

CLIMATE CHANGE MITIGATION, ADAPTATION AND
HEALTH RELATED ISSUES: A COMPARATIVE
ANALYSIS OF SIN CHEW DAILY AND CHINA PRESS
COVERAGE

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KUALA LUMPUR

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AND HEALTH RELATED ISSUES: A COMPARATIVE
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COVERAGE**

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**CLIMATE CHANGE MITIGATION, ADAPTATION AND HEALTH RELATED
ISSUES: A COMPARATIVE ANALYSIS OF SIN CHEW DAILY AND CHINA
PRESS COVERAGE**

ABSTRACT

In this decade alone, climate change is a global problem and it is more likely caused by human activities and human greed. So far, studies on media representations of climate change have less concentration on Asian countries compared to Western societies. Since climate change brings about the negative effects on public health, adaptive strategies are needed to address negative health consequences. The research aims to examine and make a contrast in the portrayal of Malaysia's Chinese newspaper on climate change mitigation and adaption with health-related issue from January 2015 to December 2016. Climate change is one of the most pressing issues and the media play a key role in shaping public perceptions and policy adaptation. Therefore, the agenda setting theory was used to guide this study. The methodology used in the study is quantitative content analysis. Two major Chinese newspapers in Malaysia which are Sin Chew Daily and China Press were chosen as content analysis materials as both newspapers have the highest readership and circulation compare with others Malaysia Chinese newspaper. A total of 183 news articles has been analyzed from Sin Chew Daily while China Press contributed a total of 103 news on climate change mitigation and adaptation issue. Through the analysis of Malaysia major Chinese newspaper, both newspapers have a different level of media attention on climate change mitigation and adaptation issue. The media attention includes news monthly distribution, news focus, news perception, news genre and domesticity. Both newspapers mentioned above use different ways to report climate change issue. The greater of media attention on climate change issue, the community would be more aware of this issue.

Keywords: climate change; global warming; agenda-setting; Chinese newspapers;
quantitative content analysis

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ABSTRAK

Pada zaman ini, perubahan iklim merupakan masalah global dan masalah ini kemungkinan disebabkan oleh aktiviti manusia dan ketamakan. Setakat ini, kajian tentang analisis media dalam masalah perubahan iklim di negara Asia mempunyai penumpuan yang kurang berbanding dengan negara Barat. Apabila perubahan iklim membawa kesan-kesan negatif, strategi adaptasi perlu dilaksanakan untuk menangani kesan-kesan negatif. Kajian ini bertujuan untuk mengkaji dan membanding surat khabar bahasa Cina di Malaysia tentang isu mitigasi dan adaptasi perubahan iklim. Jangkaan masa kajian ini dari Januari 2015 hingga Disember 2016. Media memainkan peranan penting membentuk persepsi orang ramai dan menekankan dasar adaptasi. Oleh itu, teori penentuan agenda digunakan sebagai kerangka teori dalam kajian ini. Kaedah kajian yang digunakan ialah analisis kandungan kuantitatif. Dua surat khabar bahasa Cina major di Malaysia iaitu Sin Chew Daily dan China Press dipilih sebagai bahan analisis kandungan kerana kedua-dua surat khabar mempunyai pembaca paling ramai dan peredaran paling tinggi berbanding dengan surat khabar bahasa Cina yang lain di Malaysia. Sin Chew Daily mempunyai 183 buah berita mengenai perubahan iklim manakala China Press hanya mempunyai 103 buah berita. Melalui analisis yang telah dijalankan terhadap kedua-dua surat khabar bahasa Cina, kedua-dua surat khabar ini mempunyai tahap perhatian media yang berbeza mengenai isu mitigasi dan adaptasi perubahan iklim. Perhatian media isu-isu ini dibahagikan kepada beberapa kategori termasuklah pengedaran berita bulanan, fokus berita, persepsi berita, kategori berita dan domestisiti. Kedua-dua surat khabar menggunakan cara yang berbeza melaporkan isu perubahan iklim. Perhatian media mengenai isu perubahan iklim yang semakin luas membolehkan mereka berkomunikasi dengan masyarakat tentang isu-isu ini secara mendalam.

