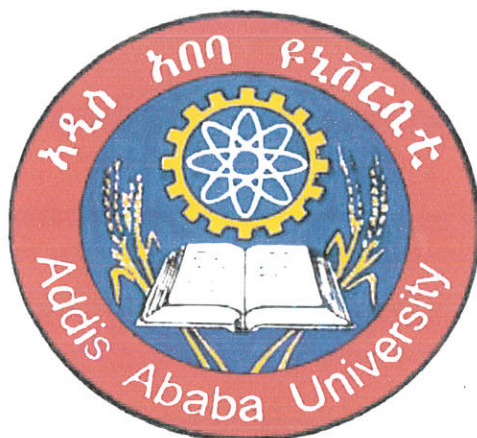




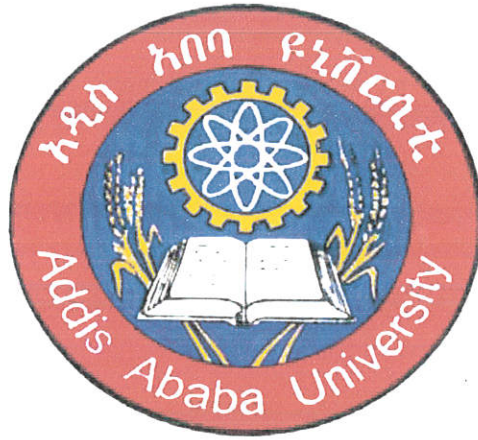
Framing of Climate Change in Addis Admas and the Reporter (Amharic Version)

Azeb Gebrekiros

**A Thesis Submitted to
The Graduate School of Journalism and Communication**

**Presented in Partial Fulfillment of the Requirements
for the Degree of Master of Arts in Journalism and Communication**

**Addis Ababa University
Addis Ababa, Ethiopia
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Graduate School of Journalism and Communication

This is to certify that the thesis prepared by Azeb Gebrekiros, entitled *Framing of Climate Change in Addis Admas and the Reporter* (Amharic Version) and submitted in partial fulfillment of the requirements for the Degree of Master of Arts in Journalism and Communication complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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ABSTRACT

Framing of Climate Change in Addis Admas and the *Reporter* (Amharic Version)

Azeb Gebrekiros

Addis Ababa University, 2014

This study examined climate change-related news coverage in two widely circulated private Amharic newspapers, *Addis Admas* and the *Reporter*, published in 2013. A framing approach established by Benford and Snow (2000), and later adapted by Yun, Ku, Park and Han (2012:201) and specifically designed to apply to climate change issues laid the groundwork for the investigation. A quantitative content analysis was conducted to determine the coverage, story frames, dominant themes and sources portrayed in the news coverage; and semi-structured interviews were held with editors of the two newspapers to further explore how stories are selected and prioritized for the newspapers.

Results revealed that the most common frames in the newspapers are the “prognostic” frame, which focuses on the means of responding to climate change and the "After-effect" frame, which focuses on the results of implementing climate change countermeasures. On the other hand, the dominant themes frequently discussed are the "conservation" theme focusing on conservation of natural resources and the "mitigation" theme focusing on mitigation of climate change. Politicians and civil society organizations were more likely represented in story frames making judgments and suggesting solutions-there were limited voices from the academics and the communities.

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CHAPTER ONE: INTRODUCTION

1. Chapter Introduction

This chapter presents background to the research, followed by statement of the problem, objectives of the research, research questions, significance of the study, scope and limitations of the study, ethical considerations, definition of key terms and organization of the thesis.

1.1. Background

According to Ethiopia's Climate Resilient Green Economy (CRGE) strategy, Ethiopia is affected by the adverse impacts of climate change brought by the carbon-intensive development paths of rich countries over the past century (CRGES, 2011). Temperature across the country could rise by between 0.5 and 3.6°C by 2070. The annual average temperature during 2070-2090 is projected to be 26.92 °C, up 3.84 °C on the 1960-90 average whilst average daily rainfall will reduce by 3.5% by the end of the century. Ethiopia is hit harder than most countries by drought and its devastating consequences. Recurrent droughts have resulted in loss of life and property as well as the migration of people. Drought frequency is predicted to increase, placing stress on already vulnerable production systems (Mwebaza, Mwanika, and Wondemagegnehu, 2009).

The mainstay of the Ethiopian economy is rain-fed agriculture, which is heavily sensitive climate variability and change. The agriculture sector contributes 47 percent of the country's gross national product and more than 80 percent of its exports. It also employs about 85 percent of the country's population of more than 85 million people. With a current growth

rate of about 2.8 percent per year, Ethiopia's population is expected to reach 129 million by 2030.

Developing countries like Ethiopia have to make people informed and update up to grass root level in this field as the climate illiteracy leads to superstitions, and the swaying attitude in the name of religion and the unscientific thinking will hamper all the effort of development of the government (Kumar, 2013).

Media is mainly responsible for dissemination of the information from all over the world and from all walks of lives making people aware and informed. High-quality media coverage of climate change can inform vulnerable communities of potential impacts and how they can adapt to them, and can promote mitigation activities that limit the amount of warming the Earth experiences (Madise, 2010). In terms of communicating climate, the media are seen as "brokers between science and the public, framing the social reality for their readers and shaping the public consciousness about climate-related events. They are, for many readers, the only accessible source of information about science and technology" (Nelkin, 2001). But it is also true that newspapers are not providing sufficient space for climate related issues as they are more interested in regional and local news and political, social, and other issues making them sensational ignoring climate which has brought so much change in the lives of people and is expected to make drastic changes in future too (Kumar, 2013).

It is in this backdrop that the study has opted to assess the real picture of the sharing of climate related news/reports in the most popular Amharic newspapers in Ethiopia.

1.2. Statement of the problem

As a top priority on the global political agenda, climate change is claimed to be one of the most fundamental challenges ever to confront humanity. Ethiopia's poor economic condition combined with its heavy dependence on agriculture and high population growth rate makes the country particularly susceptible to the adverse effects of climate change (CRGES, 2011).

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. Journalists can warn of extreme climatic events, explain complex policies, highlight coping strategies that work on the ground, act as watchdogs that protect the public interest, and promote the necessary actions from consumers, businesses and governments to build green economies (Shanaha, 2011).

It is usually said that media publish what people want and what interest the public but at the same time it is also the duty of the media to arouse the interest among them by publishing climate related stories in a way people understand and it can be done by proper presentation and interpretation (Kennedy & Overholser, 2010).

It is very much evident that Ethiopian media covers the issue as the Ethiopian government and NGOs are working on the issue for years. But the frequency and

framing of the news stories are yet to be examined. Because climate change is likely to affect everyone in the country to greater or lesser degree, it is imperative that it is reported on sufficiently and responsibly. According to Miller and Riechart (2000) and Cramer (2008), the framing and the context in which issues are placed plays a vital role in shaping public opinion and therefore the policy-making process.

1.3. The objective of the study

1.3.1. General objective

The aim of this study is to undertake a content analysis of climate related issues in widely circulated private Amharic newspapers in Ethiopia in order to understand the coverage and framing of climate-related issues with the aim to identify ways to improve specialized media reports of private media on climate-related issues.

1.3.2. Specific objectives

- To examine to what extent *Addis Admas* and the *Reporter* Amharic newspapers report on climate change issues.
- To find out the type of media frame the newspapers employed while reporting climate change.
- To identify the dominant climate change related themes that are frequently covered.
- To examine the kind of sources often used while covering climate change issues.
- To find out how editors prioritize news stories.

1.4. The research questions

The following are the questions the research attempted to answer:

- To what extent do *Addis Admas* and the *Reporter* Amharic newspapers report on climate change?
- Which types of frames are dominantly employed while reporting climate change?
- Which themes are covered most in the newspapers?
- What kinds of sources are often used in the selected newspapers while covering climate change issues?
- How do editors choose and prioritize news stories?

1.5. Significance of the study

Ethiopia is likely to suffer from the dire consequences of climate change. Because climate change is likely to affect everyone in the country to a greater or lesser degree, it is imperative that it is reported on sufficiently and responsibly.

The context in which issues are placed plays a vital role in shaping public opinion and therefore the policy making process. The findings from this study may have policy and programmatic implications by identifying points of interventions to improve climate change reporting.

1.6. Scope and limitations of the study

The study has very limited scope. This study focuses on climate change stories reported in *Addis Admas* and the *Reporter* Amharic version in 2013. Newspapers published in

other languages and in other cities outside Addis Ababa are not considered. Consequently, the research findings may not be generalizable to other newspapers in Ethiopia. Inclusion of more newspapers would have given a better perspective.

Similarly, this research is limited by the fact that it has only conducted an analysis of climate related issues published over a one year period. A longer period of analysis is required to understand the whole picture of media reports on climate change in Ethiopia.

1.7. Ethical considerations

The term ethics is used to connote rules of behavior that distinguish between acceptable and unacceptable behavior. Research ethics comprises a set of principles that guide appropriate conduct relevant to research (Macfarlane 2009:4; Kimmel 2007:6).

At the beginning of each interview, participants were informed of the confidentiality of the information they shared, that researcher never collected identifiers of any kind, and that the researcher could not break confidentiality without the explicit consent of the interlocutor.

1.8. Definition of key terms

Climate change: Is a significant and lasting change in the distribution of weather patterns over periods ranging from decades to millions of years. It may be a change in average weather conditions, or in the distribution of weather around the average conditions (i.e., more or fewer extreme weather events).

Climate related article: A news or story containing at least one of following keywords: climate change/gas, global warming, greenhouse effect, and carbon dioxide/emissions.

Coverage: Is the total space used for printing a climate related news/stories and editorial content in the sampled newspapers.

Framing: Is the central organizing idea or story line that provides meaning to an unfolding strip of climate news/stories/events.

Frequency: It is the number of climate related news or story articles in newspapers.

Source: A source is the person who provided the information in a climate related article.

Theme: A theme is a climate related topic in a story. Each frame is categorized in to different themes.

1.9. Organization of the study

Following the standard thesis format of Addis Ababa University, the research consists of five chapters. Chapter one starts with a general background of the study. It also presents statement of the problem, objective of the study, research questions, significance of the study, scope and limitations of the study and organization of the study. Chapter two looks at the theoretical considerations underlying the study. It presents a review of literature on what various scholars said regarding framing and related concepts.

Methodological aspects of the research are discussed in chapter three. Here methods, procedures and techniques that are employed in the study are detailed. The chapter also explains and justifies the rationale behind the preferred research tools and methods that are used to collect and analyze the data. The fourth chapter presents the collected data in

a condensed manner, discusses and analyzes it. Chapter five is the final chapter which contains the conclusion and recommendation based on the findings of the study.

CHAPTER TWO: LITERATURE REVIEW

2. Chapter Introduction

This review presents literature relevant to the research purpose of this thesis and is organized into four primary sections. The first section presents literature on impacts of climate change, and the second deals with Ethiopia's response to climate change followed by media framing and its impact. Highlights of more recent framing research in climate change are presented next, followed by a discussion of the theoretical framework used in this study.

2.1. Impacts of climate change

Climate change is a long-term change in the distribution of weather patterns over periods of time that range from decades to millions of years. It may be a change in the average weather conditions or a change in the distribution of weather events with respect to an average, for example, greater or fewer extreme weather events. Climate change may be due to natural internal processes or external forcing, or to persistent anthropogenic changes in the composition of the atmosphere or in land use. The Framework Convention on Climate Change (UNFCCC), in its Article 1, defines “climate change” as: “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods”. The UNFCCC thus makes a distinction between “climate change” attributable to human activities altering the atmospheric composition, and “climate variability” attributable to natural causes (Grantham Institute for Climate Change, 2009).

Global warming refers to the increase in the earth's average temperature that occurs naturally or, as theorized in recent years, is induced by human activity. The ozone layer refers to an upper layer of the earth's atmosphere containing a high concentration of ozone gas that absorbs potentially harmful ultraviolet radiation. Scientists have made the case that CFCs, which were non-existent until the twentieth century, are responsible for depleting the ozone layer (Debay, 2010).

