and was mainly used to disseminate government information to the white settler communities (Mshindi, 2008). Restrictive laws were put in place to hinder the development of free press as it was feared that with a free press Kenyans would push for their independence. In 1930, the government enacted the Penal Code which barred the publication and distribution of anti-colonial material (Makali, 2004). In 1960, with the impending independence, the Kenya Broadcasting Corporation (KBC) was established. KBC took over from the government controlled system and established a monopoly over both radio and television (Ogolla, 2011).

The early years of post colonial Kenya were characterized by heavy government control over the media for propaganda purposes (Mshindi, 2008). This was as a result of the fallout between then President Jomo Kenyatta and his Vice President Jaramogi Oginga Odinga. Kenyatta utilized state machinery including the police and the judiciary to alienate political rivals. Often, the media were targeted or manipulated to achieve this end (Adieno-Odhiambo, 1987). As Mbeke (2008) notes, the factors that shaped the development of media during the Kenyatta era were driven by the ideology of order, the push for development, political contention and ideological issues surrounding media ownership.

The re-introduction of multiparty system in Kenya in 1992 brought about political and press freedom. During this period, there was an increase in flow of aid from donors. With donor aid, came conditions such as a reduction in economic mismanagement, ending of human rights abuses and opening up of more political opportunities (Brown, 2007). The liberalization of the economy in the early 1990's led to the emergence of independent magazines and newspapers such as Economic Review and Finance (Mshindi, 2008). Mshindi further adds that during this period ownership bases expanded and content became bolder and more diversified. As a way of checking on this proliferation of news outlets, the government introduced criminal libel laws and the official secrets act. The government also bought shares in the main media houses so as to have a direct control of the content disseminated to the public. The then President, Moi, through his ruling party KANU bought the Nairobi Times and changed it to Kenya Times, creating a state-sponsored news source that worked hand-in-hand with state-run KBC.

Kenyan media reached its highest degree of independence and autonomy from state interference in 2010 (NCLR, 2010, Article 34). Journalists could now openly challenge the government and ensure a degree of public accountability. The promulgation and implementation of a new constitution in 2010 also granted citizens the right to free access to public sector information (NCLR, 2010, Article 34). This independence was short-lived as in 2013 with the coming in of a new government things changed and a new law was introduced. According to the new law, Kenya Information and Communication (Amendment) Act and Media Council Act, journalists can be fined up to 500,000 Kenyan shillings and media companies up to 20 million shillings if the board finds them in breach of a government-dictated code of conduct.

This rich history has helped to propel Kenyan media to where it is today. Despite some of the hurdles mentioned above, Kenya's media are one of the most respected, thriving, sophisticated and innovative in Africa. (BBC World Service Trust, 2007). A survey conducted by Ipsos Synovate revealed that media was the most trusted institution in Kenya. The research conducted from 8-15 February 2014 revealed that 48 percent of Kenyans trusted the media, followed by 39 percent who said they trusted the President and religious leaders.

This proves that media despite the many hurdles it faces is a powerful tool for disseminating information.

Kenya has four major types of media; television, radio, newspapers and internet. In a 2012 survey of 3000 respondents conducted by the Media Council of Kenya, 85% of respondents said they used radio, followed by television at 83%, newspapers at 68% and Internet and mobile phones at 42% and 41% respectively. From these findings, it is plausible to conclude that radio is the most popular medium in Kenya followed closely by television and newspapers in that order. Apart from these four, other sources of information relied on by Kenyans are magazines, social gatherings such as chief's *barazas* and grapevine through social networks.

An estimated 301 radio stations and 83 television stations have been licensed by the Communications Commission of Kenya (CCK, 2012). This number is bound to grow with the coming of digital migration which will lead to the freeing of airwaves. It is also imperative to note that the lack of transparency, impartiality and fairness witnessed in the allocation of broadcast licenses and frequencies during former President Daniel Moi's era led to a lot of secrecy and mystery on the identities of broadcast station owners (Media Council of Kenya, 2012). Kenya has six daily national newspapers and more than 11 weekly newspapers. In addition, there are more than 20 monthly magazines, eight bi-monthly and six quarterly magazines (Oriare et al, 2012).

Stiff competition in an increasingly crowded liberalized media market has led to an emerging trend in media concentration and cross media ownership in Kenya (Oriare et al, 2010). This, according to Media Council of Kenya (2012) has been a concern as media owners tend to influence the editorial content, reporting style, news sources and personalities used by media houses. The council further states that such situations compromise the accuracy, credibility and impartiality principles in news gathering and dissemination to various audiences.

### 2.3.2 The Growth and Development of TV in Kenya

Natesh (1964) states that, television broadcasting in Kenya began in 1962. During this period, KBC was the only television in Kenya. KBC's sole responsibility was to be a government mouthpiece. With the independence of Kenya, the name of the corporation changed to Voice of Kenya. In 1989, the name was changed back to Kenya Broadcasting Corporation.

In the 1990s, the field began to expand and modernize. During this period, Kenya Television Network (KTN) began broadcasting. This coming in of a competitor forced KBC to improve its capabilities with new equipment and expanded reach. KTN was private unlike KBC which was government owned. This gave them greater freedom with regards to content which in turn resulted in higher ratings (Adieno-Odhiambo, 1987). The success of KTN opened gates for other television stations such as Nation TV (renamed NTV), Family TV, Sayare TV and Citizen TV (Mshindi, 2008). Today, over 80 television stations have been licensed by CCK (CCK, 2014). KBC Channel One is still the official government television channel.

There are three types of television in Kenya namely cable TV, satellite TV and network. The Cable TV market is the least developed media serving only a small 'A" class in Nairobi and comprises Wananchi Group's Zuku TV. The network TV is the most developed in Kenya and comprises of free to air channels such as KTN, KBC Channel 1, NTV, Citizen Tv, CTV, K24 among many others. Satellite TV is dominated by Multichoice which owns both DSTV and Gotv and China's Star Times (Oriare and Mbeke, 2008). According to the 2009 census, there are 2.4 million households with TV sets nationally with 610,709 in Nairobi.

According to an Ipsos Synovate research conducted face-to-face with 517 people in Nairobi and 2031 in Kenya as a whole between February and March 2014, Multichoice's digital terrestrial GOtv has the largest digital TV subscriber base in the country at 36% followed by China's StarTimes at 28%, Zuku TV has 19% of Kenya's digital television market space while DStv is at 17%.

The popularity of the free to air channels is as follows: Citizen TV leads the pack with 50%, followed by KTN and NTV at 13% each, KBC and QTV at 7% each and K24 and Kiss TV at 6% and 2% respectively (Ipsos Synovate, 2014).

Growth in Kenya's television sector has not only been in terms of numbers but content too. In terms of content, TV in Kenya has witnessed a range of programmes both local and international. There is however an over-reliance on foreign content at the expense of locally produced programmes. Musau (1999) attributes this to the fact that sponsors hold sway over televised programmes, stations lack funds to produce their own programmes, hence preference for cheap imported ones and the assumption by producers that Kenyans prefer foreign programmes to locally produced ones. However a 2012 survey by Media Council of Kenya revealed a dislike in the media airing international content such as Philippine and Mexican soaps and Nigerian movies. Respondents interviewed during the survey were in consensus on the need to produce and promote airing of programs containing local content that be both informative and educative instead of airing international programmes that are culturally irrelevant.

### 2.4 Environmental Awareness

This section will examine the overall understanding of environmental issues from a global as well as a local perspective.

### 2.4.1 Global perspective

According to Gore (2006) environmental problems are global in origin and therefore require collective local actions to solve them. Scientific evidence has shown that ecosystems are under unprecedented pressure threatening prospects for sustainable development. Welford (1998), notes that, humankind uses more than 67% of the planet for primary productivity. Samalisto (2007) states that people are using the earth's resources faster than they can be renewed. Samalisto (2007) further adds that in addition to these problems and their adverse effects, there is the green house effect, global warming and global climate change which have captured the attention of the whole world at the moment. Burgess (1990) observes that the accumulation of greenhouse gases, mainly carbon dioxide, is irreversible for periods covering hundreds of years. He also notes that global environmental problems like deforestation, global warming and pollution of water bodies are public evils that have negative effects on the economy, causing multiple costs.

Yet as UNEP (2007) observes, while these challenges are daunting, they also provide opportunities for local communities, governments and businesses to innovate for the benefit of communities, economies and the global environment. In less developed countries natural resources are the backbone of the economy and provide the life support system for most of the people. Majority of the population in these countries directly depend on the environment for their livelihoods and are particularly vulnerable to the effects of environmental change.

Over the past three decades, in many countries of the world, the environment has continued to deteriorate and poverty has increased despite attempts by governments to try halt and reverse degradation (Ajeyalemi, 1998). These problems are likely to intensify over the next three decades as population continues to grow and the climate becomes more variable (Ekaete, 2001).

To help curb the spread of these environmental problems, several global level conferences on the environment have been organized to discuss the importance of awareness creation through education and media as means to attaining sustainable development in the long run. Ekaete (2001) notes that recent concerns about environmental degradation in western societies and modern lifestyles have been preceded for centuries by global distraction of warning from other cultures, in particular indigenous cultures. These warnings have led to the current mandate for global organizations to promote sustainability as pivotal to social and cultural change at national, regional and local levels (UNESCO, 1992). The concern about environmental degradation has increased steadily. These days it is common to talk about the earth, the globe and the global environment and a lot of news and debates which can be labeled under the umbrella concept of global environmental change are found in the media (Ingold, 2000). This is an encouraging trend that portrays a radical change in the level of awareness and concern for environment among citizens.

### 2.4.2 Kenyan Perspective

Kenya's economy is natural resource-based with over 80% of its population living in rural areas where the main economic activities are agriculture and livestock farming (Wakhungu, 2013). NEMA (2009) adds that 64% of the total population is directly undertaking agricultural activities. According to Stockholm Environment Institute (2009) Kenya has exceptional biodiversity which provides multiple benefits to society which in turn have economic benefits. The health of the environment as well as the utilization and management of natural resources is therefore core to the country's economic growth and development (Wakhungu, 2013).

However, Kenya is currently facing high rate of desertification processes and environmental degradation due to climate change. Krassowska (2009) observes that the environment is often under-prioritized in both national planning and budgets, and in private sector business strategy, because ecosystem services are not considered core to growth or profits. As such, the environment is not properly valued to reflect its true economic value, and thus not systematically nor routinely integrated in national development planning processes, sector budgets and departmental "performance contracts".