Kata Kunci: perubahan iklim; pemanasan global; penentuan agenda; surah khabar
bahasa Cina; analisis kandungan kuantitati

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LIST OF SYMBOLS AND ABBREVIATIONS

CO ²	:	Carbon Dioxide
COP	:	Conference of the Parties
GHG	:	Greenhouse Gas
IPCC	:	Intergovernmental Panel on Climate Change
LRT	:	Light Rapid Transit
MRT	:	Mass Rapid Transit
NASA	:	National Aeronautics and Space Administration
NCCC	:	National Committee on Climate Change
NGTP	:	National Green Technology Policy
NOAA	:	National Oceanic and Atmospheric Administration
NPCC	:	Malaysia National Policy on Climate Change
NPE	:	National Policy on the Environment
NREPAP	:	National Renewable Energy Policy and Action Plan
RE Act 2011	:	Renewable Energy Act 2011
UNCED	:	United Nations Conference on Environment and Development
UNFCCC	:	United Nations Framework Convention on Climate Change
WHO	:	World Health Organization
WWF	:	World Wide Fund for Nature

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CHAPTER 1: INTRODUCTION

1.1 Introduction

This chapter will discuss about the background of the study and insight of climate change mitigation. It also includes the statement of problems, research objective, research question and scope of the study. A brief summary of the whole chapter will also be included in this chapter.

1.2 Background of the study

Climate change issues have become crucial in the world for decades as it is a global phenomenon. According to WHO (2014b), human activities especially fossil fuels combustion has released large quantities of carbon dioxide and other greenhouse gases over the last 50 years. The action prompted to trap the additional heat in the lower atmosphere and caused the increasing of global climate change. In that situation, the human selfishness causes the Earth to become warmer from day to day and it eventually threaten the human health.

In the era of 21st century, the controversy over global warming has never stopped for many years. All the countries around the world have accepted and agreed to the emphasis of climate change mitigation. Various ways have been taken by policy makers and governments to mitigate the effects of the climate change on health. One of the important ways is the media representation. Basically, what we know about the world is largely based on what the media decide to tell us (McCombs, 2002). More specifically, the result of this mediated view of the world is that the priorities of the media strongly influence the priorities of the public. The elements that are notable on the media agenda become prominent in the public mind. The more frequent of a news article appeared, the more

discussion or opinion would be shared among the public. In any modern society, the media provide an essential source of information about matters beyond people's personal experience. The media have a huge impact on society and in public opinion (Teece & Makkai, 2000). On that count, the media representation on climate change and its effects on human health have serious policy ramifications.

On the other hand, the media and climate change issue interact in different ways. Climate change coverage in media contribute the global flow of communication around the world. The relationship between media coverage and public awareness of climate change is broadly recognised, the more media coverage on climate change issue might have the impact of information transform to the public (Eskjaer, 2009). When climate change, media and health communication related to one of each other, the gatekeeper needs to decide the effectiveness of the news report to the members of public in mitigation the current climate change situation.

Additionally, as the most prevalent source of climate change information, media is thus a salient influence on public perceptions (Hargreaves, Lewis, & Speers, 2003). Media are playing their roles in delivering messages and information to the whole world. The media have a significant role in educating and conveying the message to the community on certain issues. In daily life, newspaper is an official pathway in transferring the messages and people typically start their day with reading the newspaper instead of a journal.

On top of that, the way the media inform and educate the public about certain issue is called media agenda setting. Media reports have a relationship on people's behaviour. For example, if the media depict a more negative impact on climate change, the target audience will automatically get the information and pay more attention on the issue mentioned above. Media coverage of climate change can produce better informed publics,

policymakers and thus, encourage more efficient policy-making. The broader coverage of climate issue can raise the awareness among the public.

In the era of health communication, the public is now actively trying hard to get more information related to health from the media communication. The public is keen to know more on health-related information to stay healthy and to increase the level of awareness towards health. Hence, the communication between the media and public is acknowledged as an important element of health care environment. Therefore, media can deliver important messages such as environmental issue awareness through newspapers, television or even social media to reach out more targeted audiences.

In fact, human health has always been influenced by the environmental factor, climate or even weather. Changes in the Earth temperature and climate will affect the supply of clean water and food. Therefore, there is a strong relationship between climate change and human health. The impacts of climate change increase over the next century. Therefore, it is important to raise the awareness of the people towards the effect of climate change by various mitigation and adaptation ways.