According to UNFCCC (2007), rising fossil fuel burning and land use changes have emitted, and are continuing to emit, increasing quantities of greenhouse gases into the Earth's atmosphere. These greenhouse gases include carbon dioxide (CO₂), methane (CH₄) and nitrogen dioxide (N₂O), and a rise in these gases has caused a rise in the amount of heat from the sun withheld in the Earth's atmosphere, heat that would normally be radiated back into space. This increase in heat has led to the greenhouse effect, resulting in climate change. The main characteristics of climate change are increases in average global temperature (global warming); changes in cloud cover and precipitation particularly over land; melting of ice caps and glaciers and reduced snow cover; and increases in ocean temperatures and ocean acidity – due to seawater absorbing heat and carbon dioxide from the atmosphere. It is now clear that global warming is mostly due to man-made emissions of greenhouse gases (mostly CO₂). Over the last century, atmospheric concentrations of carbon dioxide increased from a pre-industrial value of 278 parts per million to 379 parts per million in 2005, and the average global temperature rose by 0.74°C. According to scientists, this is the largest and fastest warming trend that they have been able to discern in the history of the Earth. An

increasing rate of warming has particularly taken place over the last 25 years, and 11 of the 12 warmest years on record have occurred in the past 12 years. The IPCC Report (2007) gives detailed projections for the 21st century and these show that global warming will continue and accelerate. The best estimates indicate that the Earth could warm by 3° C by 2100. Even if countries reduce their greenhouse gas emissions, the Earth will continue to warm. Predictions by 2100 range from a minimum of 1.8° C to as much as 4° C rise in global average temperatures.

The major impacts and threats of global warming are widespread. Increasing ocean temperatures cause thermal expansion of the oceans and in combination with melt-water from land-based ice this is causing sea level rise. Sea levels rose during the 20th century by 0.17 meters. By 2100, sea level is expected to rise between 0.18 and 0.59 meters. Increased melting of sea ice and freshwater influx from melting glaciers and ice sheets also has the potential to influence global patterns of ocean circulation. As a result of global warming, the type, frequency and intensity of extreme events, such as tropical cyclones (including hurricanes and typhoons), floods, droughts and heavy precipitation events, are expected to rise even with relatively small average temperature increases. Changes in some types of extreme events have already been observed, for example, increases in the frequency and intensity of heat waves and heavy precipitation events (Meehl *et al.* 2007).

Climate change will have wide-ranging effects on the environment, and on socio-economic and related sectors, including water resources, agriculture and food security,

human health, terrestrial ecosystems and biodiversity and coastal zones. Changes in rainfall pattern are likely to lead to severe water shortages and/or flooding. Melting of glaciers can cause flooding and soil erosion. Rising temperatures will cause shifts in crop growing seasons which affects food security and changes in the distribution of disease vectors putting more people at risk from diseases such as malaria and dengue fever. Temperature increases will potentially severely increase rates of extinction for many habitats and species (up to 30 per cent with a 2°C rise in temperature). Particularly affected will be coral reefs, boreal forests, Mediterranean and mountain habitats. Increasing sea levels mean greater risk of storm surge, inundation and wave damage to coastlines, particularly in small island States and countries with low lying deltas. A rise in extreme events will have effects on health and lives as well as associated environmental and economic impacts (UNFCCC, 2007).

Latin America includes much of the world's biological diversity, as well as a wide variety of ecosystems, climatic regions, topographies and land-use patterns. Particularly vulnerable to climate change are the water, agriculture and health sectors, the Andean glaciers, the Amazon region and regions vulnerable to extreme climatic events (UNFCCC 2007). The region has already been experiencing climate-related changes with the frequency and intensity of extreme events. Torrential rains and resulting floods, including those associated with tropical cyclones, have result in tens of thousands of deaths and severe economic losses and social disruption in the region in recent years. Higher rates of economic recession correspond with greater flows of water, which cause erosion, flooding and mudslides in lowland areas. It is predicted that arid and semi-arid areas will

receive even less rain under climate change leading to degradation of agricultural land and impacting food security. Expected increases in forest fires due to warmer, drier climate and increased deforestation and forest fragmentation are likely to heighten the vulnerability of the population to the health impacts of biomass burning smoke, the effects of which have already been observed in Brazil (Patz, 2004). The Amazon Basin is home to some 40 per cent of the world's remaining tropical forest and contains one of the Earth's richest assortments of biodiversity; thousands of species of plants, over a million insect species, more than 700 fish species, 1,000 bird species, and over 300 mammalian species. The reduction of tropical forest area, especially in the tropical rainforests, will probably entail the loss of many species. Climate change threatens to substantially affect the Amazon region, which in turn is expected to alter global climate and increase the risk of biodiversity loss (WWF, 2006).

Asia is the largest contingent on Earth. The region faces formidable environmental and socio-economic challenges in its effort to protect valuable natural resources. Land and ecosystems are being degraded, threatening to undermine food security. In addition, water and air quality are deteriorating while continued increases in consumption and associated waste have contributed to the exponential growth in the region's existing environmental problems. Furthermore, the region is highly subject to natural hazards, such as the 2004 Indian Ocean Tsunami, the 2005 Pakistan Earthquake, and the 2006 landslides in the Philippines. There is evidence of prominent increases in the intensity and/or frequency of many extreme weather events such as heat waves, tropical cyclones, prolonged dry spells, intense rainfall, tornadoes, snow avalanches, thunderstorms, and

severe dust storms in the region (Cruz *et al.* 2007). Impacts of such disasters range from hunger and susceptibility to disease, to loss of income and livelihoods, affecting human survival and well-being. Climate change will affect many sectors, including water resources, agriculture and food security, ecosystems and biodiversity, human health and coastal zones. Many environmental and developmental problems in Asia will be exacerbated by climate change. Under climate change, predicted rainfall increases over most of Asia, particularly during the summer monsoon, could increase flood-prone areas in East Asia, South Asia and Southeast Asia. In Central and South Asia, crop yields are predicted to fall by up to 30 per cent, creating a very high risk of hunger in several countries. In Asia, the principal impacts of climate change on health will be on epidemics of malaria, dengue, and other vector-borne diseases (Martens *et al.* 1999). The global burden of climate change-attributable diarrhoea and malnutrition are already the largest in the world in Southeast Asian countries including Bangladesh, Bhutan, India, Maldives, Myanmar and Nepal in 2000. Illness and death are expected to increase from diarrhoeal diseases due to drought and flooding, and are also expected from increased amounts of cholerabacteria in coastal waters. An increase in the frequency and duration of severe heat waves and humid conditions during the summer is likely to increase the risk of mortality and morbidity, principally in the old and urban poor populations of temperate and tropical Asia (Epstein *et al.* 1995).

Africa is already a continent under pressure from climate stresses and is highly vulnerable to the impacts of climate change. Many areas in Africa are recognized as having climates that are among the most variable in the world on seasonal and decadal

time scales. Floods and droughts can occur in the same area within months of each other. These events can lead to famine and widespread disruption of socio-economic well-being. Many factors contribute and compound the impacts of current climate variability in Africa and will have negative effects on the continent's ability to cope with climate change. These include poverty, illiteracy and lack of skills, weak institutions, limited infrastructure, lack of technology and information, low levels of primary education and health care, poor access to resources, low management capabilities and armed conflicts. The overexploitation of land resources including forests, increases in population, desertification and land degradation pose additional threats (UNDP, 2006). In the Sahara and Sahel, dust and sand storms have negative impacts on agriculture, infrastructure and health. As a result of global warming, the climate in Africa is predicted to become more variable, and extreme weather events are expected to be more frequent and severe, with increasing risk to health and life. This includes increasing risk of drought and flooding in new areas (Christensen *et al.*, 2007). Africa will face increasing water scarcity and stress with a subsequent potential increase of water conflicts as almost all of the 50 river basins in Africa are trans-boundary (De Wit and Jacek, 2006). Agricultural production relies mainly on rainfall for irrigation and will be severely compromised in many African countries, particularly for subsistence farmers and in sub-Saharan Africa. Under climate change much agricultural land will be lost, with shorter growing seasons and lower yields. National communications report that climate change will cause a general decline in most of the subsistence crops, e.g. sorghum in Sudan, Ethiopia, Eritrea and Zambia; maize in Ghana; Millet in Sudan; and groundnuts in Gambia. Of the total additional people at risk of hunger due to climate change, although already a large proportion,

Africa may well account for the majority by the 2080s (Fischer *et al.*, 2002). Africa is vulnerable to a number of climate sensitive diseases including malaria, tuberculosis and diarrhoea. Under climate change, rising temperatures are changing the geographical distribution of disease vectors which are migrating to new areas and higher altitudes, for example, migration of the malaria mosquito to higher altitudes will expose large numbers of previously unexposed people to infection in the densely populated east African highlands. Climate change is an added stress to already threatened habitats, ecosystems and species in Africa, and is likely to trigger species migration and lead to habitat reduction. Up to 50 per cent of Africa's total biodiversity is at risk due to reduced habitat and other human-induced pressures (Boko *et al.* 2007).

2.2. Ethiopia's response to climate change

Climate change is perhaps the most serious environmental threat to the fight against hunger, malnutrition, diseases and poverty in Africa, mainly through its impact on agricultural productivity. Climate change manifests in various forms and dimensions with its effects felt locally, nationally, and globally (Fawole & Olajide, 2012). Based on the Intergovernmental Panel on Climate Change (IPPC)(2007) assumptions, a preliminary integrated assessment model predicts that climate change could also result in a loss in gross domestic product of between 6 percent and 30 percent by 2050. All the main sectors in Ethiopia's economy will be impacted by climate change but in particular agriculture, infrastructure such as water, transport and power are also susceptible and will have knock-on effect of the economy especially wholesale and retail ventures.

The negative effect on agricultural yields will be exacerbated by more frequent extreme weather event. For example, IPCC (2001) states that rising atmosphere of carbon dioxide concentration leads to higher temperature change. The frequency of extreme event will affect the quality, quantity, volume, stability of food production and the natural environment where agricultural activities take place. According to the Center for International Governance Innovation (CIGI), climatic variation will have consequences for the availability of water resources, frequency of pest and diseases and soil quantity, leading to significant dangers in the condition for agriculture and livestock production. This is likely to increase dependency on food importation and the number of people at risk of famine. There are also the problems of flood, sewage, deforestation, buried hazardous chemicals and general urban infrastructure (CIGI, 2009).

With more than 85 million inhabitants (2010), Ethiopia is the most populous nation in Eastern Africa and the second-most populous in Africa. Over eighty-five per cent of Ethiopia's population live in rural areas and depend on natural resources (land, water, forests and trees) for economic development and food security.

Ethiopia's poor economic condition combined with its heavy dependence on agriculture and high population growth rate makes the country particularly susceptible to the adverse effects of climate change (CRGES, 2011). The priority sectors affected by climate change include agriculture and food security, water, health and energy. The following are summaries of the country's response to climate change:

The Growth and Transformation Plan (GTP)

Ethiopia's contribution to the increased concentration of greenhouse gases in the atmosphere is negligible. But it is highly sensitive to climate change and variability. Ethiopia has large arid and semi-arid areas as well as development sectors which have already suffered much from the vagaries of climatic variations and are likely to suffer seriously due to the occurrence of a shift in climate. Thus, the adverse impact of climate change in general setback the development already gained. The impact in climate change is inevitable for at least the next few centuries. Therefore, the formulation and implementation of a climate change adaptation program is a dictate of Ethiopia's survival.

The country's five year national Growth and Transformation Plan (GTP), implemented during 2010/11-2014/15, strives to formulate policies, strategies, laws and standards, which foster social and economic development to enhance the welfare of humans and the safety of the environment sustainably, and to spearhead in ensuring the effectiveness of the process of their implementation. The plan recognizes that the country can generate much more electricity than it needs from hydropower, wind and geothermal power and thus not only mitigate its contribution to climate change but also export clean electricity to neighboring countries to help them in their shares of climate change mitigation action.

The Climate Resilient Green Economy Initiative

Ethiopia aims to achieve middle-income status by 2025 while developing a green economy. Following the conventional development path would, among other

adverse effects, result in sharp increase in greenhouse gas emissions (GHG) and unsustainable use of natural resources. To avoid such negative effects, the government has developed a strategy to build a green economy. It is now starting to transform the strategy into action and welcomes collaboration with domestic and international partners. The CRGE initiative follows a sectoral approach and has so far identified and prioritized more than 60 initiatives, which could help the country achieve its development goals while limiting 2030 GHG emissions to around today's 150 Mt CO₂ – around 250 Mt CO₂ less than estimated under a conventional development path.

As part of the strategy, the government has selected four initiatives for fast-track implementation: exploiting the vast hydropower potential; large-scale promotion of advanced rural cooking technologies; efficiency improvements to the livestock value chain; and reducing emissions from deforestation and forest degradation. These initiatives have the best chances of promoting growth immediately, capturing large abatement potentials, and attracting climate finance for their implementation (CRGES, 2011).

The National Adaptation Plan of Actions (NAPA)

The National Adaptation Plan of Action (NAPA) is a mechanism within the United Nations Framework Convention on Climate Change (UNFCCC), designed to help the Least Developed Countries (LDCs) including Ethiopia to identify their priority adaptation needs to climate change and to communicate these needs to the Conference of Parties (COP) of the UNFCCC and other concerned bodies. It is

multi-disciplinary and complementary to existing plans and programs such as the national action plan to combat desertification, national biodiversity strategies and Plan for Accelerated and Sustained Development to End Poverty (PASDEP). Involvement of stakeholders was an integral part of the preparation process for assessing impacts, vulnerabilities, and in identifying adaptation options.