According to NEMA (2013) the effects of climate change in Kenya include variations in weather patterns, frequent and prolonged droughts, diminishing water resources, floods, loss of biodiversity and resource use conflicts. This has in turn led to a rise in consciousness among Kenyans on the effects of human activities on the environment. Krassowska (2009) states that Kenyans' experience of drought in recent years from failed rains, of facing its devastating impact on food and water for people and livestock, for agriculture and energy production, has fostered greater political awareness of the environment's central role to our stability, security, and development.

> The challenge, of course, is to translate our awareness into forging difficult political decisions to set strategic priorities where environment is at the very core, effective through all development plans, budgets and sector policy (Krassowska 2009: 3).

As DANIDA (2009) rightfully notes NEMA and the Ministry of Environment and Mineral Resources (MoEMR) have actively worked to build general awareness of the need for tree planting, industrial pollution control, Environmental Impact Assessments (EIA) and systematic solid waste management. Their efforts have been supplemented by civil society organizations, individuals and corporates who carry out environmental conservation awareness campaigns.

## 2.5 Media and Environmental awareness

This section begins by examining the role of non-media sources in creating awareness on environmental sources and ends with an evaluation of the effectiveness of media in raising environmental awareness.

### 2.5.1 Ways of Raising Awareness

Many sectors of society are involved in developing and delivering educational courses and public awareness campaigns. These include governmental institutions at the national, regional and local levels; domestic and international NGOs; primary, secondary and post secondary schools; journalists and the media; celebrities; and other individuals and institutions (Krassowska, 2009). Bekalu (1995) states that an enhanced perception of environments and environmental change should lead to a sense of personal and community responsibility for environments and should foster the notion of people as custodians of the earth for future generations.

UNEP (2007) outlines 4 major ways through which environmental education and awareness creation can be achieved. These are re-orienting current education and awareness programs to include environmental dimension, basic education and awareness programmes in the communityIn addition, religious convictions and traditions, highly influenced by the cultural context of an individual, may also contribute to the level of environmental awareness and influence people's behavior towards the environment.

### 2.5.2 Media and Environmental Awareness

The impact of media on society was probably best summarized by Nobel Prize winner and Harvard University Professor Amartya Sen, who famously said that "no substantial famine has ever occurred in any independent and democratic country with a relatively free press". Sullivan (2007) states that media hold tremendous potential to transform lives by improving the quality of education, informing the public about health threats and safe practices to avoid them, serving local communities by bringing attention to their needs and in times of disaster, providing information and sources of assistance to people displaced from their homes. It therefore follows that media can be used as an effective tool for raising awareness on environmental issues.

According to Morgan (1997) a significant amount of the public's knowledge of environmental issues is likely to come from the media. Morgan (1997) further postulates that much of what people hear about issues such as greenhouse effect, global climate change, ozone depletion, water and air pollution, and other environmental threats is likely to come from the media (or from others who have heard it from the media) since our first-hand knowledge of the state of the environment is likely to be minimal. Kapur (2011) is in agreement and states that different information tools like radio, television, internet and newspapers spread awareness on climate change and environment protection among people faster than personal contact.

Shanahan (2011) notes that high quality media coverage of climate change can inform vulnerable communities of potential impact and how they can adapt to them, and promote mitigation activities that limit the amount of warming the earth experiences. McCombs (1995) adds that the media could take up a crucial role by providing technical information about relevant environmental problems and possibilities. Hansen (2007:50) further states that "media discourses help to shape and set parameters of discussion and understanding of environmental issues" resulting in social and policy responses.

However, this immense potential of the media in raising awareness is hardly realized by many countries due to various factors. Despite the public dependence on the media for information, there are salient aspects of press behavior that are negative (PMC, 2006). Baker (2007) also observes that media organizations are ideologically biased and selectively pick environmental movements that best capture their corporate demands for newsworthiness. This in turn encourages environmentalist movements to make concession to their causes by becoming more media savvy (Davis 2002:81). As Cohen (1994) notes whereas these efforts to improve their media visibility are laudable, by making tactical concessions, environmental movements may paradoxically render their longer term objectives invisible to their audience.

According to Shanahan (2011) media coverage of environmental issues only occupies a small proportion of total media reporting relative to the scale of the problem. Environmental reporting is marginalized in the news. Banterer's (2002) study of the globe concluded that lip service was paid to environmental concerns and those environmental issues were never addressed in their full range and seriousness. This lip service diverts attention from the overall thrust of reporting, which is one-sided and hardly environmental.

There are cases where senior editors who are the gatekeepers pay limited attention to environmental news. According to Shanahan (2011) many journalists want to report on climate change but struggle to convince their editors that such stories are newsworthy. Shanahan (2011) further states that many editors see climate change as an international story. So they do not prioritize local reporting, but instead they use stories from Western news agencies or reprinting press releases without adding any local context or information. Dobson (1997) observes that sometimes major environmental issues are underreported in the country of origin until the foreign media picks it up and gives it international coverage.

Nelkin (1987) states that most world citizens will not learn about climate change research directly from the complex lexicon in scientific journals, but rather from the mass media. It is therefore the media's responsibility to translate complex, scientific concepts to the lay language. It is a large responsibility; one that modern media

bereft of environmental reporters and specialists is challenged to meet. As a result instead of portraying carefully worded scientific findings, dramatic, eye catching entertaining stories aimed to attract audiences and not enlighten them about risks of environmental change end up in the media (Wilson 1995; Bell 1994).

Another difficulty faced by journalists and producers covering the environment is access to reliable sources of information and having technical information interpreted by experts. The restriction of access to information by the public and media still prevails in some countries and inhibits open coverage, discussion and debates of issues that are of public interest (MoI, 2006). Shanahan (2011) notes that even where there is a will to report local stories; journalists often struggle to access relevant information from domestic policy makers.

Despite these many hurdles, countries in the world can still use media to raise awareness on environmental issues. UNESCO (1993) notes that a key strategy for many countries would be to integrate environment into development policy, and to use communication and education in an integrated way as an instrument of policy. According to Shanahan (2011) many government initiatives fail precisely because they do not invest in effective communication as a priority, and many policy makers still see media only as a "public outreach" channel for promoting their own messages. Governments therefore need to embrace use of media as a key channel for raising environmental awareness. In December 2011, parties to the UN Framework Convention on Climate Change (UNFCC) agreed – under article 6 of the convention-to promote public access to information on climate change; and public participation in addressing climate change and developing adequate responses. To do this, involved parties agreed to train relevant personnel including government employees; scientists and journalists to enable them interpret the complex mix of climate science and policy for their audiences.

**2.6 Theoretical Framework**
This section will use the media framing theory to explain how TV can be used to raise awareness on environmental issues. The section begins by explaining the media framing theory then proceeds to link this theory to presentation of environmental issues by media in Kenya. A conceptual framework is provided at the end that captures how frames affect environmental awareness.
**2.6.1 Media Framing in Environmental Awareness**
To frame is "to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation" (Entman, 1993:52). Framing refers to the process by which people develop a particular conceptualization of an issue or reorient their thinking about an issue (Chong et al, 2007).

Mass media actively set the frames of reference that readers or viewers use to interpret and discuss public events (Tuchman, 1978). According to Neuman et al (1992), "they give the story a 'spin'…taking into account their organizational and modality constraints, professional judgments, and certain judgments about the audience" (p. 120). On the other hand, recipients' information processing and interpretation are influenced by pre-existing meaning structures or schemas.

Scheufele (1999) observes that because frames have to be considered schemes for both presenting and comprehending news, two concepts of framing can be specified: media frames and individual frames. This terminological and conceptual distinction follows the Kinder and Sanders (1990) suggestion that frames serve both as "devices embedded in political discourse" which is equivalent to the concept of media frames, and as "internal structures of the mind," which is equivalent to individual frames (p.74). According to Gitlin (1980), frames "largely unspoken and unacknowledged, organize the world both for journalists who report it and, in some important degree for us who rely on the reports" (p.7).

**2.6.2 Conceptual Framework**

Figure 2.1: Researcher's Conceptualization of the Relationship between Packaging and Reception of Environmental Messages on TV
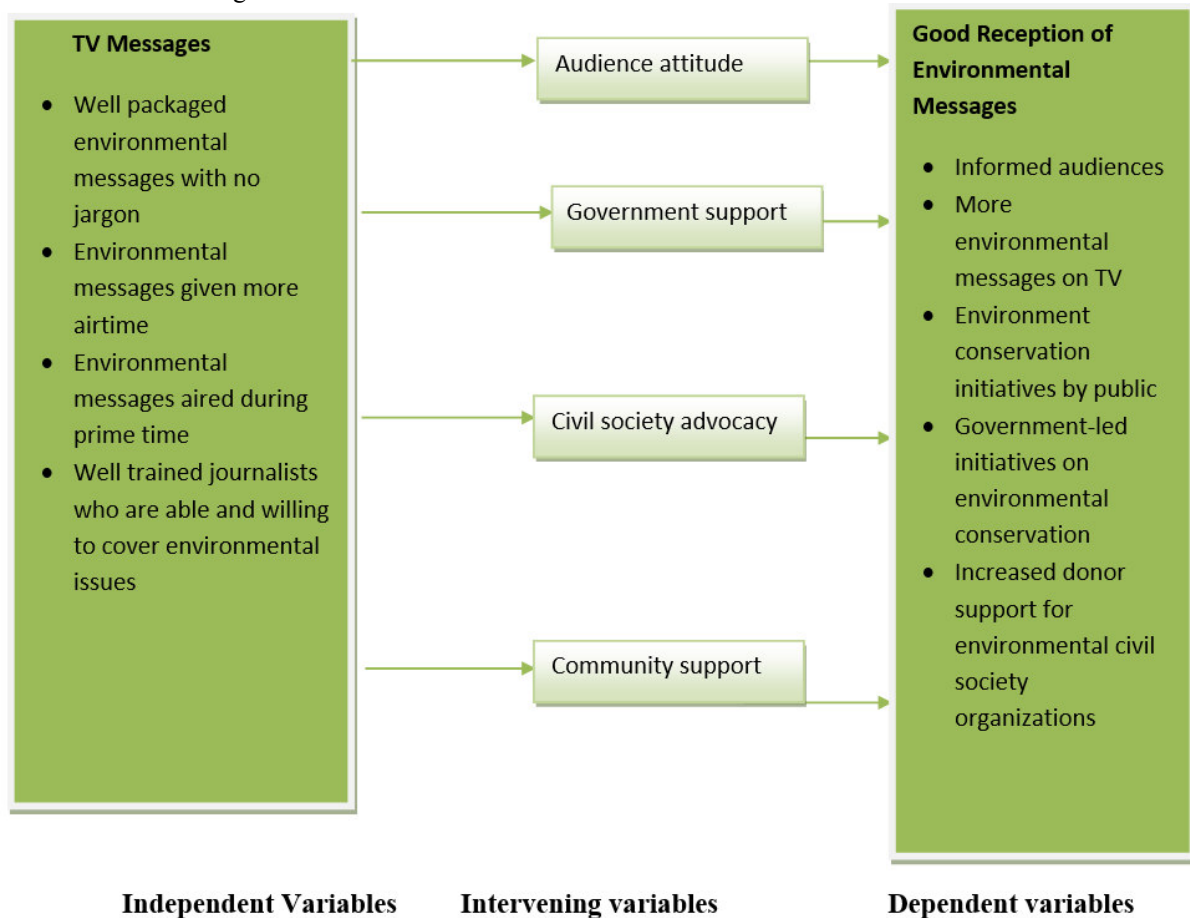