Apart from the fact mentioned above, the understanding on the significance of climate change on a human life can be done by expressing the message to the public via different media sources such as newspapers, broadcasting, online sources and others. Then, the people can decide whether to mitigate or adapt the current climate change situation. This is also a way to protect the people and in the meantime help to identify the research needs.

Generally, media has the potential to give an impact on public opinion and make the public paying more attention on certain issues with more media exposure. Therefore, the media agenda is very important in selecting prominence news deliver to the public. It can give the information to the public and encourage the public to have behavioural changes.

One of the example is the media platform such as newspapers and broadcast news exposed the climate change news, no matter focusing on impacts of climate change or even the current situation of climate change, public can pay more attention on the issue mentioned above. On that count, the mitigation and adaptation of climate change issue can reach out to more people.

For instance, this study will delve into the inclusion of Chinese print media coverage on climate change mitigation and Malaysia policy adaptation. This focus is chosen significantly in this study because the risk posed on the global health that caused by climate change has been widely discussed internationally (McCoy, Montgomery, Arulkumaran, & Godlee, 2014). Therefore, this study is eager to examine and analyse the Chinese print media coverage on the issue of climate change mitigation. This study also takes in the consideration whether the newspaper plays its role in creating the awareness among the public especially on the health-related issues among Chinese community.

1.3 Climate Change Mitigation and Adaptation in Depth View

The discussion on climate change mitigation and adaptation has been discourse widely around the world. The members of the public can respond to climate change with two distinct strategies which are mitigation and adaptation. They are urged to alleviate the current situation of climate change and find strategies to adapt climate change as everyone has the responsibility to relieve the situation.

During the pass global effort in dealing with climate change problem, people concentrated on mitigation, which is reducing and stabilizing the greenhouse gases concentrations in the atmosphere. In the other words, it means that to reduce the emission of greenhouse gases to slower the situation of climate change. However, with the slow

progress in achieving this target, adaptation was applied as an alternative option to reduce the vulnerability to the negative impacts of climate change and global warming.

On top of that, climate change, as defined by United Nations Framework Convention on Climate Change (UNFCCC) is a change of climate which is attributed directly or indirectly to human activity. Climate change can transform the component of the global atmosphere and it is in addition to natural climate variability observed over comparable time periods.

In the same way, Intergovernmental Panel on Climate Change (IPCC) refers to a modification in the state of the climate that can be identified. One of the example is using statistical tests by changes in the mean and or the variability of its properties, and that persists for an extended period, typically decades or longer. It refers to any changes in climate over time, whether due to natural variability or caused by human activity. Human activities are changing the natural greenhouse. For example, over the last century, the burning of fossil fuels like coal and oil has increased the concentration of atmospheric carbon dioxide (CO²).

Besides that, climate change has potential to change the climate and weather patterns in the world. As a result, the monsoon conditions will change as well around the world more significantly, like what happened in Malaysia (Haniza Abdul Rahman & Suppian, 2015). For example, in Malaysia, the increasing of rainfall pattern happened during northeast monsoon. The situation mentioned above actually cause flash flood and flood in Northern and Eastern states of Kelantan, Pahang and Terengganu in Malay Peninsula.

Furthermore, the reasons to climate change can be divided into two, which are human and natural causes. The human activities could speed up the climate change situation and the issue eventually turns into a global concern. The government and many scientists

around the world are anxious to find out more suitable ways to lighten the current climate change situation. To have a deeper understanding towards climate change, the origins of climate change must be identified. Recently, scientists classify the causes into two categories, human and natural causes (Kakade, Hiremath, & Raut, 2013) The earth's climate can be influenced by natural causes such as volcanic eruptions, ocean current, the earth's orbital changes and solar variations. On the other hand, the human activities such as open burning, deforestation, agriculture are some of the human causes of climate change.

Besides the human and nature causes, there are still many other factors identified to cause and worsen the situation of climate change. These factors are global, national and localised factors (Haliza Abdul Rahman, 2009). Global warming, open burning caused haze are some of the examples of global factor that are trans-border in nature whilst industrialisation, clearing land for agriculture, encroachment of fragile ecosystem are examples of national and localised causal factors.