The purpose of the NAPA document for Ethiopia is therefore to identify immediate and urgent adaptation activities that address current and anticipated adverse effects of climate change including extreme climate events. It provides a flexible framework to guide the coordination and implementation of adaptation initiatives in the country through a participatory approach; building synergies with other relevant environmental and related programs and projects.

The African Adaptation Program (AAP)

The African Adaptation program (AAP) supports Ethiopia in establishing an integrated approach to managing climate change opportunities and risks, and the integrating climate change into the planning and implementation of government's future plans.

The AAP has also supported Ethiopia in building the capacity of line Ministries by developing technical expertise in adaptation, by strengthening the capacity of local managers to manage local adaptation planning, improve the understanding of climate change and its strategic implications. The program has piloted approaches to managing climate change risk by integrating known methods of sustainable land management with adaptive practices linked to climate risk

forecasting. Lessons emerging from these pilot interventions will feed into improving coordinated approaches for needed adaptation actions. Using the evidence and experience generated through the pilots, the AAP program supports the line Ministries in preparing a climate change strategy that will support the implementation of both the Plan for Accelerated and Sustained Development to End Poverty (PASPDEP II) and a linked investment facility attracting and managing funds for integrated or multi-sector adaptation actions. The AAP is a program that will set the stage for enabling a coherent up-scaling of climate change adaptation action in Ethiopia by ensuring the right policies, institutions and instruments are in place.

2.3. Media framing and its impact

2.3.1. Media Framing

Media framing is one of the important subjects in media studies. It is because the agenda of the media is set through media framing. Media framing is a process where events or issues are organized and made sense of and this process includes many parties such as media, media professionals and also their audiences (Reese, 2001). Media indirectly set the agenda by emphasizing certain issues and frame them before being published to the public.

Historically, news media has gathered and disseminated news for public consumption. Tuchman (1978:1) wrote that “the news aims to tell us what we want to know, need to know, and should know”. Framing is the act of highlighting certain aspects of a story to allow for interpretation and context, thus making an event or story more understandable for the audience (Entman, 2004). Put simply, framing is

the act of defining issues—typically by elites—for public consumption, and disseminating these definitions through the use of mass media (Berinsky & Kinder, 2006). Salience refers to the act of making one piece of information more memorable or meaningful (Entman, 1993). By focusing the audience on salient pieces of information, it is, therefore, easier to then apply an overarching theme to the entire story.

Frames are an inherent part of the news process. According to Tucker (1998:143), frames are “highly ritualized symbolic structures embedded into media content.” These frames, as part of the media structure and content, control the flow of information to the audience. Framing also allows the author to insert opinion and interpretation. Iyengar (1996) stated that framing is the “subtle alteration in statement or presentation of judgment” in news stories. This alteration of facts and presentation of judgment is often left to the discretion of each reporter, including the reliability of their sources and overall nature of the story (Tuchman, 1978).

The news frame helps to organize information as it applies to everyday reality (Tuchman, 1978). A seminal work by Goffman (1974) identified the primary framework as the act of taking seemingly meaningless information and making it into something meaningful. Giving a story context allows the reader to better understand its implications. Context is important so that audience members can view the event or story as it applies to a larger scheme. According to McQuail (2005:378), “stories are given meaning by reference to some particular ‘news value’

that connects one event with similar ones". Without frames, news stories would be incomprehensible and unrecognizable, meaningless talk when void of context (Tuchman, 1978). Without context it would be difficult for the reader to understand the significance of a particular news story or event. In addition to providing context, framing also provides an analysis of events. Fortunato (2005:53) stated that "people are interested in more than simple facts—they seek out analysis of events". Most people do not have time to read, analyze and interpret all of the available information; they depend on the media to guide and show them what is important (Graber, 1984).

Many scholars have noted that people use mass media to learn about events that are outside of their direct experience (Graber, 1984). People seek out facts and interpretation because they possess little information about current issues and events, especially those that are outside of a person's daily experience, and the media are the main source of information (Gamson & Modigliani, 1989). Politics is one example of the type of information for which audiences rely heavily on the media. Iyengar (1991:7) noted that "virtually all political issues are beyond the range of personal experience". Thus, the audience is subject to the frames portrayed by the media outlet.

2.3.2. The Impact of Media Framing

Framing the news allows the information and message of an event to be selected and well organized before being conveyed in news in the newspapers. Framing is also able to provide insights of how media representations on reporting the news can influence the issue of global climate change (Boykoff, 2008). Apart from that, many

parties including the audience, the journalists and also the policy makers rely on framing in order to take certain actions (Nisbet, 2009).

According to McCann (2010:19), the presentation of news stories has an impact on the ability of a story to garner audience attention. Although a story may be framed in a certain way through page placement, pictures and other visual cues, audience members may simply notice the story but not view it as important. Also, the repetition of certain frames throughout a news story or series of stories keeps that frame in the minds of the public and legislators. In an examination of dominant frames used in the Columbine tragedy, it was found that frames that were repeated often in news stories—like gun control—were given greater authority and were therefore on the forefront of new legislation (Graber, 2002).

As Iyengar (1989:897) noted “the manner in which the news media frame national issues powerfully affects beliefs about cause and treatment.” In fact, frames have been said to have more powerful effects than that of persuasion or call to action (McQuail, 2005). Similarly, sheufele (2000:309) said that “framing influences how audiences think about issues.”

Framing has the power to affect overall public opinion. First, news coverage has the ability to highlight and bring forth certain issues onto the public agenda (McCann, 2010). Next, the framing of those objects has the ability to impact “the pictures of

those objects in our heads” (McCombs & Maxwell, 2005). They argue that both aspects of framing have the power to impact attitudes, opinions and public behavior.

The frames used to cover climate change are important because of the possible effect these frames may have on public discourse. This is an important concept to consider as public opinion will be affected by media frames. Entman (2004:142) concluded that “public opinion cannot be divorced from the media frames that surround it”. Nitz and Ihlen (2006:19) also noted that “frames are potentially very powerful in impacting both portrayal and understanding of environmental issues”. The authors also noted that a lack of media coverage on a particular issue might make it difficult for policymakers to communicate with the public.

Similarly, Nisbet (2009:26) argued that “framing offers a powerful theoretical tool for understanding the communication dynamics of science debates and the relationship to public opinion, media coverage, and policy decisions”. He argued that scientists must deliberately frame issues in a way that connect with diverse audiences.

Meanwhile, Niemeijer & Groot (2008) stated that framing is important for many purposes such as to organize, communicate and establish effective messages and information in various fields and sectors. Framing can produce an effective message because the message is selected and well organized before being delivered to the public.

2.3.3. The Role of Sources in Media Framing

News sources play influential role in news production and the framing of issues in the media (Chong & Druckman, 2007; Crawley, 2007; Trumbo, 1996). This influence is due in-part to the professional demands of journalism which necessitate a relationship between journalists and sources in producing news stories (Berkowitz, 1992). Indeed, journalists are described as having a shared culture with their sources which guides their interactions in the production of news, and sees a significant proportion of news stories as “source-generated” (Nisbet et al., 2003). In covering issues which they might not be familiar with, for example, journalists rely upon the expertise and authority of news sources such as scientists and politicians either in providing useful material or stories, or simply in bringing a sense of “legitimacy” to a story (Hasan, 2007; Sessions, 2003; Trumbo, 1996).

Given this shared culture, and an understanding of journalists’ preferences for news value and familiar narratives in presenting news, sources often work to formulate their messages to suit these preferences (Nisbet et al., 2003). In doing so, sources and the interests behind them can be seen to (unwittingly or otherwise) “promote” their own frames pertaining to the prescribed issue (Entman, 1993; Nisbet & Lewenstein, 2002). Sources then play a key role in the process of “frame building” by acting as “sponsors” of particular frames in media discourse around particular issues (Scheufele, 1999; Van Gorp, 2010).

2.4. The framing of climate change

Although much framing research exists, studies that explicitly content analyzed climate change coverage to explore the frames represented in news stories were not prevalent (MaCann, 2010).

Trumbo (1996) examined climate change-related news coverage from 1985-1995 in five elite U.S. newspapers, the *Christian Science Monitor*, *Los Angeles Times*, *New York Times*, *Wall Street Journal*, and *Washington Post*. He based his empirical content analysis on framing, social problems theory and the Down's issue-attention cycle, a five-stage cycle generally attributed to the growing and diminishing attention to an issue. He found that scientists were strongly associated with frames that diagnosed causes, while special interests and politicians were strongly associated with frames that made moral judgments. He also demonstrated that news quotes by scientists dropped off when the climate issue became "increasingly politicized" (Trumbo, 1996:269).

Trumbo's study results pointed out that scientists left the media contest as the issue intensified. Scientists also received less media attention during a significant part of public debate. He explained that whether scientists chose to distance themselves from political debate or other claims-makers took over the limelight was unknown. With the growing international agreement among climate scientists that human-caused global warming is real, Trumbo questioned if scientists might have a fair share of news coverage compared to politicians and special interests when the media refocus attention on the climate change issue (Trumbo, 1996).

McComas and Shanahan (1999) observed that journalists created narratives by using an explicit sequential order of events to construct their meanings. The particular frames that stories feature can form a larger meta-narrative across time. By examining climate change-related data collected from a content analysis of news coverage, the researchers found that the media's narrative generally corresponded with *dramatic claims*. Coverage of an issue started with a buildup of dramatic assertions that was an attention-getter for the issue.

In the 1990s, a conventional movement attempted to determine that climate change was not an environmental crisis. McCright and Dunlap (2000) investigated framing and claims-making practices supported by U.S. conservative think tanks which attempted to disprove truths about climate change. The researchers identified three primary frames: *criticism of scientific evidence*, *significant benefits of climate change*, and *actions to ameliorate* what would be a great threat to national economy and sovereignty. They found that the climate change issue primarily failed to remain on the public agenda because of opposing *special interests'* influences and their exercise of power. The failure of climate change to stay on the public agenda was not due to fading media attention or complexities of the science.

Zehr (2000) examined climate science uncertainty framing from 1986 to 1995, in U.S. news coverage in four elite newspapers, including the *New York Times*. News stories were also reread for any emerging themes. From his content analysis, he found that scientific uncertainty was salient. Zehr (2000:85) also argued that uncertainty created a

“rhetorical boundary” between scientists and the public. He determined that a biased portrayal could result in doubt and confusion about an issue.

In a 2005 study, Antilla studied climate change with a quantitative content analysis of climate change coverage in U.S. newspapers. She combined it with a social constructivist approach in a qualitative, comparative analysis of news-created frames. The research focus was on articles framed by narrative that accentuated climate skepticism, controversy, and uncertainty. Her findings indicated that these frames were represented quite often. The study illustrated that climate skeptics continued to discredit climate change science through the news.

Temesgen (2007) has analyzed environmental coverage in *Addis Zemen* Amharic daily newspaper. The research revealed that environment issues were not considered an important public issue, and were included in the major public agenda neither by the newspaper nor by the editorial policy of the press over the study periods. When and if covered, most of the environment issues were too brief and covered only indirectly giving high priority for other issues such investment, agriculture, health and education. The main sources of information used were very limited and major stakeholders of environment issues – environmentalists, research institutions, industries, NGOs, and the society at large were ignored.

Cramer (2008) found that in three daily newspapers in Western Cape province of South Africa climate change was depicted primarily being as an environmental issue and then

secondarily as a political issue. Cramer argued that the potential danger of such depictions lies in the lack of importance placed on the environment and even international politics by the average person.

Content analysis of the framing of environmental issues in the Ethiopian Television 'Akababiachin' by Gebreselassie (2009) pinpointed that very limited frames were used repeatedly by the program. Solution frame, economic frame, conflict frame, attribution frame, diagnostic, and prognostic frames were used with varying degree. Morality frame, empathy frame and human interest frame were totally ignored. The researcher argued that using different types of media framing that fit various environmental issue is important to convey the intended message to the public.

A study conducted by Degsew (2010) on climate change reporting in the Ethiopian Radio and Television Agency (ERTA) found that most climate change stories lack clarity, proximity and attractiveness. Editors and journalists who report and produce climate change stories do not have much knowledge about the details of climate change as well as its causes and impacts. The study further revealed that ERTA journalists use higher officials and environmental experts as the main sources of their stories which made the stories an incomprehensible and less attractive.