Figure 2.1 shows how the reception of TV messages on environment is dependent on certain frames. Well packaged messages on environment aired during prime time are likely to result in good reception. Intervening variables such as advocacy efforts by civil society organizations can also help to influence how well audiences receive TV messages on environment.

**3.0 RESEARCH DESIGN AND METHODOLOGY**

**3.1 Introduction**

This section explains the methodology used by the researchers to investigate the role of TV in creating environmental awareness in Kenya and the effectiveness of the media in providing information on environmental conservation. The research design, research population, research approach and data collection and analysis methods used during the research process are also explained.

**3.2 Research Design**

The study used mixed method research design: survey and in-depth interviews. According to Creswell (2014) survey research involves collecting quantifiable information from a sample by determining the current status of a sample population with respect to one or more variables. Mugenda & Mugenda (2003) further state that survey research "seeks to obtain information that describes existing phenomena by asking individuals about their perceptions, attitudes, behaviors or values" (p165). The researchers used survey method to collect data from respondents using questionnaires. In-depth interviews with key informants were also used to get comprehensive expert views on the challenges, opportunities and successes of using TV to create awareness on environmental issues.

**3.3 Research Population**

According to Mugenda & Mugenda (2003), a population is an entire group of individuals, events or objects, having common observable characteristics. There are two kinds of population; target population and accessible population. The former refers to the total set of subjects in a study where the research will be generalized while

the latter refers to the set of subjects from which the sample of the study is to be derived. For this research project accessible population is residents of Ruai division.

Residents of Ruai division were purposively identified as the accessible population because Ruai being a semi-urban area located on the periphery of the capital city Nairobi bears the characteristics of both urban and rural settings. The views of residents therefore represent those of Kenyans from both rural and urban settings. Secondly, Ruai is home to Nairobi's sewerage system and has also been reported to experience flooding during the rainy season. The area therefore can be said to bear the brunt of environmental degradation thus making it an ideal study area.

### 3.4 Research Approach: Sampling and Sampling Techniques

This research used mixed method approach of both qualitative and quantitative methods. According to Creswell (2003) the use of more than one method to investigate the same research problem strengthens research findings through the combination of information sources and analytical approaches. Mixed method approach helps to overcome any bias, which is inherent within a single method approach, adds value to the theoretical debate and also complements the limitation of one method with the other's strength (Creswell 2003:210).

Qualitative method was used to gather narrative data that requires no numeral figures. It was used to collect information on how environmental messages are packaged for TV via in-depth interviews with TV producers, editors and journalists from various media houses and environmental stakeholders from both government and non-government entities. Purposive sampling was used to identify the persons to include in the said interviews. Cases were purposely identified because of the fact that they hold the desired information for this research project. Non-probability sampling was used to select 5 TV producers and editors, 10 reporters and 15 environmental stakeholders for in-depth interviews as the researcher was looking for in-depth information and not making inferences or generalizations.

Quantitative method was used to gather numerical data from residents of Ngindu and Ruai locations of Ruai Division to determine their views on the role of TV in advocating for a cleaner and safer environment. Of interest was to find out their favorite TV programs, how often they watch environmental shows and their general assessment of the effectiveness of Kenyan TV stations in covering environmental issues. A sample of 200 respondents from 90 households was randomly identified.

### 3.5 Data Collection Methods

Data collection methods included self administered questionnaires and in-depth interviews. Questionnaires were administered to gather quantitative data while interviews were conducted to gather qualitative data. The questionnaires and interview schedules were tested before actual data collection to determine their reliability.

### 3.6 Data Analysis

According to Berger (2001:188) "descriptive survey describes the population being studied. These surveys seek to obtain information about demographic factors such as age, gender, marital status, occupation, etc and relate this information to opinions, beliefs, values, and behaviors of people or research population. Broadcasters for instance use survey research to find out how popular their programmes are…the focus of descriptive surveys is on present day behavior of people". Descriptive statistical method was used to explain the socioeconomic characteristics of the respondents. This involved the use of tables, graphs, pie charts and percentages to analyze feedback from respondents.

To analyze qualitative data, the researchers coded the respondent's feedback and selected those responses that were popular among the key informants. Responses from key informants were presented in the form of narrations accompanying survey respondents' views.

### 4.0 DATA ANALYSIS AND INTERPRETATION

### 4.1 Introduction

This section provides data analysis and interpretation of results on respondents' awareness of environmental issues around them, their access to and use of television and their perception on the actual versus potential role of television in creating awareness on environmental issues. The responses obtained from survey participants were analyzed using quantitative methods while those from in-depth interviews with key informants were analyzed using qualitative methods.

### 4.2 Background Information of Research Respondents

This research focused on Ngindu and Ruai sub-locations of Ruai division. 45 households were randomly selected from each sub-location and a maximum of 3 members per household took part in the study.

The research sample was made up of 200 individual respondents ranging from 20 to 55 and above years old. Out of these, 113 were male (56%) while 87 (44%) were female. The number of males is slightly higher than

that of females because of the total population characteristics of Kenya. The distribution or respondents according to age was as follows: 47% were aged between 21-30 years, 34% were aged between 31-40 years, 13% were aged between 41-50 years while 6% were aged over 50 years. The high number of middle aged respondents can be attributed to the fact that Ruai being a semi-urban area has many young families.

As shown in figure 4.1 and table 4.1 below, males aged between 21-30 years formed majority of the respondents. The table also shows that many of the respondents are of middle class economic status who shares a household with two other people.

**Table 4.1 Survey Respondent Characteristics**

|  |  | Male | Female |
|---|---|---|---|
| **Age in Years** | 21-30 | 53 | 42 |
|  | 31-40 | 38 | 29 |
|  | 41-50 | 14 | 12 |
|  | Over 55 | 8 | 4 |
| **Economic Status** | Lower class | 27 | 27 |
|  | Middle class | 82 | 58 |
|  | Upper class | 4 | 2 |
| **Area of Residence** | Urban | 12 | 18 |
|  | Semi urban | 75 | 49 |
|  | Rural | 26 | 20 |
| **Size of household** | 1 | 16 | 9 |
|  | 2 | 34 | 27 |
|  | 3 | 41 | 33 |
|  | 4 | 10 | 7 |
|  | 5 | 7 | 5 |
|  | More than 5 | 5 | 6 |
| **Education Level** | Class 8 or lower | 4 | 8 |
|  | Secondary school | 20 | 14 |
|  | Diploma | 44 | 32 |
|  | Degree | 38 | 29 |
|  | Post Graduate Degree(s) | 7 | 4 |

**Figure 4.1 Distribution of Respondents according to age and gender**
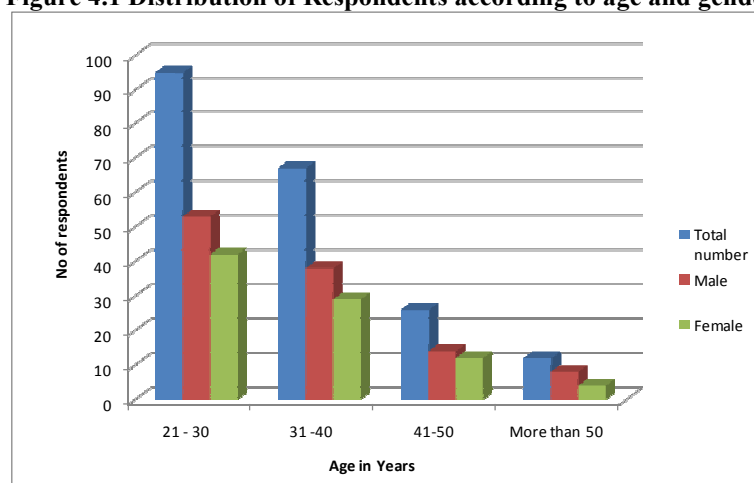


30 key informants were selected for in-depth interviews. As shown in table 4.2 below, 5 were editors and producers from media houses based in Nairobi, 10 were reporters from different media houses across the country and 15 were environmentalists drawn from government, civil society and private sectors. The In-depth interviews provided an expert view on the potential and actual role of media in creating environmental awareness.

**Table 4.2 Key Informants' Bio Data**

| | Total Number | Age Group | | | | Highest Level of Education | | | Years of Experience | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 21-30 | 31-40 | 41-50 | Over 51 | Diploma | Degree | Post Graduate | <1 | 01-May | 06-Oct | >10 |
| **Editors** | **2** | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 |
| **TV Producers** | **3** | 0 | 1 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 3 | 0 |
| **Reporters** | **10** | 4 | 5 | 1 | 0 | 2 | 7 | 1 | 0 | 8 | 2 | 0 |
| **Environmentalists** | **15** | 2 | 3 | 7 | 3 | 4 | 8 | 3 | 1 | 4 | 6 | 4 |

**4.3 Environmental Awareness**

In this section, the researcher sought to establish respondent's knowledge and awareness of environmental issues. This is important because studies have shown that prior knowledge of a particular issue can influence audience willingness to follow it up on media.