Furthermore, The Intergovernmental Panel on Climate Change (IPCC) has declared that human common activity is the main cause behind climate change situation. The result in continuous climate change could result in more extreme and often more dangerous weather phenomenon such as heat waves, droughts, heavy rains and thunder storms.

As aforementioned above, human activities which include transportation and industry field are releasing more and more greenhouse gases such as carbon dioxide. For example, burning the fossil fuels which contain carbon such as coal, oil and natural gases will contribute to the human-made carbon dioxide. For the land conversion action, when the forest is being logged or burned, it will release more carbon dioxide. All these actions will contribute more negative impacts to climate change.

Even if Malaysia could be considered as a free zone from climate related disaster, but mild climate change situation is quite frequent to happen lately. These refer to the floods and droughts happened in Malaysia which caused a significant social economic impact to the country and members of public. The potential negative impacts of climate change in Malaysia include sea level rise, reduced crop yields, greater diseases among forest species, increased flood intensities, human health effected, more droughts happen and others. Scientists also predicted that Malaysia is going to be hotter with a temperature rise to 1.5 degree Celsius. This will cause more extremes weathers such as unusual rainfalls and extremely hot temperature, which increase more rainfall during raining season and the temperature is getting higher during drought period.

Apart from that, most of the people might have heard about climate change, but the change in their behaviour that related to climate change are limited. The members of public did not have the proper information about how to ease the climate change situation and they might think that small behaviour changes will not be contributed to the alleviation climate change. Some people even do not believe in climate change or the effectiveness of behaviour changes in climate change.

In recent times, the impacts of climate change towards the Earth are getting worst from day to day. Several countries continue to suffer from the heatwave which scientists claim that it is the influence of human action climate change and could become more common in the future times. The ongoing heatwave has already been blamed for deadly forest fires and crop failures. Glacier mountain has melted so much and it raises the concerns about the rapid pace of climate change that happened.

Having said that, while climate change occurs since a few decades ago, climate change mitigation is needed to reduce the negative effects caused by the increase of the earth's temperature. For instance, climate change mitigation refers to the efforts that reduce or

prevent emission of greenhouse gases. Besides that, mitigating measures also involves the actions to slow down the process of global climate change, usually by lowering or reducing the level of greenhouse gases in the atmosphere.

Subsequently, the ways of mitigation include the using of modern technologies and renewable energies, making older equipment more environmental-friendly or changing the daily life of the members of public. The climate change mitigating measures seem like it is as complicated as planning for a new city, but it can also be as simple as taking easy action such as car-pooling or planting a tree. For example, the government can build more cycling paths and walkways instead of high technology Light Rapid Transit (LRT) or Mass Rapid Transit (MRT). Consequently, this can reduce the usage of cars and reduce the emission of greenhouse gases.

In responds to the climate change situation on the Earth, a lot of impacts can be avoided, reduced and delayed by mitigation. At the same time, the adaptation will be necessary to be carried out. The adaptation option can reduce vulnerability of climate change in term of long and short term. On the other hands, the mitigation options involved the changes in human life style and behaviour. The relationship between adaptation and mitigation options are related with sustainable development.

No matter how, people are urged to adapt to the current situation of climate change. The adaptation process involves preventive measures to avoid, prepare well for, or respond to potential impacts from climate change (McMichael, 2003). Climate change adaptation can reduce the exposure to climate change for both in the short term or the long term. Transformation will be required for the current situation to reduce the adverse effect of climate change towards the community and even the environment.

In the same way, the adaptation to climate change has been defined by Working Group II of the Intergovernmental Panel on Climate Change as an adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial activities (WGII & IPCC, 2007). This adjustment can be anticipatory or reactive, planned or grassroots, public or private.

In general, adaptation can be clarified to be reactive or proactive form. It can be explained that whether the climate change impact is observed or even anticipated. Generally, the adaptation strategies should give priority to proactive action to reduce the future risk might be faced by the living creature.

Another point is there are a variety ways of climate change mitigation and adaptation. When people are ready to deal with climate change, the members of public can try to stop or slower the future warming of climate change which is the mitigation way. On the other hand, people can adapt well with the current climate change situation and find some ways to live in the current warming situation which is adaptation to climate change. In the case of adaptation, people must get along well with the climate change situation because it is not enough to limit the climate change situation, but people need to adapt well with the current climate change situation.