McCann (2010) examined the frames used to portray climate change in *Maclean's*, *Newsweek*, *The Economist*, and *U.S. News and World Report* from 1989 to 2009. It was found out that climate change has continually been framed in news magazines as a major

political issue and increasingly as a social and cultural issue as well. The study revealed that, although political-economic frame remained the most predominant frame throughout, it is clear that there was a shift away from reporting climate change as a scientific issue and towards a social issue. The major primary frame that emerged from this study was that of political economic one. The study also showed a significant shift from the scientific frame as the second most represented frame to the social and cultural frame. This shift indicates that the issue has become more commonplace in the lives of everyday citizens. Rather than view the issue as a scientific issue that citizens have no control over or effect upon, the social cultural frame encompasses issues of stewardship, pop culture, public understanding, and justice and risk.

By investigating how climate change has been framed in recent coverage in New Zealand's major daily newspapers, Chetty (2011) found that climate change was framed in a manner which reflected a strong alignment with the scientific consensus on the reality and anthropogenic causes of climate change. Skeptics or deniers were given little voice, and on the relatively rare occasion that controversy or disagreement over the scientific evidence for climate change was emphasized in coverage, it was often attenuated through a recapitulation of the scientific consensus. Moreover, as evidenced in the dominance of Politics, Social Progress and Economic Competitiveness frames, coverage over the study period was focused strongly upon ways of responding to climate change, rather than upon the potential consequences, or moral implications of the problem itself.

A study on media and environmental awareness by Tesema (2012) revealed that the media programs do not cover environmental issues on a regular basis and did not give sufficient coverage to different environmental issues. Moreover, many of the stories in relation to environmental issues were event oriented and focused on reporting positive achievements. The flow of information is usually top-down and government sources were dominantly employed. The research also found out that only few environmental issues were covered as headlines getting the first order and priority among other news items. Lack of background knowledge and profession on environmental issues, lack of journalistic professionalism and experiences, and inadequate training around the profession were raised as major challenges faced by reporters excluding editors.

In a study on Reporting of Climate Change, News in Three Nigerian Newspapers, *Fawole and Olajide* (2012) observed that the most dominant frames emerged were warning, solution, disaster, awareness, call for assistance and blame.

Ghazali and Azmi (2013) observed that Malaysian newspapers coverage on climate change issue drastically increase during major events and would decrease when there is no major occasions related to global climate change. Apart from that the result signifies that the newspapers' portrayals of global climate change are mainly on the positive actions that are taken to reduce the effects of global climate change.

2.5. The framing approach used in this study

Benford and Snow (2000) presented the concept of “*master frames*” - frames that are so influential that they have the capacity to alter other frames to varying degrees.

The "*master frames*" is composed of core framing tasks. First, diagnostic framing relates to the cause of the problem. The second, prognostic framing, points to the solution for the identified problem. Motivational framing is the last core task and provides *rationale for engaging in action* (Benford and Snow 2000: 617).

Based on the classification of frame types established by Benford and Snow (2000), Yun, Ku, Park and Han (2012:201) developed a framing approach that were specifically designed to apply to climate change issues and utilized it for their study on "A Comparative Analysis of South Korean Newspaper Coverage on Climate Change." In addition to the *diagnostic*, *prognostic* and *motivational* frames developed by Benford and Snow (2000) which deal with climate change causes, solutions and call for actions, respectively, Yun, Ku, Park and Han (2012:201) expanded it and included *symptomatic* frame which covers climate change effects and *after-effect frame* which covers the results of implementing climate change countermeasures. The current study employed this framing approach.

The five frames are further divided into eighteen themes based on the classification developed by Ghazali and Azmi (2013) which they used for the study on "Global Climate Change Coverage in Malaysia Mainstream Newspapers." The themes are presented below:

- **Diagnostic**

- ***Human activities*** – Human activities refer to any newspaper article or features on activities by human being that increase high level of

greenhouse gas in the atmosphere. The examples of the activities are the usage of transportation, energy usage, open burning

- ***Business and Industrial activities*** - Business and industrial activities are among the factors that emits huge amount of greenhouse gas and cause climate change.
- ***Agriculture*** – Some agricultural activities such as cutting down trees for agriculture release a big amount of greenhouse gas in the atmosphere.

▪ **Symptomatic**

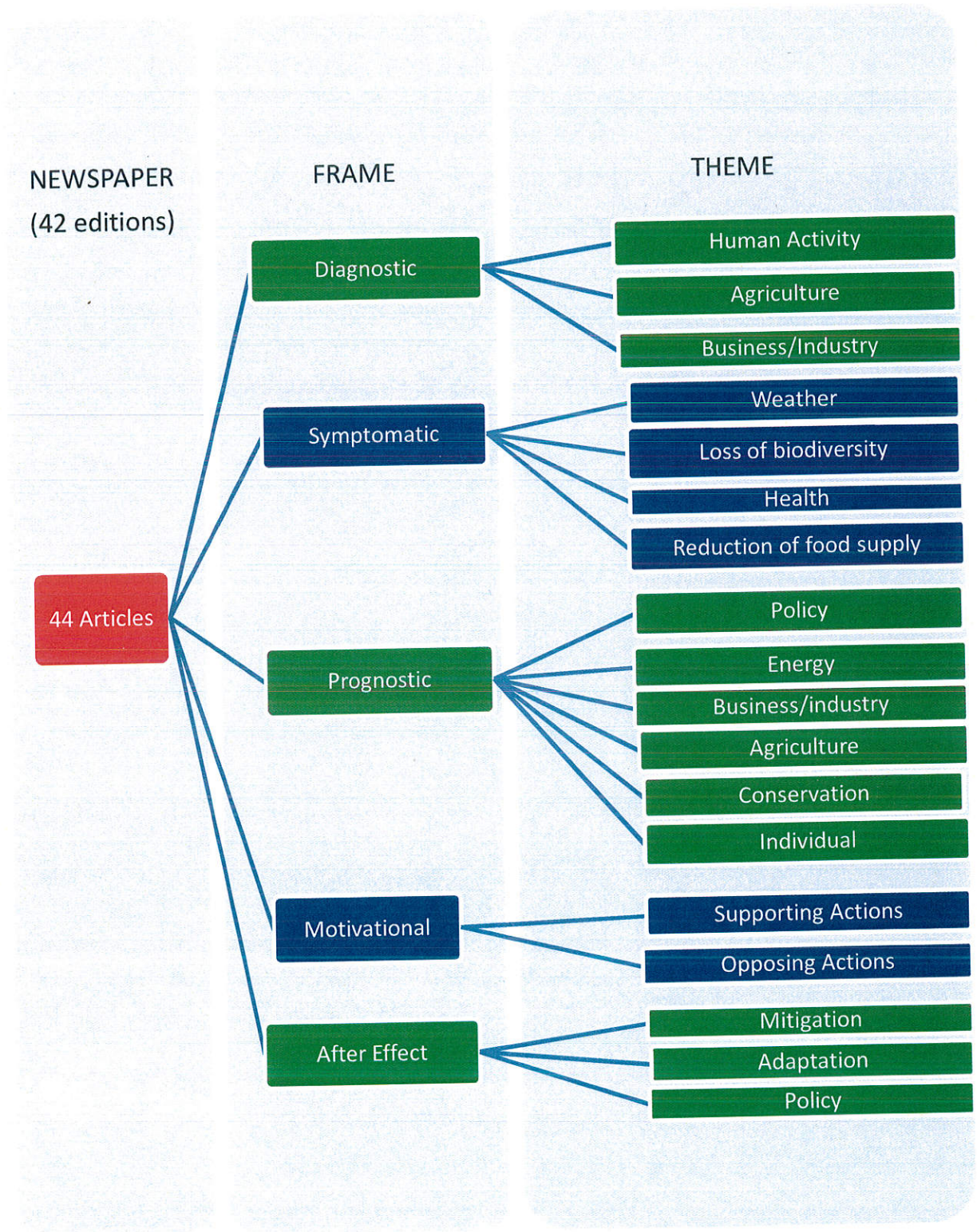
- ***Weather Events*** - The change of the global climate causes extreme weather event that leads to natural disaster such as floods, hurricane, wildfire, the melting of the iceberg and drought.
- ***Loss of biodiversity*** - Apart from the natural disasters, global climate change also affected water, plant, animal and the ecosystem
- ***Health*** - Climate change also affects the society and human activities. The changing of the climate generate many health problems and diseases such as malaria and respiratory illness.
- ***Reduction of food supply and agricultural product*** - Other implication is on the food supply and agriculture product. It can happen when the Earth temperature begins to increase and created unstable weather event. The occurrences of a few series of drought and floods prevent the crops and yields to grow healthily thus it will affect the food production.

▪ **Prognostics**

- ***Policy options***- newspaper stories about the importance of new policies/regulations and/or enforcing existing ones.
- ***Energy efficiency*** - items that propose solutions related to efficient use of fossil fuels, renewable energy, infrastructure and appropriate technology.

- ***Business/industrial practices*** - stories that focus on remedial actions related to business/industrial practices.
 - ***Agricultural practices***- statements that recommend better agricultural practices.
 - ***Environmental conservation*** - statements that recommend better natural resources conservation practices.
 - ***Individual actions*** - solutions that need to be taken by individual citizens.
- **Motivational**
 - ***Supporting***-Stories supporting solutions/actions to prevent/mitigate climate change
 - ***Opposing***-Stories opposing solutions/actions to prevent/mitigate climate change
- **After-Effect**
 - ***Mitigation***- refers to actions/measures taken related to climate change reduction (like afforestation and emission reduction)
 - ***Adaptation***- refers to actions/measures taken focusing on adapting to climate change (like draught resistant plants and drip irrigation)
 - ***Policies enforcements***- refers to enforced policies/regulations/laws focusing on climate change

Figure 1:
Theoretical Framework



CHAPTER THREE: METHODOLOGY

3. Chapter Introduction

This chapter presents the methods used to do the research including: the research design, data source and sampling, coding procedures, validity and reliability and how the data is analyzed.

3.1. Research design

Mixed methods design (both quantitative and qualitative) was employed for this study. The study is primarily focused on analysis of texts, better known as quantitative content analysis. The quantitative content analysis is used to determine the contents of print media, web pages, broadcast media and other recordings, live situations (e.g. speeches) by counting certain aspects. As defined by Cohen (1980), quantitative research is social research that employs empirical methods and empirical statements. While elaborating on what empirical statements mean in the above definition, Cohen contends that empirical statements are about what “is” the case in “real world” rather than what “ought” to be the case (Cohen, 1980) and he suggests the use of quantitative research method for studies directed at investigating cases which are already in the ‘real world’. Furthermore, using quantitative research method has an advantage to summarize large set of information and hence making it possible for comparison over time and across categories. It is also used to generate greater accuracy and eliminates bias by avoiding the researcher’s own values and subjective preferences. In this type of research, researchers can view the communication process as concrete and can analyze it without contacting actual people involved in communication (Ting-Toomey, 1984).

According to De Vrees et al. (2008), a deductive approach to content analysis “involves predefining certain frames as variables to verify the extent to which they occur in the news”. In other words, rather than being generated from the study sample, frames in a deductive study are derived and defined theoretically or from earlier studies as variables which can be identified and measured in the text according to some sets of specified criteria. Whilst deductive approaches might not be able to detect “new” frames, they hold a distinct advantage in that they can manage large samples, are easily repeatable, and allow for comparisons in prevalence and prominence of particular frames at the level of the article, the level of wider discourse around a particular issue, across studies and between different media (e.g. TV versus Newspaper) (Dirikx & Gelders, 2010; Matthes & Kohring, 2008). Deductive methodologies have thus been used regularly in studies analyzing the framing of climate change (Takahashi, 2008).

A deductive quantitative approach offers the opportunity to analyze a substantial sample of articles, and to measure the relative prominence of various frames in such a way that allows for comparison with previous studies. This approach was thus deemed to best satisfy the study aim of this research, i.e., to identify the extent of the newspapers' coverage of climate change issues and to analyze and determine the dominant frames used in the reporting of climate change.

Following this, interviews were conducted with the editors of the two newspapers to explore how climate change related items are selected and prioritized for their newspapers.