As shown in Figure 4.2 below, respondents felt that poor solid waste disposal, climate change and poor agricultural practices were the environmental issues that needed to be addressed urgently.

**Figure 4.2 Environmental Issues Facing Kenya today**
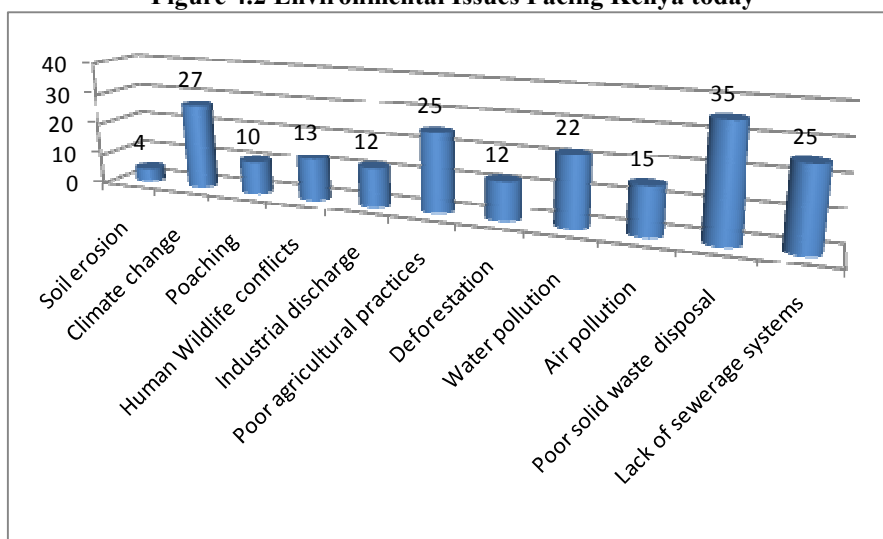


This view was supported by one environmentalist who felt that climate change was a major issue affecting livelihoods. He said:

"The major environmental issue affecting Kenya today is climate change that is adversely affecting agricultural production, agriculture being one of the main contributors to the economy."

Other environmental issues mentioned by key informants include deforestation which was said to occur due to ignorance and lack of implementation of the law on protection of forests, poaching of elephants and rhinos, pollution of water sources and lack of proper rubbish disposal and drainage systems.

Asked what they thought was most affected by environmental degradation, many of the respondents (37%) selected agriculture, followed closely by 33% climate change. This can be said to be because agriculture is the source of livelihood for many Kenyans and many may have felt the first hand effects of environmental degradation with the decreasing farm supplies.

**Figure 4.3 Most Affected by Environmental Degradation**
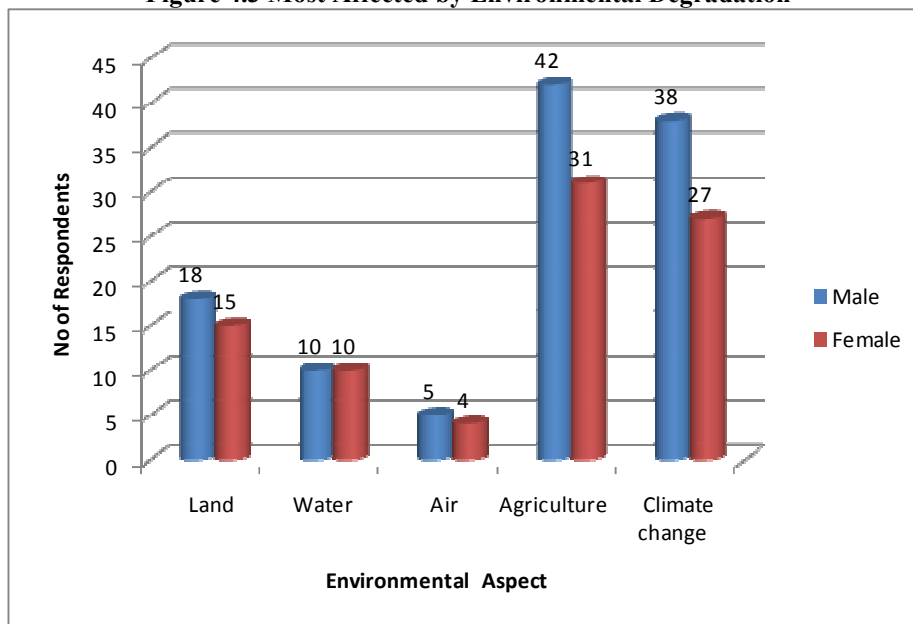


Media was mentioned by 56 respondents as being the main source of information on environmental issues. The National Environment Management Authority (NEMA) came in second with 48 respondents saying they relied on it for information on environment. Other popular sources of information on environment included Civil Society Organizations, County Governments, church leaders and politicians mentioned by 32, 20, 19 and 17 respondents respectively. Word of mouth emerged the least popular way of dissemination of information.

Environmentalists interviewed by the researcher noted that the most reliable means they used to disseminate information was social media, SMSs and posters noting that media was not reliable. One of them said,

> "Media is a good way to raise awareness but they sometimes fail to show up to your events or require that you pay them before they show up."

**4.4 Media and Coverage of Environmental Issues**

This section sought to understand respondents' perception of all forms of media and their coverage of environmental issues before narrowing down to television. This approach is important for comparison purposes.

Internet emerged as the most frequently used media with 33% of the respondents. Television and radio were mentioned by 26% and 23% of the respondents respectively. The popularity of the internet above all forms of media can be attributed to the fact that it is a relatively new media and thus has attracted many and also due to its ability to consolidate all the other media forms. For instance, these days one can listen to radio, watch television and read the day's newspaper online, hence its versatility (ease) in use. Figure 4.4 below shows the distribution of preference by class level.

**Figure 4.4 Most Frequently Used Media by Class Level**
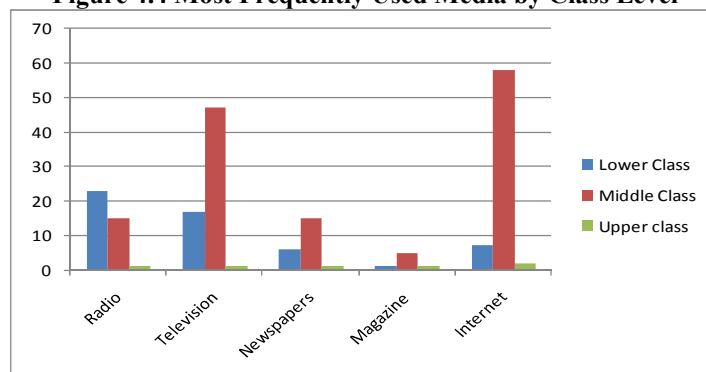


Over 80% of the survey respondents agreed with the statement "Media have a great role in creating awareness on environmental matters". This shows a great appreciation on the potential of the media in raising awareness on environmental issues.

**Figure 4.5 Media Have a Great Role in Creating Environmental Awareness**
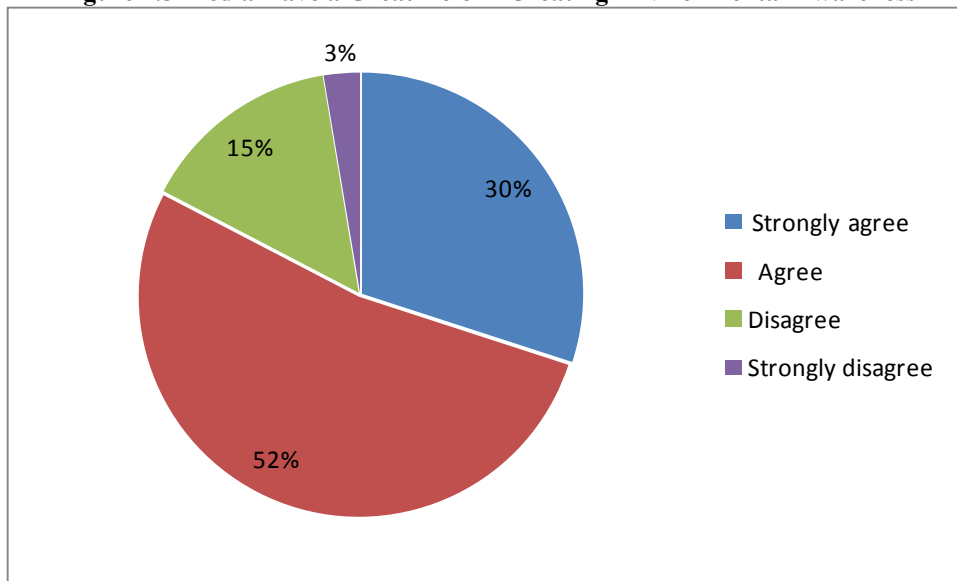


## 4.5 TV and Environmental Awareness Creation in Kenya

This section sought to establish the TV watching habits of respondents and their attitude towards current coverage of environmental issues by TV stations in Kenya.

48% of the respondents indicated that they watched television daily with the highest number being females between 21-40 years old. This could be said to be because females of that age are known to be fans of the Mexican and Philippine soap operas that air daily on Kenyan television stations. 41% of the respondents watch television once a week with a high number being males between 21-40years old. This can be attributed to the fact that football matches which are popular with males of that age group are aired on weekends. 10% of the respondents indicated they watch TV once in a month while 1% never watches TV at all.