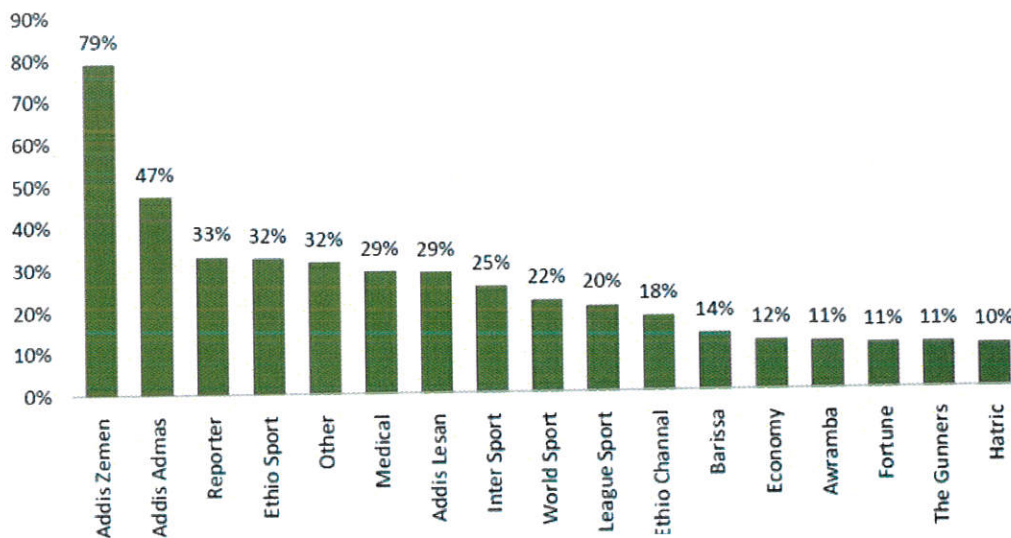
3.2. Data source and sampling

3.2.1. Data source

In order to assess the type of frame used in climate change reporting, the researcher used printed newspapers as its main source. Newspapers were selected because they are the preferred subjects for studies employing either qualitative or quantitative content analysis. In addition to this, due to the accessibility of newspaper archives, it is easy for interested bodies to cross-check the findings of studies which in turn increase the reliability of the study.

According to the Audience Survey Ethiopia 2011 (Ward and Ayalew, 2011), the most popular privately owned newspapers in Ethiopia are *Addis Admas* (47%) and the *Reporter* (33%).

Figure 2:
Most Popular Newspapers in Ethiopia



Source: Audience Survey Ethiopia 2011

As the aim of the study was to undertake a content analysis of climate related issues in widely circulated private Amharic newspapers in Ethiopia with the view to identifying ways to improve specialized reports of private media on climate-related issues, *Addis Admas* and *Reporter* Amharic newspapers were chosen for this study. These two newspapers are the prominent titles in the private news industry in Ethiopia, and they are the most widely read private newspapers in the country (Abate, 2013).

The *Reporter*, which is bi-weekly, has a circulation of more than 25,000 per week. It was established in 2003 and covers issues ranging from social, economic, and political coverage to sport and entertainment. It is one of the most widely read among the privately owned newspapers.

Addis Admas, a weekly newspaper, is also privately owned, published and circulated mostly in Addis Ababa and around the country. Established in 2000, the newspaper has a circulation of 31,000 copies making the newspaper the leading privately owned newspaper in terms of circulation. The newspaper contains sections like: Local news, international news, the present agenda, readers opinion, among others.

3.2.2. Sampling

In order to get a reliable result, the current study used all the newspaper editions which were published over a 12-month period, between 1st January and 31 December 2013. Such an approach (a census) eliminates sampling error and provides data on all the individuals in the population. A total of 156 editions came out during this time period. This time frame was chosen for the purpose of

expanding upon the current literature by analyzing recent climate change coverage and framing.

In order to study the extent to which the private Ethiopian Amharic newspapers report on climate change issues, all of the articles in the 156 editions published during this time period were coded. In this part, the number and proportion of news items and the space allotted for each major category were identified.

To identify the type of media frames the newspapers employed while reporting climate change, the dominant climate change themes and to examine the dominant sources used while covering climate change issues, all of the 44 articles (6 from *Addis Admas* and 38 from the *Reporter*) that contained climate change related news were selected for content analysis. To assess how editors prioritize and publish newspaper stories, one editor from each newspaper was purposively selected and interviewed.

3.3. Coding procedures

3.3.1. Unit of analysis

This study used content analysis to gather the data sets from the selected newspapers. Content analysis is “a research technique for the objective, systemic and quantitative description of manifest content of communication (Berelson, 1952:74)”. It is a research tool which focuses on the real content and entire feature of media. According to Busha and Harter (1980), content analysis is used to determine the presence of certain word, concepts, themes, phrases, characters, or sentences within texts and to quantify this presence in an objective manner.

The units of analysis used in this study are individual news stories and editorial pieces published in the respective newspapers. A news story is defined as a semantic entity with at least one topic delineated from another story by a change of topic (Vreese, Peter & Semetko, 2001), and editorials are defined as articles in the newspaper which present the newspaper's stand on an issue and most of the time published on the second or third page of a newspaper (Abate, 2013).

To qualify as a climate-related story, an article should contain at least one of the following keywords: climate change, global warming, greenhouse effect, and carbon dioxide/emissions. By using this mechanism, a total of 38 news stories and editorial pieces were collected from the *Reporter* and 6 news stories were collected from *Addis Admas*. Then, content analysis on individual news stories and editorial pieces was conducted by using a prepared coding sheet.

Information for establishing the number of articles and the amount of space for each item were obtained by physically counting the articles for each paper and by measuring the amount of space in square centimeters. To determine the framing into which to place a news item, the coders read the whole story, as merely reading the headline and the introduction was not considered adequate. The coders then coded their information on the coding sheet.

3.3.2. Frame Typology

As discussed in Chapter II, the reliability and validity of content analysis depends in large part upon having a solid idea of the frames likely to occur in coverage of a

particular issue, and clear and exclusive criteria for identifying them in the text (Matthes & Kohring, 2008). Frame typologies used are thus often generated from previous studies of coverage of the same or similar issues.

This study utilized the framing typology developed by Yun, Ku, Park and Han (2012:201). The frame types were classified as *diagnostic*, *symptomatic*, *prognostic*, *motivational*, and *after-effect*, which are further categorized into eighteen themes.

- Diagnostic frame analyzes scientific information on the causes or factors that trigger climate change;
- Symptomatic frame deals with the various ecological, health, social changes caused by climate change;
- Prognostic frame covers the means of addressing or resolving the climate change issue;
- Motivational frame covers calls supporting or opposing solutions/actions to counteract climate change;
- After-effect frame is concerned with the results of implementing climate change counter-measures.

The table below presents the frames, themes and definitions that are included in the coding sheet.

Table 1:
Frame Typology

Frames¹	Themes²
Diagnostic (Analyzes scientific information on the causes or factors that trigger climate change)	Human activities – Human activities refer to any newspaper article or features on activities by human being that increase high level of greenhouse gas in the atmosphere. The examples of the activities are the usage of transportation, energy usage, open burning
	Business and Industrial activities - Business and industrial activities are among the factors that emits huge amount of greenhouse gas and cause climate change.
	Agriculture – Some agricultural activities such as cutting down trees for agriculture release a big amount of greenhouse gas in the atmosphere.
Symptomatic (Deals with the various ecological, health, social changes caused by climate change ;)	Weather Events - The change of the global climate causes extreme weather event that leads to natural disaster such as floods, hurricane, wildfire, the melting of the iceberg and drought.
	Loss of biodiversity - Apart from the natural disasters, global climate change also affected water, plant, animal and the ecosystem.
	Health - Climate change also affects the society and human activities. The changing of the climate generate many health problems and diseases such as malaria and respiratory illness.
	Reduction of food supply and agricultural product - Other implication is on the food supply and agriculture product. It can happen when the Earth temperature begins to increase and created unstable weather event. The occurrences of a few series of drought and floods prevent the crops and yields to grow healthily thus it will affect the food production.
Prognostic (Prognostic frame covers the means of addressing or resolving the climate change issue)	Policy/regulations - newspaper stories about the importance of new policies/regulations and/or enforcing existing ones.
	Energy efficiency - items that propose solutions related to efficient use of fossil fuels, renewable energy, infrastructure and appropriate technology.
	Business/industrial practices - stories that focus on remedial actions related to business/industrial practices.
	Agricultural practices - statements that recommend better agricultural practices.
	Environmental conservation - statements that recommend better natural resources conservation practices.
	Individual actions - solutions that need to be taken by individual citizens.
Motivational (Calls supporting or opposing solutions/actions to climate change)	Supporting -Stories supporting solutions/actions to prevent/mitigate climate change
	Opposing -Stories opposing solutions/actions to prevent/mitigate climate change

¹ Adapted from Yun, Ku, Park and Han (2012)

² Adapted from Ghazali and Azmi (2013)

After-effect (Concerned with the results of implementing climate change countermeasures)	Mitigation- refers to actions/measures taken related to climate change reduction (like afforestation and emission reduction)
	Adaptation- refers to actions/measures taken focusing on adapting to climate change (like draught resistant plants and drip irrigation)
	Policies- refers to enforced policies/regulations/laws focusing on climate change

In addition to frames, articles were coded for a number of additional variables that relate to framing. With relation to the framing process, source attribution was coded and counted within each article. The section in which the article appears (including if the article is a cover story) and the length of the story (determined by number of pages) are also coded.

3.4. Data quality

3.4.1. Validity

Two coders are trained and used for coding the data. To ensure face validity, after the production of the instruments, the researcher discussed them with the fellow coders to ascertain that they understood the issues dealing with categories in the documents the same way. The coders spent several hours coding some of the news items, comparing notes and making adjustments where necessary.

External validity was assured through selecting all of the issues of *Addis Admas* and *The Reporter* that have been published from 1 January to 31 December 2013. External validity in this study was also assessed from the point of view that the researcher intended to limit the generalization of the results to the issues of the two papers that were published between January 2013 to December 2013.

Instrument validity was assured by adapting questions that had been used in similar framing studies. The research instrument was then evaluated for validity by an independent expert.

On the otherhand the question of internal validity did not arise because the study is not intended to establish any cause and effect relationship.

3.4.2. Reliability

Intercoder reliability refers to the level of agreement between coders who use the same instrument to code the same content (Wimmer & Dominick, 2006). In this study, intercoder reliability was determined using Holsti's (1969) formula:

$$\text{Reliability} = 2M/(N1+N2),$$

where M is the number of coding decisions that the two coders agreed on; and N1 represents the first coder's decisions and N2 represents the second coder's decisions.

According to Neuendorf (2002), pilot test is essential because the pilot test will reveal whether the coding scheme is reliable or unreliable. In order to ensure that the coding scheme is reliable, the result of the intercoder reliability must fall between .70 to .80 (Neuendorf, 2002).

The intercoder reliability for the pilot test falls on 80 %. As the result exceeded the minimum requirement and indicated that the coding scheme is valid and useful, the

coders proceeded with the coding process for other newspaper stories and features on climate change. The 44 articles (from 42 editions) with climate-related stories were then coded by the two coders.

After the coding has been completed, inter-coder reliability test was conducted on all of the news stories and editorial pieces coded by the two coders.

The higher the agreement between the two coders, the greater the inter-coder reliability. The Holsti formula was used in order to gain a correlation coefficient that ranged from .00 (no agreement between coders) to 1.00 (full agreement between coders). The inter-coder reliability test on the coding sheet as described above produced a coefficient of .86, (86%) which exceeded .70,(70%) the minimum requirement for reliability (Holsti, 1969).

3.5.Data analysis method

Basic descriptive statistics were employed to measure and compare the type of media frames the newspapers employed while reporting climate change, the dominant climate change themes, and to examine the dominant sources used while covering climate change issues.

Finally, the semi-structured interviews held with editors of the two newspapers were analyzed in two stages. In the first analysis stage, audio-recorded interviews were transcribed into text. In the second stage, the verbatim notes and transcribed texts were analyzed and reduced to five pages of synopsis.

CHAPTER FOUR: RESULTS & DISCUSSION

4. Chapter Introduction

This chapter presents the findings of the content analysis of climate change coverage in *Addis Admas* and *The Reporter* (Wednesday and Sunday) newspapers published between 1 January 2013 and 31 December 2013.

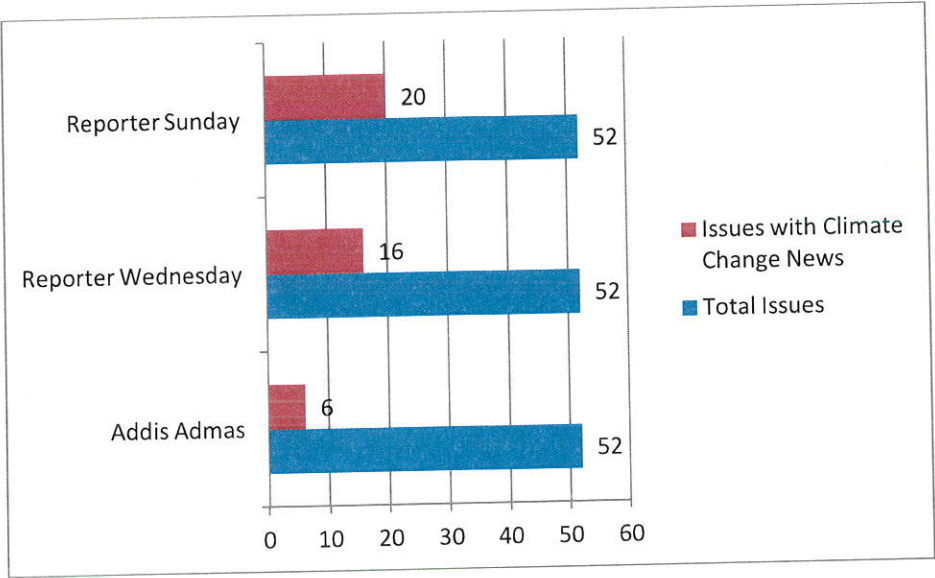
4.1. Results

4.1.1. Results from Quantitative Content Analysis

4.1.1.1. Climate Change Coverage

The total number of *Addis Admas* and the *Reporter* (Wednesday and Sunday) published in 2013 was 156. Only six issues (11.5%) of *Addis Admas* newspaper and thirty six issues (34.6%) of the *Reporter* (Wednesday and Sunday) had climate change related stories. Figure 1 shows the newspaper issues dedicated to climate change news by *Addis Admas* and the *Reporter* newspapers.

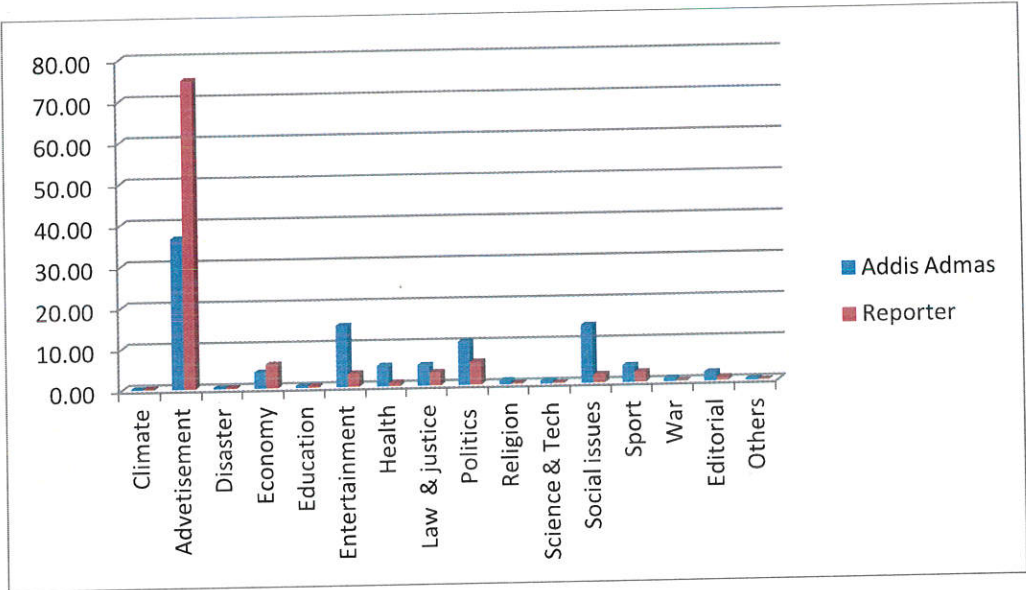
Figure 3:
Newspapers Coverage on Climate Change from 1 January to 31 December 2013



In terms of spaces allotted to climate change, the six climate related stories in *Addis Admas* had a combined space of only 2.25 pages (0.15 % of the total space); while the thirty-eight stories by the *Reporter* Wednesday and Sunday newspapers had a combined space of 20.05 pages, that is about 0.20 % of the total available space.

Figure 4 shows the proportion of newspaper spaces dedicated to climate change by *Addis Admas* and the *Reporter* newspapers.

Figure 4:
Proportion of Newspapers Spaces Allotted to Climate Change in 2013



Of the total available spaces, 37% of *Addis Admas* and three fourth (75%) of the *Reporter* were occupied by advertisement. Other issues that got media attention by *Addis Admas* include entertainment (15%), politics (11%), and social issues (14%). The *Reporter's* focus of attention include economy (5.8%), politics (5.5%), and law & justice (3%).

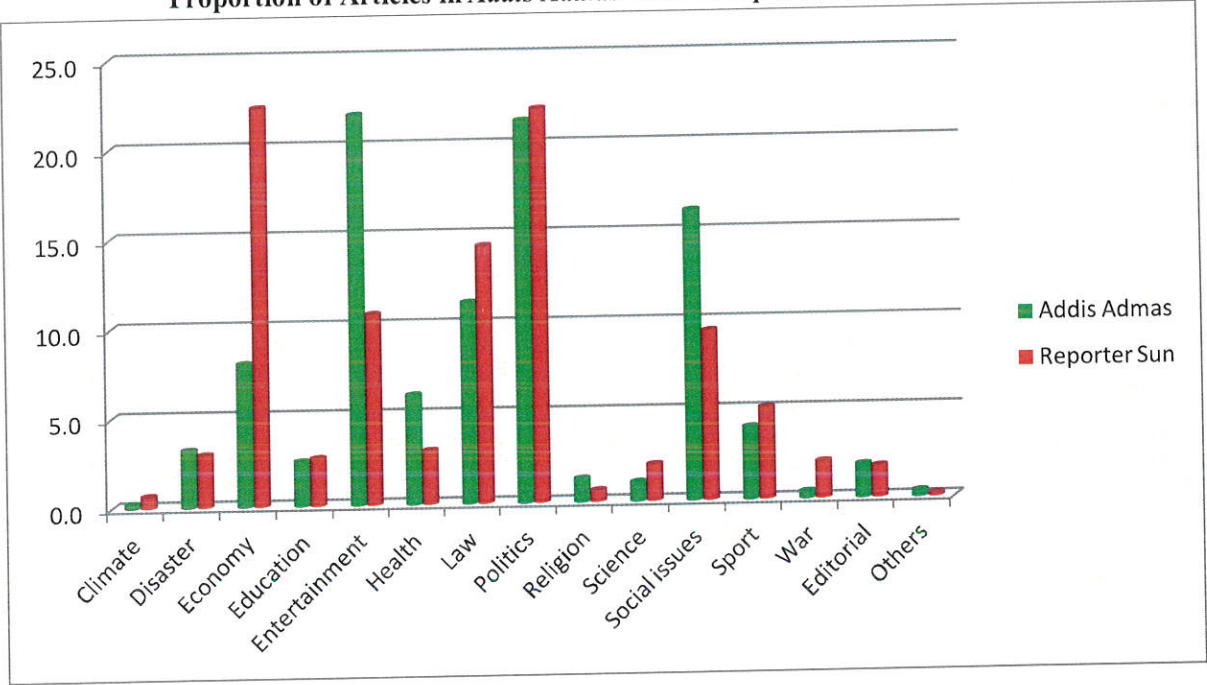
The following table summarizes the number of pages and proportion of spaces allotted to climate change stories, non-climate change stories and advertisements.

Table 2:
Newspapers Spaces Allotted to Climate Change stories, non-climate change stories and advertisement in 2013

Newspaper	Total Pages	Climate Change Stories		Non-Climate Change Stories		Advertisement	
		Pages	Proportion	Pages	Proportion	Pages	Proportion
Addis Admas	1480	2.25	0.15	937.1	63.32	540.65	36.53
Reporter	9854	20.25	0.20	2460.8	24.97	7372.95	74.82

When we take advertisement out of the equation and analyze the number of stories covered in the two newspapers, the total number of articles from the two newspapers in 2013 was 7,963. Of the total 2,021 news items reported in *Addis Admas*, only 6 are related to climate change-these accounts only to 0.3% of the total amount. The *Reporter* published 38 climate change related stories of the total 5,942. This is about 0.6% in proportion. Politics (29%), economy (25%), law (18.3%) and entertainment (18.1%) have the lion's share of the articles in the two newspapers.

Figure 5:
Proportion of Articles in *Addis Admas* and the *Reporter* in 2013



More than 91% of the news articles are focused in country related climate change stories. The remaining 9% of the stories entertained global climate change issues.

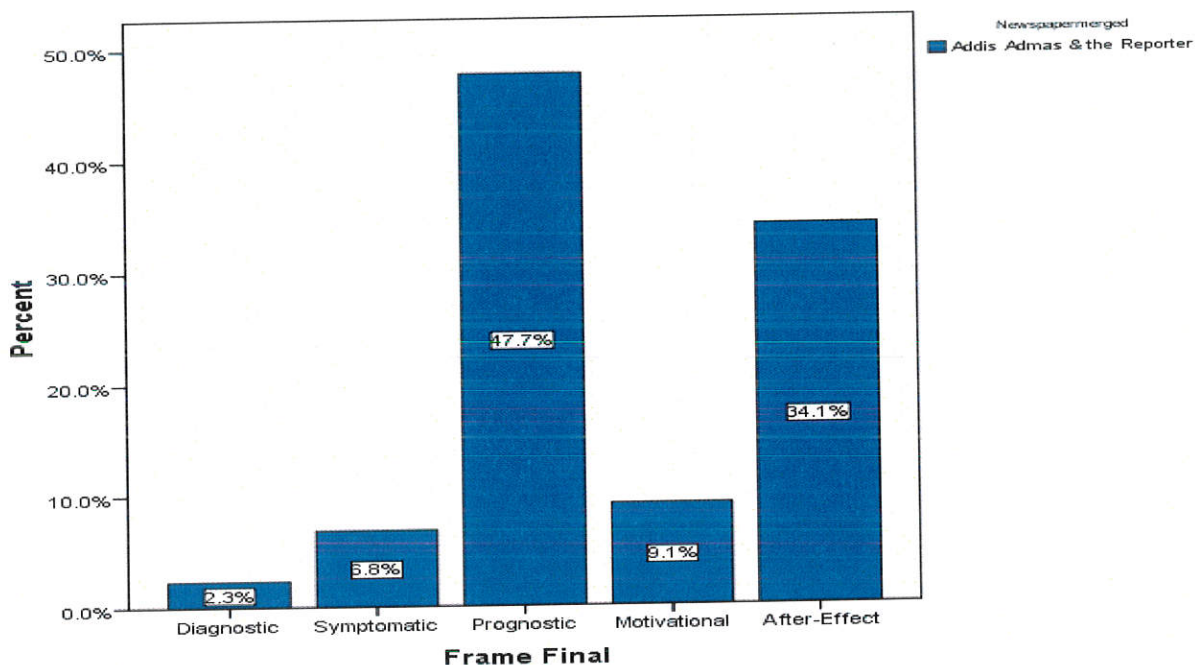
4.1.1.2. *Framing Climate Change*

As presented in figure 6 below, the most common frame in the two newspapers is the “prognostic” frame, which focuses on the means of responding to climate change: proportions for *Addis Admas* is 87% while for the *Reporter* is 45%, with an average of 48 percent as shown in Figure 6. The "After-effect" frame, which focuses on the results of implementing climate change countermeasures, appeared in 34 percent of the news stories of the two newspapers.

Meanwhile, the "motivational frame", which deals with calling for solutions and actions, gained 9%; while the "symptomatic frame", which focuses on the various

ecological, health, and social changes caused by climate change, is second to last with 7%. The "diagnostic frame" has only one story to its credit.