**Figure 4.6 Frequency of Watching TV Shows**
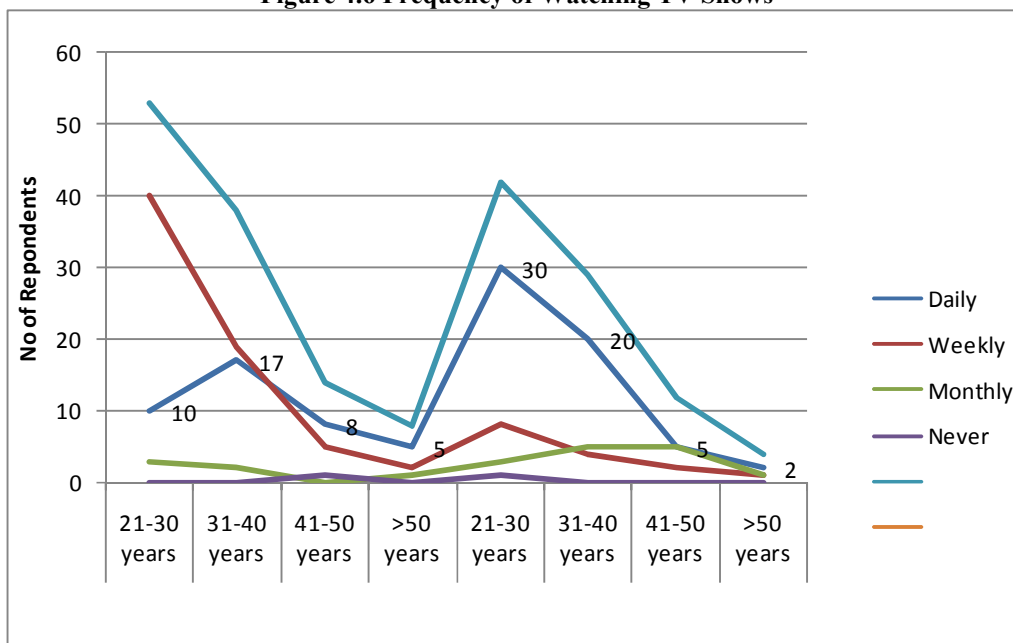


One reporter noted that using TV is dependent on the geographical setting of participants. She said:

"It depends on the audience: people in urban areas and youth spend more hours watching TV than their rural counterparts."

This statement is reflected in figure 4.7 below. TV is considered a luxury among many and hence many rural people who cannot afford to buy it choose to do without. Those who cannot afford it prefer to watch TV in social halls, restaurants and bars.

**Figure 4.7 TV Watching Habits by Area of Residence**
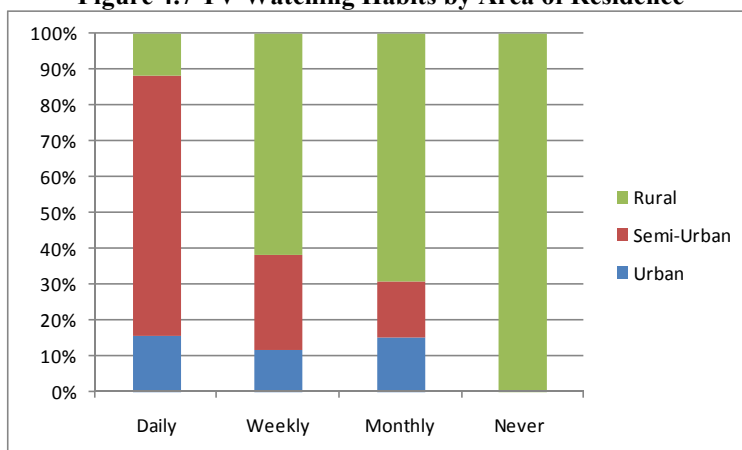


News programmes, soap operas and sports emerged as the top 3 favorite TV shows with 36%, 24% and 22% respectively. In terms of gender and age, news programmes were popular among people of all genders and ages. As shown in figure 4.8 below, sports shows were popular among males of all ages while soap operas were popular among females. Only 3% of the respondents indicated that they enjoyed environmental shows.

**Figure 4.8 Popular TV Shows**
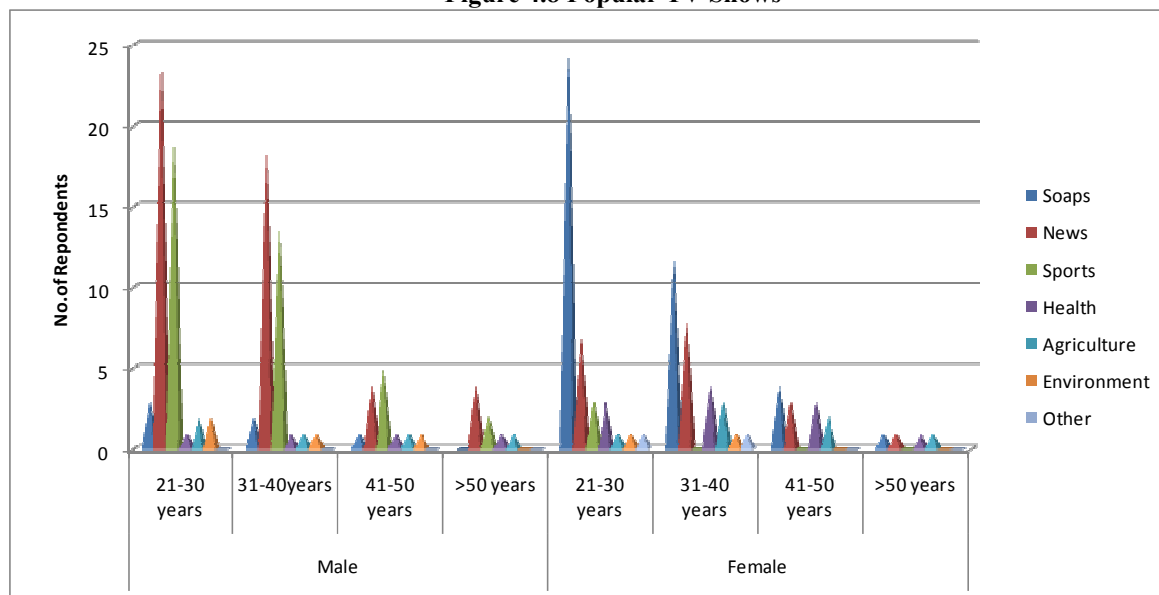


This view was echoed by a TV producer who noted that most media houses go for programmes that are likely to attract viewers and ultimately advertisers. He said:

"TV programming in Kenya is focused on entertainment for people airing mostly soaps and music. There is little or no allocation of time for environmental programmes."

39% of the respondents indicated availability of time as the major determinant of their TV watching habits. With the responsibilities of work, families and school many people find it hard to spare time for luxuries such as TV hence the high score. Type of content was another leading factor of how much TV was watched by respondents with 30% of those interviewed indicating it as a factor. This means that the quality of environmental shows which scored only 3% in popularity is below par. Figure 4.9 captures these findings.

**Figure 4.9 Factors that Determine TV Shows Watched**
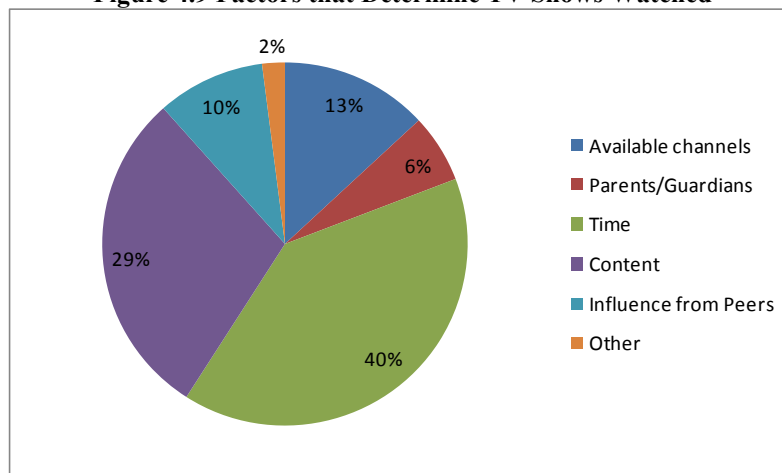


As shown in figure 4.10 below, most respondents are aware of some of the environmental TV shows airing on TV stations. *Shamba shapeup, EcoJournal, Kilimo biashara, Mazingira 24, Project Green* and *Ecowatch* were mentioned as some of the TV shows that show case environmental matters. Citizen TV's *shamba shape up*, KTN's *EcoJournal* and K24's *Kilimo Biashara* emerged top with 30%, 21% and 15% indicating they watched the shows. Each of these shows has a unique aspect and that may explain their popularity. *Shamba shape up* is a magazine show that gives an agricultural approach to environmental issues.

Many Kenyans rely on agriculture and are therefore interested in a show on agriculture. *Eco Journal* is a 5 minute environmental feature that airs on Sunday during the 9:00pm news. Many Kenyans watch Sunday prime time news, and this explains why a feature aired at that time would be popular with respondents. K24's *Kilimo Biashara* is an agribusiness show that showcases how one can make money from agriculture in an eco-friendly way hence its popularity.

**Figure 4.10 Environmental Shows Watched**
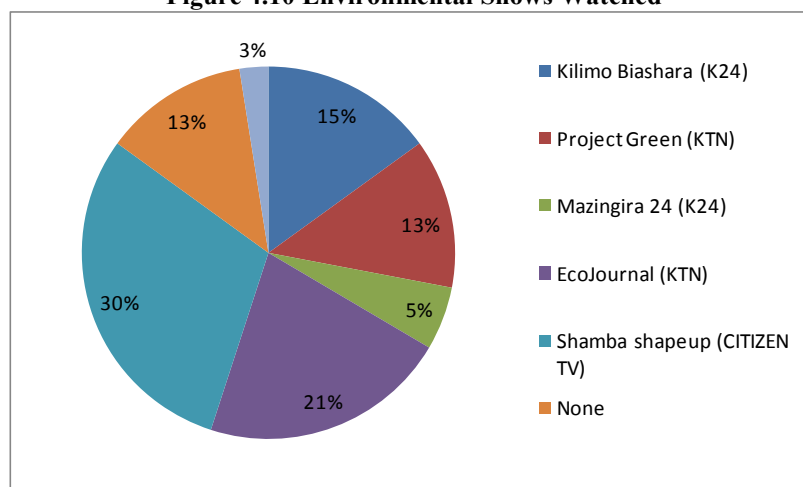


A TV producer attributed the insufficient environmental content to several factors. He observed that most media personnel concentrate their coverage on politics rather than environmental news because most of the editors lack knowledge on environment. He noted that they often give coverage only to major environmental events like the United Nations Environmental Assembly due to the caliber of delegates attending the sessions adding that the media in Kenya also claim that environment stories are boring, a claim that is unfounded.

Another emerging trend from the responses is that apart from one, all major TV stations have a show on environmental issues. One environmentalist observed that:

"TV stations in Kenya are slowly introducing environmental shows and news bits in their programming. KTN is the most eco-friendly station so far with several environmental shows. K24 also has *Mazingira 24* and recently, I noticed KBC introduced *eco watch*. It is encouraging to see the media picking up the environment agenda."

All the above shows air on weekends when most people are relaxing at home. This explains why a large number of respondents (56%) indicated that they watch environmental shows on a weekly basis.

**Figure 4.11 Frequency of Watching Environmental TV Shows**
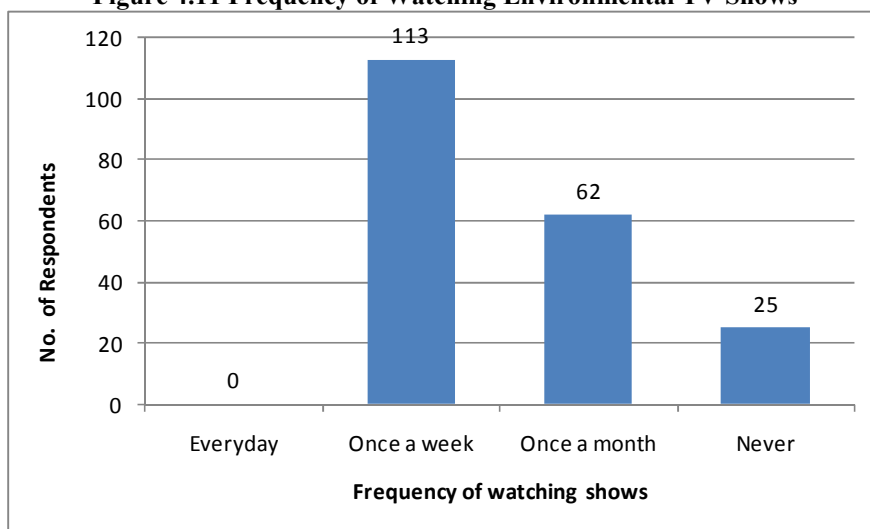


A high number of respondents (62%) indicated that they had ever given up on watching an environmental show. This was because of complexity of issues being discussed (28%), complexity of language used (26%) and inconvenient timing (24%) of the environmental shows.

**Figure 4.12 Reasons for Giving Up Watching Environmental Shows**
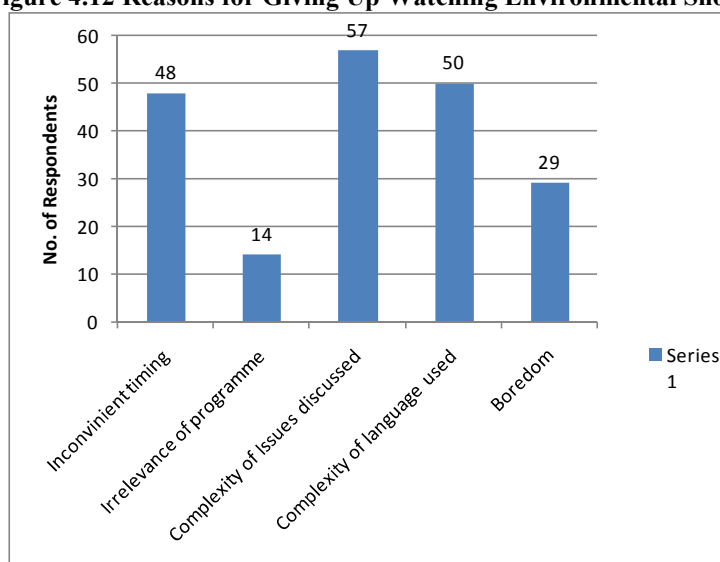


One reporter noted that most reporters lacked the necessary training to report on environmental matters. She said:

> "Environmental matters are complex in nature and require one to be knowledgeable in order to break it down to simpler terms. Many reporters are not well versed in environmental matters. To make matters worse, most environmentalists when called in for an interview use environmental jargon which is not helpful to common *mwananchi.*"

As indicated in figure 4.14 below, 29% of the respondents indicated that they had ever been inspired by an environmental TV show. This can be explained by the fact that a larger number of the respondents (30%) felt that the content of the environmental issues was below par.

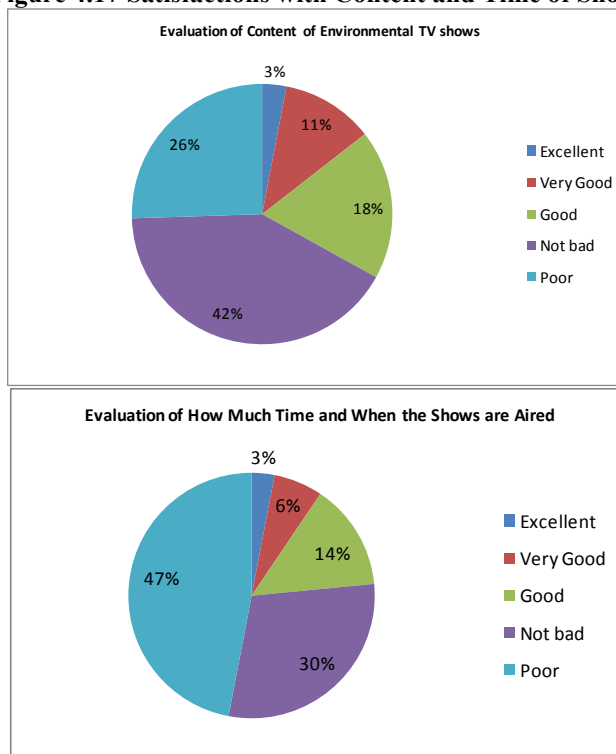**Figure 4.14 Inspiration from Environmental TV Shows**
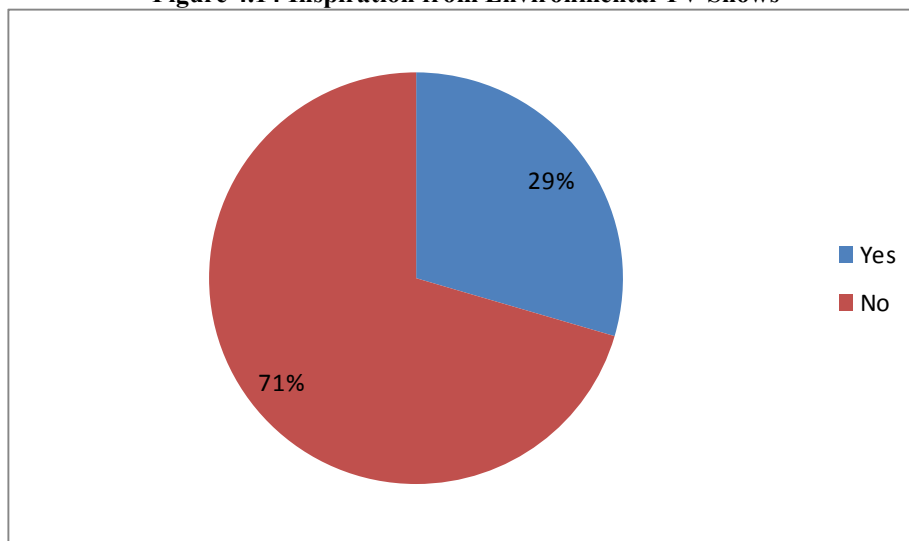


The researcher sought to find out if respondents discuss the issues raised on the TV shows with relatives and friends. This is important because word of mouth can help those who are not interested in environmental shows gain interest and follow up the show on online platforms.  Most of the respondents (49%) indicated that they never discuss the issues raised with their friends. This could be because 71% do not feel inspired enough because the content of these shows is below par.

**Figure 4.15 Discussion of Issues Raised on Show**
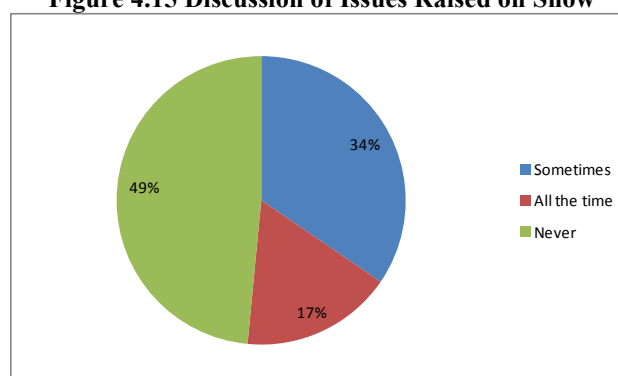


Asked to evaluate the content of environmental TV shows, 32% indicated their satisfaction with current content and 26% indicated complete dissatisfaction with current content while most (42%) felt that TV stations could do much better. In terms of how much time and when the shows are aired, only 23% are completely satisfied with the status quo. 77% feel that more prime time slots should be allocated to environmental issues.

**Figure 4.17 Satisfactions with Content and Time of Shows**

**Evaluation of Content of Environmental TV shows**

3%

11%

18%

42%

26%

- Excellent
- Very Good
- Good
- Not bad
- Poor

**Evaluation of How Much Time and When the Shows are Aired**

3%

6%

14%

30%

47%

- Excellent
- Very Good
- Good
- Not bad
- Poor

On the amount of time allocated, one environmentalist noted that;

"Viewer habits in Kenya are predictable. Majority of Kenyans watch TV from 6.00 pm till 10.00pm. Shows that air at that time tend to have many viewers."

Lack of good quality content was attributed to laziness among reporters and editors by one of the environmentalists who observed that good quality environmental stories need proper research-something most journalists are not willing to do adding that the journalists would rather pick environmental stories from international media houses.

A reporter noted that the lack of interest in environmental news makes it difficult to commit so much time to environmental bits. He said:

"The fact that most media houses aim at profit making, we have to look for stories that will attract viewers and advertisers. Environmental news and shows attract very few viewers."

Another reporter noted that lack of collaboration between environmental stakeholders and reporters was a cause for the limited number of environmental stories on TV. Journalists therefore have to either invite them to studios once in a while or wait for an invitation to events which can take months or years.

The researcher sought to establish the level of satisfaction with TV coverage of environmental issues. This is important as part of the objectives of this research is to evaluate the role of television in creating environmental awareness and to do that an understanding of the attitudes of viewers towards the current status quo is important. 49% of respondents indicated they were not satisfied at all while 7% were completely satisfied. This means there are still lots of unexplored potential on the role TV can play in raising environmental awareness.