Figure 6:
Dominant Frames in Addis Admas & the Reporter Newspapers in 2013

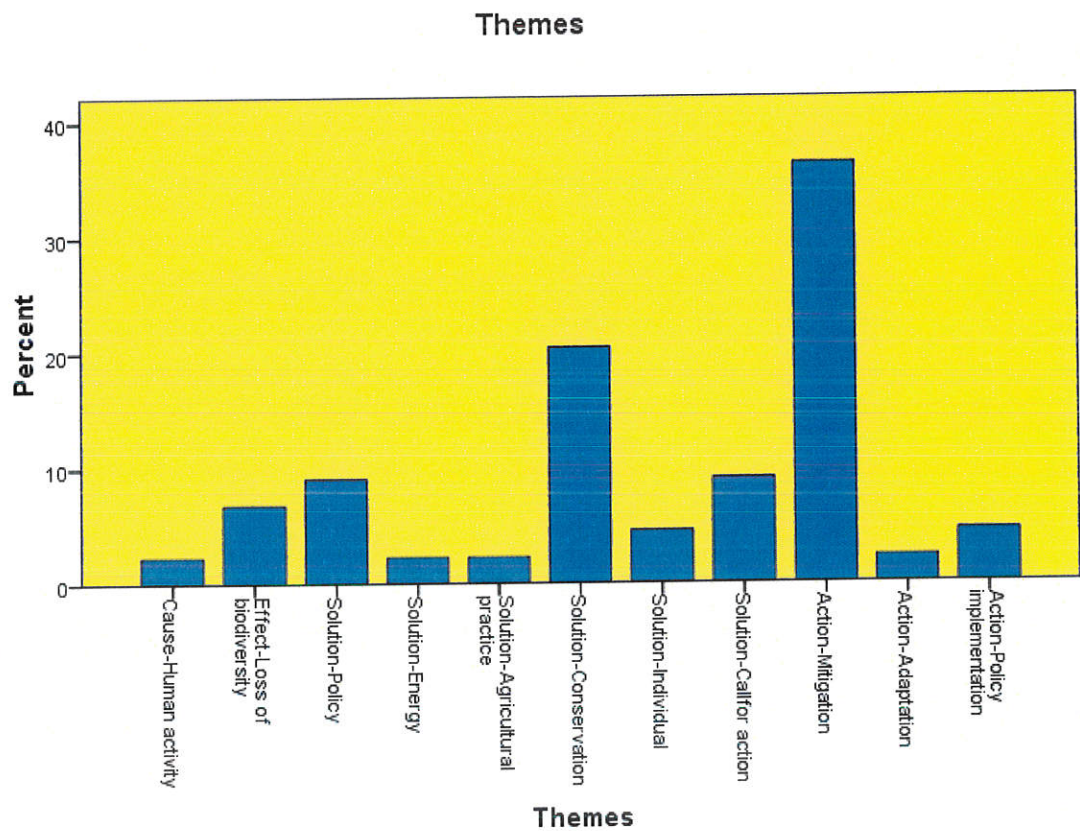


4.1.1.3. Themes of Climate Change

In the two newspapers, the dominant themes frequently discussed are the "conservation" theme (27%) focusing on conservation of natural resources within the "prognosis" frame and the "mitigation" theme (27%) focusing on mitigation of climate change within the "after-effect" frame.

Themes like human activity as a cause of climate change within the "diagnostic" frame; energy, agriculture and individual solutions within the "prognostic" frame; and loss of biodiversity as an effect of climate change within the "symptomatic" frame are never mentioned or rarely used.

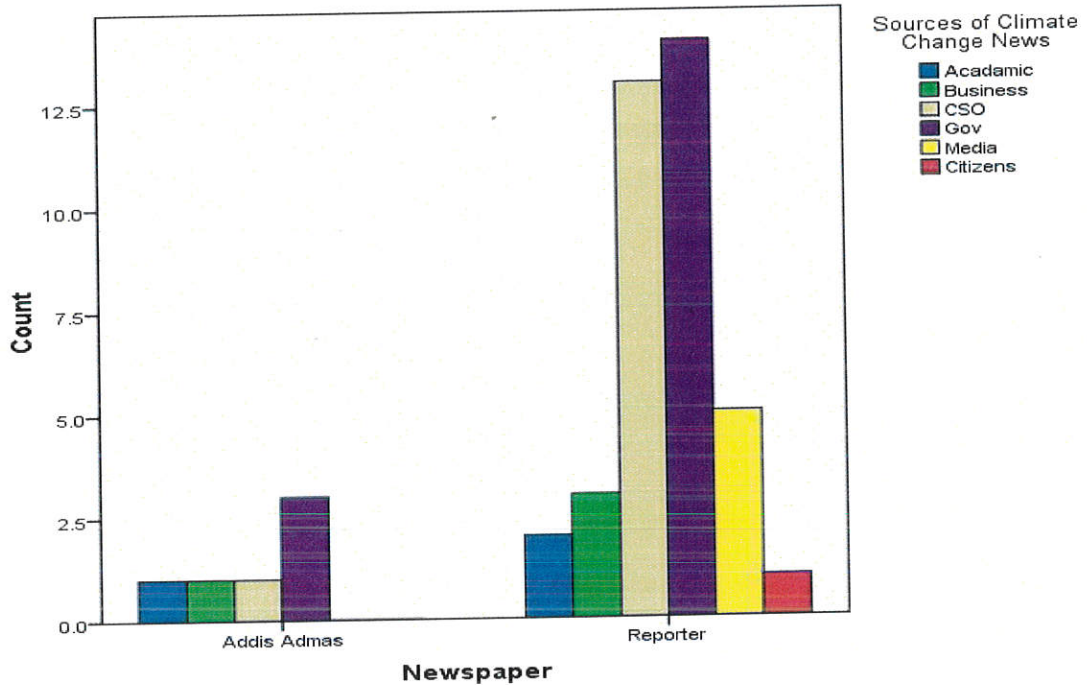
Figure 7:
Themes in Addis Admas & the Reporter Newspapers in 2013



4.1.1.4. Sources of Climate Change Stories

The result in Figure 8 indicates the sources used in reporting climate change news by the newspapers. The newspapers obtained close to three-fourth (70%) of their information from two major sources, namely government (39%) and civil society organizations (32%). Other sources including other media, the academic institutions, the business community and individual citizens provide the remaining 30% of the climate change news.

Figure 8:
Sources of Climate Change News



4.1.1.5. Placement of Climate Change Stories'

Almost all (98%) of the climate change news covered within the period were in the middle pages; only one story succeeded to get a front page appearance on the *Reporter*.

4.1.1.6. Summary of the Findings from content analysis

The results of the quantitative content analysis have shown that coverage of climate change in *Addis Admas* and the *Reporter* Amharic newspapers tended to be very minimal in terms of spaces allotted and number of stories produced and that two environmental frames -“prognostic” frame and the "After-effect" frame- and themes are dominant in the climate related stories. The results also revealed that almost all of the climate change news covered within the period were in the middle pages-no front or back page coverage.

4.1.2. Findings from In-Depth Interviews

News values, sometimes called news criteria, determine how much prominence a news story is given by a media outlet, and the attention it is given by the audience. Boyd (1994) states that: "News journalism has a broadly agreed set of values, often referred to as 'newsworthiness'..." According to Galtung and Ruge (1965), decisions on the selection and prioritization of news are made by editors on the basis of their experience and intuition, and that several criteria are consistently applied across a range of news organizations. A variety of external and internal factors influence editor's/journalists' decisions on which stories are covered, how issues are interpreted and framed, and the emphasis given to them. Achieving relevance, giving audiences the news they want and find interesting, is an increasingly important goal for media outlets seeking to maintain market share in a rapidly evolving climate (Grabe, 2002).

Semi-structured interviews were held with the editors of *Addis Admas* and the *Reporter* newspapers to explore how stories are selected and prioritized for the newspapers.

In terms of the level of climate change reporting in Ethiopia, both editors agree that media coverage of climate change is declining in their respective newspapers. There is a need to improve the quality and quantity of climate change coverage. The *Reporter's* editor agrees that this is especially true for the last one and half year:

We believe that we are better in reporting climate change than any other newspaper. But there was a notable decrease in the number of stories that mentioned climate change over the past year after the death of the late Prime Minister (Personal Interview, June, 2014).

There are essential elements of every good news story to ensure the quality of being sufficiently interesting to be reported in news. The editors argue that they could not publish a story simply because it is a climate change related story. The following point from *Addis Admas* editor sums the whole idea:

It is very difficult for an editor to spike a story simply because it is climate story. Stories will be published on merit. When reporting, we think of the news value, not the science. It is the news value (impacts, effects, human interest, proximity, prominence, etc) that should guide the reporter and the editor as well (Personal Interview, June, 2014).

Proximity has to do with how close an event is geographically to the readers. The editor of *Addis Admas* argues that climate change news lacks proximity and, thus, is less relevant to the readers:

Unless there are events like conferences, it would be far removed from the readers' experiences to report on global warming, for example, without having

the evidences that the temperature is in fact increasing (Personal Interview, June, 2014).

Generally, the greater the impact a story has, the more newsworthy it is. Events that have impact on the readers, that have real consequences for their lives, are bound to be newsworthy. Reporters can generate stories with impact by linking the role of science and technology to solving various community level problems, such as draught, diseases, food shortages, poor housing, lack of clean water, and power or energy shortages. But the editors believe that there is lack of sufficient knowledge about current climate state, causes, and consequences of climate change by media professionals.

Climate change is a vague concept. There is a tendency by the public and private media to link it only to poverty (Personal Interview, June, 2014).

Although the editors agree that media should help the people to understand climate change and issues surrounding it by creating awareness through accurate and balanced reporting, climate change stories have to compete for space against others from the world of business, art, music, sports, politics, education, conflicts, crime and accidents.

One of the professional challenges facing science writers is linked to 'balancing' stories that may be scientifically deficient. The *Reporter's* editor argues that the

Reporter is principally a political newspaper and balancing a political story is easier than a scientific one:

It is more difficult to balance science stories. One does not always balance science stories the way political writers do by simply getting opponents' views (Personal Interview, June, 2014).

The editors agree that there is a general tendency to seek climate related news from government and NGO sources. This has caused some very important actors (like the academics and the citizens) to be excluded from media access and could have also caused limited frames and themes to be dominant in the newspapers.

4.2. Discussion

4.2.1. Coverage

Coverage of climate change in *Addis Admas* and the *Reporter* Amharic newspapers tended to be very minimal in terms of spaces allotted and number of stories produced. In *Addis Admas*, for example, only six issues (out of 52) contained climate related stories, while 36 issues (out of 104) of the *Reporter* had climate related articles. In terms of spaces allotted to climate change, the six climate related stories in *Addis Admas* had a combined space of only 2.25 pages; while the thirty eight stories by the *Reporter* newspapers had a combined space of 20.05 pages. The number of climate change related articles in *Addis Admas* for the year 2013 was only six, while the *Reporter* had 38 climate related articles.

Although the *Reporter* has more articles and allotted more spaces to climate related issues than *Addis Admas*, closer analysis reveals that there is little to choose between the two newspapers in terms of coverage. To put this into context, *Addis Admas* and the *Reporter* have allotted 0.15% and 0.2% of the available spaces for climate change related issues. In comparison, entertainment and social issues have got 23% and 22% of *Addis Admas* coverage, respectively, while economy and politics acquired 23% and 22% of the *Reporter* coverage, respectively. Other researchers also found similar results. In his analysis of environmental coverage in *Addis Zemen* Amharic daily newspaper, Temesgen (2007) has revealed that no proper emphasis was given to environment issues either within the newspaper or in the editorial policy. Similarly, Yun, Ku, Park and Han (2012:201) found that climate related articles occupied only 0.7% of the news coverage of three daily newspapers in Korea.

Editors' assertion that there is a notable decrease in the number of stories that mentioned climate change after the death of the late Prime Minister shows that media will give more attention to global climate change when political system make the issue into their policy making agenda. Editors argue that climate change gets proximity when there events like conferences on related issues. Similar findings were observed by Liu et.al. (2008). They reported that coverage of newspapers coverage in many countries are driven by government policy, local and international conferences on global climate change (Liu et.al, 2008).

4.2.2. Dominant Frames & Themes

The most common frame in *Addis Admas* and the *Reporter* newspapers is the “prognostic” frame, which focuses on the means of responding to climate change:

proportions for Addis Admas is 87% while for the *Reporter* it is 45%. The second dominant frame is the "After-effect" frame, which focuses on the results of implementing climate change countermeasures; it appeared in 34 % of news stories of the two newspapers. The two frames comprise 82% of the newspaper articles. Motivational (9%) and symptomatic (7%) frames have been given a comparatively little attention, while the diagnostic frame appeared only on one article.

The huge amount of focus on the "prognostic" and "after-effect" frames prove that the newspapers have high tendency to report on solutions and actions by the public to combat the problem. A similar finding was reported by Ghazali and Azmi (2013); they noted that Malaysia mainstream newspapers tendency to report on public actions frame shows that the Malaysian society is becoming more wary about global climate change issue. But this situation is considered unlikely compared to the newspapers coverage of global climate change in other countries. Previous studies reveal that the newspapers coverage in other countries, such as in the United States, tends to focus on the problem/causes of the issue while studies in Indian and Mexican newspapers show that the newspapers in Indian and Mexico tend to focus on the effects and the consequences of global climate change (Ghazali and Azmi, 2013:104).

In the two newspapers, "conservation solution" theme focusing on solutions related to conservation of natural resources within the "prognosis" frame (27%) and the "action-mitigation" theme focusing on mitigation of climate change within the "after-effect" frame (27%) featured significantly.

Themes like human activity as a cause of climate change; energy efficiency, better agricultural practices and individual solutions; and loss of biodiversity as an effect of climate change are never mentioned or rarely used. This finding is different from the research finding in Nigeria that showed causes and effects frames (like flooding, intensity of rainfall and the effect it had on property, human lives and the environment) were found to be dominant in three Nigerian newspapers (Fawole & Olajide, 2012).

The qualitative study revealed that there is a general tendency by the newspapers to seek climate related news from government and NGO sources. This has caused some very important actors (like the academics and the citizens) to be excluded from media access and could have also caused limited frames and themes to be dominant in the newspapers.

4.2.3. Sources & Placement

Government sources (39%) clearly dominated climate change media coverage. "civil society organization" was the second most prominent source, accounting for 32%. There is a very limited use of "business/industry." This is consistent with previous studies. For example, Takahashi (2011) found that national government sources have the major media access in Peru. Similarly, there was almost no presence of community voices. On the other hand, very limited use "academics" as a source of climate change related stories is evident from the result. This may be linked to either a lack of commitment from the reporter's side or worst still, inaccessibility to academicians and research findings from research institutes that have mandate to produce knowledge for better living in all facets of human activities. This finding contrasts the role of climate change

academicians in other countries. For example, Chetty (2011) found that scientists and academics continue to be prominent sources in climate change coverage in New Zealand. Similarly, Nisbet and Lewenstein (2002) noted that educational institutions were credited with providing information related to climate change. They also noted that the academic community is in a strategic position to introduce new frames and perspectives pertaining to scientific or environmental issues into public discourse, and to perhaps influence the social construction of these issues. Similarly, the limited attention given to individual citizens in climate change story framing is an oversight from the part of the newspapers as understanding how they frame climate change could offer valuable insight into public attitudes and perceptions, and could prove useful in the design of future communication strategies around environmental issues (Scheufele & Lewenstein, 2005).

The study revealed that almost all (98%) of the climate change news covered within the period were in the middle pages-no front or back page coverage. This contradicts the findings from Nigeria where about two-third (64%) of the climate change news covered were placed in the front and back pages (Fawole & Olajide, 2012). But the finding is in line with several scholars who had indicted print media as not very responsive to climate change. For instance, Osa – Edo (2008) concluded in their various studies that despite increase in the number of newspapers published in Nigeria, coverage of rural development news, including climate change, is abysmally low.

4.2.4. Editors' Interview

In terms of the level of climate change reporting in Ethiopia, both editors agree that media coverage of climate change is declining. There is a need to improve the quality and quantity of climate change coverage.

There are essential elements of every good news story to ensure the quality of being sufficiently interesting to be reported in news. The editors pointed out that they could not publish a story simply because it is a climate change related story. They also argue that climate change news lacks proximity and, thus, is less relevant to the readers.

There is a perception among the editors that balancing a political story is easier than a scientific one. The editors agree that there is a general tendency to seek climate related news from government and NGO sources. The assumption is that the use of credible sources, mainly government agencies who are considered credible and necessary to climate related matters, will increase the credibility of a news story. The cultural authority bestowed upon government sources as “credible elites” thus might see the frames they propagate as more likely to dominate and influence opinions amongst the public (Chetty, 2011).

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5. Chapter Introduction

This chapter presents the conclusion and recommendations made based on the findings of the study.

5.1. Conclusions

As a top priority on the global political agenda, climate change is claimed to be one of the most fundamental challenges ever to confront humanity. Ethiopia's poor economic condition combined with its heavy dependence on agriculture and high population growth rate makes the country particularly susceptible to the adverse effects of climate change.

Because climate change is likely to affect everyone in the country to greater or lesser degree, it is imperative that it is reported on sufficiently and responsibly. The framing and the context in which issues are placed plays a vital role in shaping public opinion and, therefore, the policy-making process.

The aim of this study was to undertake a content analysis of climate related issues in widely circulated private Amharic newspapers in Ethiopia in order to understand the coverage and framing of climate-related issues with the aim of identifying ways to improve specialized media reports of private media on climate-related issues. Mixed methods design (both quantitative and qualitative) were employed for this study. The quantitative content analysis was used to identify the extent of the newspapers' coverage of climate change issues and to analyze and determine the dominant frames and used in the reporting of climate change. Following this, interviews were conducted with the

editors of the two newspapers to explore how items were selected and prioritized for their newspapers.

In order to get a reliable result, the current study used all the *Addis Admas* and the *Reporter* newspapers' editions that were published over a 12 month period between 1st January and 31 December 2013. A total of 156 newspapers were published during this time period.

The most important finding of this study is that the most common frame in *Addis Admas* and the *Reporter* newspapers is the "prognostic" frame, which focuses on the means of responding to climate change. The second largest frame is the "After-effect" frame, which focuses on the results of implementing climate change countermeasures. This proves that the newspapers have high tendency to report on solutions and actions by the public to combat the problem.

In the two newspapers, the dominant themes frequently discussed were the "solution-conservation" theme focusing on conservation of natural resources within the "prognosis" frame and the "action-mitigation" theme focusing on mitigation of climate change within the "after-effect" frame. Themes like human activity as a cause of climate change; energy efficiency, better agricultural practices and individual solutions; and loss of biodiversity as an effect of climate change are never mentioned or rarely used.

The findings also revealed that government sources and civil society organizations dominated climate change media coverage. There was limited voice from the community. On the other hand, very limited use of "academics" as a sources of climate change related stories is evident from the result. The academic community is in a strategic position to introduce new frames and perspectives pertaining to scientific or environmental issues into public discourse, and to perhaps influence the social construction of these issues. Similarly, the limited attention given to individual citizens in climate change story framing is an oversight from the part of the newspapers as understanding how they frame climate change could offer valuable insight into public attitudes and perceptions, and could prove useful in the design of future communication strategies around environmental issues

Coverage of climate change in *Addis Admas* and the *Reporter* Amharic newspapers tended to be very minimal in terms of spaces allotted and number of stories produced. In 2013, less than 1% of *Addis Admas* and the *Reporter* articles and spaces contained climate related issues. In comparison, advertisement covers 70% of the total space while non-climate related issues take more than 29% of the total available space. The study also revealed that almost all of the climate change news covered within the period were in the middle pages-no front or back page coverage.

The finding from the in-depth interview revealed that there is a general tendency to seek climate related news from government and NGO sources. This has caused some very

important actors (like the academics and the citizens) to be excluded from media access and could have also caused limited frames and themes to be dominant in the newspapers.

Although the media should help readers to understand climate change and issues surrounding it by creating awareness through accurate and balanced reporting, climate change stories have to compete for space against others from the world of business, art, music, sports, politics, education, conflicts, crime and accidents. The editors believe that climate change news lack proximity and, thus, are less relevant to the readers.

5.2. Recommendations

Based on the findings outlined above, this study has come up with the following specific recommendations:

- The newspapers need to diversify the frames they utilize in covering climate change through balance reporting between stories which deal with climate change causes, effects, solutions and results of implementing climate change actions.
- *Addis Admas* and the *Reporter* editors and journalists should strive for balanced reporting that does not rely too heavily on one frame or theme over another. This study suggests that if news reporting is balanced in its use of sources, it will also be balanced in the frames used.
- The editors and journalists of the two newspapers must be aware of what sources are cited and if those sources are determining the entire framing and meaning of the news report.

- Climate change needs to received media attention in terms of space, number of topic and placement.

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APPENDICES

Appendix 1:Article Coding Sheet

Category	Number of Items	Number of Pages
Advertisement		
Climate		
Disaster		
Economy		
Education		
Entertainment		
Health		
Law & Justice		
Politics & Human Rights		
Religion		
Science & technology		
Social issues		
Sport		
War & Conflict		
Other		
Editorial		

Appendix 2:Frames Coding Sheet

Diagnostic	
Symptomatic	
Prognostic	
Motivational	
After-Effect	
Others	

Appendix 3: Themes Coding Sheet

Frames	Themes
Diagnostic (Analyzes scientific information on the causes or factors that trigger climate change)	Human activities – Human activities refer to any newspaper article or features on activities by human being that increase high level of greenhouse gas in the atmosphere. The examples of the activities are the usage of transportation, energy usage, open burning
	Business and Industrial activities - Business and industrial activities are among the factors that emits huge amount of greenhouse gas and cause climate change.
	Agriculture – Some agricultural activities such as cutting down trees for agriculture release a big amount of greenhouse gas in the atmosphere.
Symptomatic (Deals with the various ecological, health, social changes caused by climate change;)	Weather Events - The change of the global climate causes extreme weather event that leads to natural disaster such as floods, hurricane, wildfire, the melting of the iceberg and drought.
	Loss of biodiversity - Apart from the natural disasters, global climate change also affected water, plant, animal and the ecosystem.
	Health - Climate change also affects the society and human activities. The changing of the climate generate many health problems and diseases such as malaria and respiratory illness.
	Reduction of food supply and agricultural product - Other implication is on the food supply and agriculture product. It can happen when the Earth temperature begins to increase and created unstable weather event. The occurrences of a few series of drought and floods prevent the crops and yields to grow healthily thus it will affect the food production.
Prognostic (Prognostic frame covers the means of addressing or resolving the climate change issue)	Policy/regulations - newspaper stories about the importance of new policies/regulations and/or enforcing existing ones.
	Energy efficiency - items that propose solutions related to efficient use of fossil fuels, renewable energy, infrastructure and appropriate technology.
	Business/industrial practices - stories that focus on remedial actions related to business/industrial practices.
	Agricultural practices - statements that recommend better agricultural practices.
	Environmental conservation - statements that recommend better natural resources conservation practices.
	Individual actions - solutions that need to be taken by individual citizens.
Motivational (Calls supporting or opposing	Supporting -Stories supporting solutions/actions to prevent/mitigate climate change

solutions/actions to prevent/mitigate climate change;)	Opposing -Stories opposing solutions/actions to prevent/mitigate climate change
After-effect (Concerned with the results of implementing climate change countermeasures)	Mitigation - refers to actions/measures taken related to climate change reduction (like afforestation and emission reduction)
	Adaptation - refers to actions/measures taken focusing on adapting to climate change (like draught resistant plants and drip irrigation)
	Policies - refers to enforced policies/regulations/laws focusing on climate change

Appendix 4:Source Coding Sheet

Academic	
Business	
CSO	
Government	
Media	
Others	

Appendix 5:Newspaper Editions with Climate Change Related Articles

Newspaper	Date	Page	No of pages
Addis Admas	23/02/2013	11	0.2
Addis Admas	25/05/2013	2	0.25
Addis Admas	24/08/2013	10	0.85
Addis Admas	7/9/2013	24	0.1
Addis Admas	21/09/2013	16	0.6
Addis Admas	28/12/2013	16	0.55
Reporter Wednesday	2/1/2013	32	1
Reporter Wednesday	23/01/2013	38	0.5
Reporter Wednesday	27/02/2013	2	0.75
Reporter Wednesday	6/3/2013	30	0.5
Reporter Wednesday	25/03/2013	30	0.5
Reporter Wednesday	1/5/2013	26	0.5
Reporter Wednesday	15/05/2013	33	0.4
Reporter Wednesday	29/05/2013	22	0.55
Reporter Wednesday	5/6/2013	31	0.4
Reporter Wednesday	19/06/2013	4	40
Reporter Wednesday	4/9/2013	8	1.75
Reporter Wednesday	23/10/2013	9	0.4
Reporter Wednesday	6/11/2013	3	0.25
Reporter Wednesday	4/12/2013	10	0.4
Reporter Wednesday	18/12/2013	5	0.3
Reporter Wednesday	25/12/2013	11	0.3
Reporter Sunday	6/1/2013	51	0.05
Reporter Sunday	10/2/2013	1	0.8
Reporter Sunday	24/02/2013	1 and 35	1.65
Reporter Sunday	3/3/2013	3	0.4
Reporter Sunday	24/03/2013	47	0.05
Reporter Sunday	31/03/2013	7	0.7
Reporter Sunday	7/4/2013	7	0.55
Reporter Sunday	14/04/2013	18	1
Reporter Sunday	2/6/2013	5 and 10	0.65
Reporter Sunday	9/6/2013	35	0.05
Reporter Sunday	23/06/2013	24	1
Reporter Sunday	21/07/2013	6	0.4
Reporter Sunday	18/08/2013	13	0.4
Reporter Sunday	1/9/2013	43	0.05
Reporter Sunday	22/09/2013	1	1.05
Reporter Sunday	20/10/2013	42	0.6
Reporter Sunday	3/11/2013	12	0.75
Reporter Sunday	17/11/2013	11	0.2
Reporter Sunday	24/11/2013	43	0.05
Reporter Sunday	15/12/2013	28	1

Appendix 6:Semi-Structured Interview Guide

1. What is your opinion of the level of environmental reporting in Ethiopia in terms of
 - 1.1. Environmental journalists
 - 1.2. Amount of space and resources afforded to the environmental beat
2. How do you think the climate change issue is viewed by the editor? (your personal experience from past to now)
3. What would you like to see change in terms of climate change reporting?
4. What are some of the difficulties in reporting on environmental issues- and more specifically in climate change?
5. With proximity being a big news values, do you think climate change is portrayed locally enough?
6. The source most commonly quoted in climate change articles politicians, and NGOs.
What are some of the challenges in finding other sources, for example academics and people who are being affected by climate change already (farmers, businessmen, etc)?