**Figure 4.18 Satisfaction with Current Coverage of Environmental Issues**
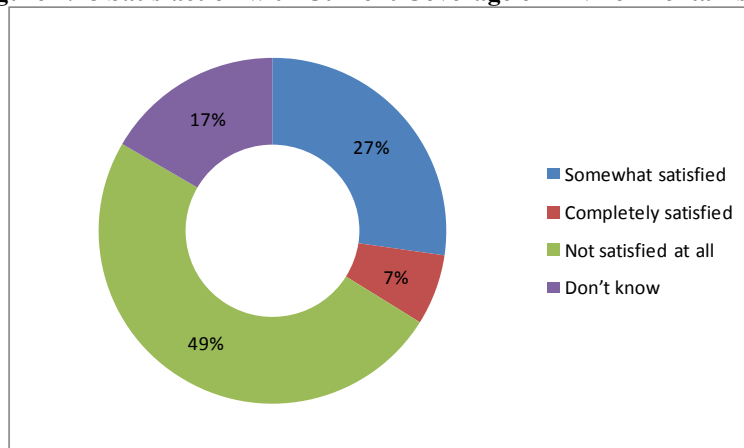


Several environmentalists also noted their dissatisfaction with current coverage of environmental issues. One environmentalist observed that

> "Media houses have tried to inform the public on environmental issues but have allocated less time to it. At times they air advertisements of tree planting events and highlight segments on environmental issues like poaching and cleaning Nairobi River."

TV has the ability to reach many people from all over Kenya unlike meetings, forums and workshops where only a small number is reached. Unlike radio, TV also has the advantage of visual aspect. There is therefore need to capitalize on these advantages and use TV to create environmental awareness.

Another environmentalist noted that most Kenyans now have access to TV but its potential in raising awareness on environmental issues had not been fully exploited;

> "More people are buying TV sets for their homes, schools, pubs, hotels and offices especially in urban areas and also watching it online. For those who cannot afford to buy one, they watch TV in hotels and pubs, community social halls or online. The issue is not that TVs are not available; they are not being used to create awareness."

As indicated in figure 4.19 below, 61% percent of the respondents indicated that if better quality environmental shows were aired at prime time slots, their perception of environmental issues would change.

**Figure 4.19: If Change in Time and Content will affect Perception of Environmental Issues**
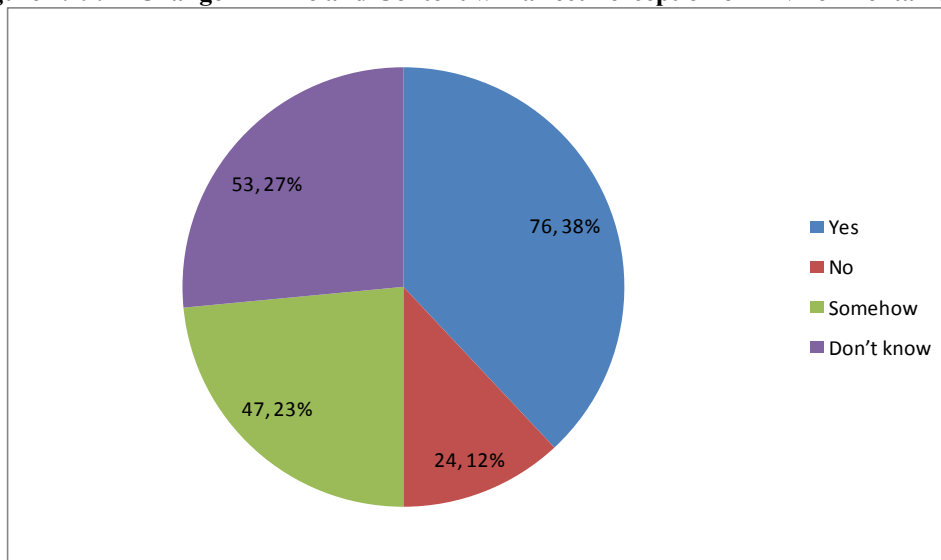


This view was echoed by most of the interview respondents. One noted that:

> "Yes, more people will be informed on environmental issues like recycling, importance of trees and biofuel among others and solve problems that relate to their environment instead of waiting for the government to do something for them. It will also raise awareness of NGOs that work on environmental projects and boost their work and partnership with other organizations."

TV is a powerful advocacy tool for raising environmental awareness if used appropriately. If proper research on environmental issues is done and the programmes allocated enough airtime during prime time more people will be informed on environmental issues and will take action to prevent environmental degradation.

## 5.0: CONCLUSION AND RECOMMENDATIONS
In this section, a summary of findings, conclusions and recommendations related to the research objectives are provided.

### 5.1 Summary of Findings
The overall objective of this study as outlined in chapter 1 was to find out the role of television in the creation of environmental awareness and providing information on environmental protection among Kenyans. The research questions guiding the study were:
1. To identify the level of environmental awareness in Kenya.
2. To analyze the TV content coverage of environmental matters.
3. To establish the relevance of the environmental information covered by television stations in Kenya to audiences.
4. To evaluate the role of television in creating awareness on environmental issues.

This section will provide a summary of the responses to these questions using the research findings in section 4.

### 5.1.1 Level of environmental awareness in Kenya
From the research findings it emerged that many residents in the research area are aware of some of the environmental issues around them and the magnitude of each. Respondents ranked agriculture as the most affected by environmental degradation. As noted in section 2, 64% of Kenya's population is at risk of starvation due to improper utilization of natural resources. This dependence on agriculture makes them interested in environmental issues that tend to have an effect on production.

From the research it also emerged that majority of the respondents relied on media for information on environmental issues. As noted in chapter 2, a significant amount of the public's knowledge of environmental issues is likely to come from the media (Morgan, 1997). This indicates that in Kenya just like in other countries across the world the media is a reliable and powerful way of disseminating information on environmental issues.

The top 3 media used by respondents are Internet, television and radio respectively. This is a contrast to a Media Council of Kenya survey mentioned in chapter 2 that ranked radio, television and newspapers as the top 3 media channels. According to this survey, internet came at a distant fourth place with 42% of the 3000 respondents saying they used it. This disparity in findings can be attributed to the fact that the internet is a fast growing medium that continues to witness very rapid growth and expansion in the number of users.

### 5.1.2 TV content coverage of environmental matters.
According to findings in section 4.4 of this research, the type of content is a major determinant of whether or not a TV show is watched. It also emerged that the commercial nature of most media houses led to very little or no time being allocated to environmental issues as they are considered less lucrative. As noted by Baker (2007), media organizations are ideologically biased and selectively pick environmental movements that best capture their corporate demands for newsworthiness.

From the research findings most respondents are not satisfied with the content of shows because of the complexity of the language used due to journalist's lack of experience on how to interpret environmental matters into simpler and clearer terms. Wilson (1995) observes that the media has a responsibility to translate complex, scientific concepts to the lay language. Bell (1994) adds that it is a large responsibility; one that modern media bereft of environmental reporters and specialists is challenged to meet. There is therefore need to fill this knowledge gap in journalists so that viewers can get reliable information on environmental issues.

### 5.1.3 Relevance of Current Environmental Shows to Recipients
From the research findings, 62% of the respondents had given up on watching environmental shows. This, they mainly attributed to complex language used and issues discussed and inconvenient timing of the shows. As noted in chapter 2 of this research, framing of issues is very essential as frames (language used, timing) help audiences interpret meanings. Majority of the respondents also noted that they have never been inspired by an environmental show. A good show is supposed to inspire some action from viewers. From these findings it is plausible to conclude that current environmental information on television is not very relevant to Kenyans.

### 5.1.4 Effectiveness of TV in Creating Environmental Awareness
From the research it emerged that television is a powerful tool for raising awareness but its potential had not been fully explored mainly due to the commercial nature of media houses and the fact that journalists lack the knowledge on environmental reporting. Ansah (1994) states that television has been found to be effective in situations where radio is limited, like in cases where demonstration is necessary to show a way of doing things such as mixing of fertilizer or oral rehydration therapy.

Shanahan (2011) notes that many government initiatives fail precisely because they do not invest in effective communication as a priority, and many policy makers still see media only as a "public outreach" channel for promoting their own messages. Governments therefore need to embrace use of media as a key channel for raising environmental awareness.

## 5.2 Conclusion

In conclusion, environmental issues need urgent attention in order to save human kind. For this to be effective, information on how to take care of the environment needs to be disseminated far and wild. Media is a powerful tool that can help inform people on how to take care of the environment. TV in particular is useful as it has both visual and audio effects. For TV messages to be effective they should be of quality content and aired regularly during prime time.

## 5.3 Recommendations

From this research's findings, several factors have emerged as hindering the effective use of television in disseminating environmental information. To solve these, the following recommendations suffice: To help increase the level of awareness on environmental issues, the researcher recommends the introduction of environmental TV programmes that target different ages with different topics on environment. Cartoon programmes on environment for children, environmental movies and documentaries for youth and adults, environmental talk shows during news segments and environmental entrepreneurship programmes for jobless youth. This will help to inform the different age groups about environmental matters in a way they understand best. As evidenced from the research findings, some of the respondents indicated they had given up on environmental shows due to boredom. Therefore introducing different formats will help solve this problem.

The researcher further recommends an introduction of awards for media houses that air environmental programmes and support environmental initiatives. From the research findings, it is evident that environmental issues need to be allocated more prime time airtime by TV stations. To help achieve this the study recommends some incentives for journalists and media houses that are making an effort to highlight environmental issues. This can be in the form of award shows. This will not only create a spirit of competition among media houses but also improve the amount of environmental content on TV.

Based on the findings of this research, it is evident that most environmental shows lack quality content because most journalists lack the knowledge to report environmental issues. Training will equip journalists with requisite skills on environmental reporting hence helping increase levels of environmental awareness.

Increasing funding for media advocacy on environment will help to not only increase engagement between environmental stakeholders and media but also increase environmental content on TV.

## 5.4 Recommendations for Further Research

As evidenced from this research, internet is fast growing as a medium of communication. From the findings, internet emerged the most used medium by respondents. The researchers therefore recommend a study on the role and effectiveness of this fast growing medium in dissemination of environmental information.

## REFERENCES

Adieno-Odhiambo, E. (1987) Democracy and the Ideology of Order in Schatzberg,M. (ed) *The Political Economy of Kenya* New York: Praeger

Adger, W.M., Huq, S., Brown, K., Conway,D. and Hulme, M. (1998). *Adaptation to Climate Change in the Developing World: Progress in Development Studies*. New York: McKay

Ajeyalemi, D. (1998) *Science Education and Technology Education in Africa*. Yabba Lagos: University of Lagos Press.

Baker. (2007). *Rediscovery of Traditional Ecological Knowledge as Adoptive Management: Ecological Application*. Addis Ababa: AAU Printing Press

Ban, M. (2007). *Key Note on Conference of World Environment*. New York: UNEP

Banterer, s. (2002). *Corporate Environmentalism*. Canberra: Monash University

Bekalu, M. (1995) *Traditional Environmental Knowledge and Resource Management*. Addis Ababa: AAU Printing Press

Bell, A. (1994) Media Miscommunication on the Science of Climate Change in *Public Understanding Science 3,* pp 259-75

BBC World Service Trust Policy Brief No. 1. (2008) *The Kenyan 2007 Elections and their Aftermath: The Role of Media and Communications.*

Briggs, A and Burke, P. (2000) *A social History of the Media: from Gutenburg to the Internet*. Oxford: Polity

Brown, S. (2007) *From Demiurge to Midwife: Changing Donor Roles in Kenya's Democratization Process: The Struggle for Democracy (Africa in the New Millennium),* G. Murunga &S. Nasongo (eds) pp.301-331, New York: CODESRIA

Burgess, J. (1990). *The Production and Consumption of Environmental Meanings in the Mass Media Report.* Bath: Bath University Press

Castells, M. (2001) *The Internet Galaxy: Reflections on the Internet, Business and Society* New York: Oxford University Press

Chong, D., & Druckman,J. (2007) *Framing Theory* Ilinois: NorthWestern University Press

Cohen, H. (1994). *The Press and Foreign Policy.* Princeton: Princeton University Press

Communications Commission of Kenya. (2007). *Annual Report 2006-2007*

Communications Commission of Kenya. (2012). *Annual Report 2011-2012*

Dalelo, A. (2007). *Environment Education.* Addis Ababa: AAU Printing Press

Daily Nation *Majority of Kenyans ill-prepared for Digital Migration* accessed on December 2, 2013 available at http://www.nationonline.com/ict-and-governance/256-kenya/231843-kenyan-media-welcome-extended-digital-migration-deadline

Davis, K. (2002). *Media and Agenda Setting: Effects on the Public, Interest Group Leaders, Policy Makers.* Dublin: Glasnevin Publishing

Defleur, M., & Rokeach, S. (1996). *Theories of Mass Communication (3rd Ed.).*New York: Mckay.

Deacon, D. (1999). *Researching Communication: A Practical Guide to Methods in Media Cultural Analysis.* London: Edward Arnold.

Dobson, K. (1997) *Hopes for the Future: Restoration Ecology and Conservation Biology.* Istanbul: TESEV Publications

Dryzek, S. (1997). *The Politics of the Earth: Environment Discourse*. New York: Oxford University Press

EIR (1992). The Environmental Information Regulations 1992 Approved by both Houses of Parliament available at http://www.england-legislation.hmso.gov.uk/si/si1992/Uksi_19923240_en_1.html

Ekaete, J. (2001). *Environmental Problems in the African Region.* Abuja: The Punch Publisher.

Ekpeyong, E. (2001*) Environmental Awareness as A Panacea For Sustainable environmental management in Africa* accessed in February 2014 available at http://www.iaia.org/iaia09ghana/documents/cs/CS5_Ekpenyong_Environmental_Awareness_as_a_Panacea.pdf

Encyclopedia Britannica. (2007). The Oxford English Dictionary (OED) Encyclopedia Britannica Inc (online) available from http://www.britannica.com accessed on April 28,2014.

Entman, R.M. (1993). Framing: Towards Clarification of a Fractured Paradigm in *Journal of Communication 51-58*

Gamson, W.A., & Modigliani, A. (1987) Media Discourse and Public Opinion on Nuclear Power: A Constructionist Approach in *American Journal of Sociology,* 95, 1-37

Gore, A. (2006). *An Inconvenient Truth: The Planetary Emergency of Global Warming and What We can do about it.* London: Bloomsbury

Hansen, A. (2007) *Introduction: The Mass Media and Environmental Issues.* London: Leicester University Press

Population Media Center (PMC) . (2006) Population Issues on Media. Addis Ababa: Ethiopia

Infoasaid. (2010) *Kenya: Media and Telecoms Landscape Guide* accessed in March 2014 http://infoasaid.org/sites/infoasaid.org/files/kenya-media-landscape-guide-3rd-draft.pdf

Ingold, I. (2000) *Culture and the Perception of the Environment*. London: Routledge

Ipsos Synovate (2012) *Trends by Genre Research*

Lee, T. (2009) Journalism and Mass Communication Vol.1- History and Development of Mass Communication in *Encyclopedia of Life Support Systems* pp 15-26

Krassowska, K. (2009) *Status and Strategies for Stability and Development* Nairobi: DANIDA Press

Kapur, N. (2011) Role *of Mass Media in Promotion of Environmental Awareness along with Skill Development among the Rural People in Allahabad District, India* Bangkok:ICCEBS

Makali, D. (2004) *Media Law and Practise: Kenyan Jurisprudence* Nairobi: Phoenix Publications

Mbeke, P. (2008) The *Media, Legal, Regulatory and Policy Environment in Kenya: A Historical Briefing* Nairobi: BBC World Service Trust

McCombs, L. (1995). *Issues in the News and the Public Agenda: The Agenda-Setting Tradition.* NewYork: Guilford Press

McQuail, D. (1994). *Mass Communication Theory. An Introduction*. London: Sage Publication

McQuail, D. (2004) *Audience Analysis.* California: Oxford Focal Press

Media Council of Kenya. (2012) *Status of Media in Kenya Survey Report* Nairobi: Media Council of Kenya

Morgan, J. (1997). *Geo-graphing: Writing the World in Geography Classrooms.* London: Institute of Education

Ministry of Information (MoI). (2006) *General Survey on Media Reporting* Addis Ababa: Press Department Publication

Musau, P. (1999*) The Liberalization of Mass Media in Africa and its Impact on Indigenous Languages: The Case of Kiswahili in Kenya* London:Heinemann

National Council for Law Reporting. (2010) *Kenya Law Reports* accessed in April 2014 http://www.kenyalaw.org/kenyalaw/klr_app/frames.php

National Environment Management Authority (NEMA). (2009) *Kenya: State of Environment and Outlook*

*Report* Nairobi: NEMA

National Environment Management Authority (NEMA). (2013) *Effects of Climate Change in Kenya* Nairobi: NEMA

National Environment Management Authority (NEMA). (2014) *Communication Strategy for Education for Sustainable Development Nairobi*: NEMA

National Meteorological Agency (NMA). (1991). *Climatic and Agro Climatic Resource of Ethiopia: National Metrological Adoption Service of Ethiopia.* Addis Ababa, Ethiopia: National Metrological Agency

Nelkin, D. (1987) *Selling Science: How the Press Covers Science and Technology*, New York: W.H. Freeman

Neuman,R.W., Just,M.R.,Crigler, A.N. (1992). *Common Knowledge: News and the Construction of Political Meaning.* Chicago: University of Chicago Press

Ogola, G. (2011) *The Political Economy of Media in Kenya: From Kenyatta's Nation Building Press to Kibaki's Local Language FM Radio* Africa Today, Vol 57,no.3,pp 78-91

Oriare, P., Okello–Orare R., &Ugangu,W. (2010) *The Media We Want: The Kenya Media Vulnerabilities Study* Nairobi: Friedrich Ebert Stiftung

Oriare, P. (2012) *Relationship between Media and Civil Society and Governance in Kenya since 2002* Nairobi: African Research Foundation

Otiende, J. E. (1991). *An Introduction to Environmental Education*. Nairobi: Nairobi University Press

Okojie, J.A (1991). *Misuse of Renewable Natural Resources and Environmental Degradation. A Paper presented at the symposium to mark the African Year of the Environment in Ogun state, Abeokuta, June, 25*.

Royal Danish Embassy. (2009) *Environmental Mainstreaming in Kenya* Nairobi: DANIDA Press

Sammalisto, K. (2007). *Environmental Management System, a Way Towards Sustainable Development in Universities.* Sweden: Lud University Press

Scheufele, D. (1999) *Framing as a Theory of Media Effects* New York: Academic Press

Shanahan, M. (2011) *Why the Media Matters in a Warming World: A Guide for Policy Makers in the Global South* New York: Peter Lang Publishing

Star Newspaper. *Trust Drops in Uhuru, Raila, Ruto-Poll* accessed on April 25, 2014 http://www.the-star.co.ke/news/article-157726/trust-drops-uhuru-ruto-raila-poll#sthash.l5Cr1FUu.dpuf

Steadman Group. (2008). *The Kenya Advertising Research Foundation Report*.

Stockholm Environment Institute. (2009) *Economics of Climate Change in Kenya* Sweden: Oxford

Sullivan, K. (1998) *Nuclear Monsters* unpublished PhD research project, Lancaster University

Tengbers, A. (1995). *Desertification in Nothern Burkina Faso and Central Tunisia.* M.A Research project. Department of Physical Geography. Gothenburg

Tuchman, G. (1978) *Making News: A Study in the Construction of Reality.* NewYork: Free Press

United Nations Conference on Environment and Development (UNCED). (1992). *Agenda 21: A Programme of Action for Sustainable Development, Chapter 36: Promoting Education, Public Awareness Training.* Rio Declaration,New York: United Nations

United Nations Conferences on the Human Environment (UNCHE). (1972). *Adaptation Policy Framework (APF).* Sweden, Stockholm:United Nations

United Nations Environment Protection (UNEP). (2007) *One Planet Many People: Atlas of our Changing Environment.* Nairobi: United Nations Reproduction Center.

UNESCO (1992). *Report of the United Nations Conference on Environment and Development (UNCED) Rio de Janeiro, 3-14 June.* Available at http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm

Wakhungu, J. (2013) Word from Cabinet Secretary, Ministry of Environment and Natural Resources in *NEMA Strategic Plan* 2013-2018 Nairobi: NEMA

Wellford, R. (1998) *Corporate Environmental Management Systems and Strategies.* London: Earth Scans Publications

Williams, R. (1975) *Television, Technology and Cultural Form.* London: Fontana

Winston, B. (1998) *Media, Technology and Society*. London: Routledge

Wilson, K. (1995) Mass Media as Sources of Global Warming Knowledge in *Mass Communication Review 22*, pp 75-89

World Development Report (2013) *Development and the Environment*. Washington DC: World Bank

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