While people and policy makers continue to set up the effects to mitigate and slower down the global temperature, people need to take some adaptation action too. For instance, when sea level continues to rise, floating agriculture or villages can be applied. When the city temperature become higher and no more place to plant the crops or plants, growing crops inside the city buildings is one of the effective adaptation ways too.

Conversely, the negative impacts of global climate change come across economies and societies. The most obvious negative impact is human health. The more frequency and

intensity of heat waves, droughts, flood, health effects and level of air pollution might increase. Even small changes in climate but it will also result in substantial changes in risk. The health risk included heat stroke, vector-borne diseases, malaria, dengue fever, bronchitis, asthmas or even malnutrition among the elderly and children.

No matter how, the members of public are urged to understand the potential and adverse effect from climate change. Mitigation and adaptation actions are needed to be taken from day to day. Although the government plays an important role in dealing with climate change through law and legislation, the public also need to show their willingness in voluntary mitigation and adaptation of climate change action.

1.4 Malaysia's Commitment in Tackling Climate Change Issues

In Malaysia, people are keen to pay more attention on climate change compared to environmental issues. It is because climate change might affect the environment and the public's daily life. On that count, Malaysia National Policy on Climate Change (NPCC) was developed in year 2009. The main objective of the policy is to minimize the negative impacts of climate change. The government is eager to reduce the negative impacts of climate change through wise management of resources into the policy, plans and programmes. However, the implement of the policy is facing a huge challenge due to the lack of the scientific research and media attention.

Other than that, some Malaysia governments' policies and action plans include National Policy on the Environment (NPE), National Green Technology Policy (NGTP), National Renewable Energy Policy and Action Plan (NREPAP) and Renewable Energy Act 2011 (RE Act 2011).

Firstly, National Policy on the Environment (NPE) was approved in year 2002 to manage the country's natural resources and the environmental in more efficiency. The efforts towards mitigation of climate change involve the establishment of conservation areas, land development planning, forest sustaining and water resources management. This policy clearly reflects the Malaysia's commitment in taking a proactive approach in global environmental issues which consists of climate change issue.

Besides that, to promote green technology as a main accelerating the national economy and promoting sustainable development in Malaysia, the National Green Technology Policy (NGTP) was introduced in 2009. In terms of climate change, green technology that includes technologies with zero or lower greenhouse gas (GHG) emission, conserve energy or utilize renewable energy sources such as solar panel could be widely used for a better future.

Continuously, During 2010, National Renewable Energy Policy and Action Plan (NREPAP) was introduced and aim to enhance the utilization of indigenous energy resources. It can also contribute towards electricity supply and socio-economic development. The following year which is 2010, Renewable Energy Act 2011 (RE Act 2011) was introduced. The primary aim of the RE Act 2011 is to stimulate the renewable energy industry by providing appropriate economic incentives and contribute to climate change mitigation.

On the other hand, considering that climate change is a global issue, therefore Malaysia government has been actively involved in international conventions and protocols to address climate change related issues. Since year 1989, Malaysia ratified the Montreal Protocol to reduce the production and consumption of ozone-depleting substances.

During year 1992, Malaysia participated in Earth Summit. At the United Nations Conference on Environment and Development (UNCED), Rio de Janeiro, Malaysia pledged to maintain at least 50% of the land as forest cover. However, until today, the development of housing area in Malaysia happened rapidly, this means that Malaysia failed to maintain its forest cover.

In the same way, during year 1994, Malaysia committed to another two international conventions and protocols to devote on climate change related issues which are United Nations Framework Convention on Climate Change (UNFCCC) and National Committee on Climate Change. The two international conventions and protocols mentioned above mainly aim to stabilize the concentration of greenhouse gases. The committee on climate change include the planning of the activities related to climate change issue and provide guidelines to mitigate and adapt issues on climate change.

Most importantly, Malaysia signed Kyoto Protocol in year 2002. The Kyoto Protocol is an international agreement intent to commit all the members by setting international binding emissions reduction targets. So far, as a developing country, Malaysia does not have any quantitative commitments under Kyoto Protocol.

On the other hand, developing countries need to ratify the amendments but they do not have obligations for emissions reductions under Kyoto Protocol. The developing countries including Malaysia, fought long and hard in the negotiations to continue commit in Kyoto Protocol. This is to ensure that there would be commitments in the pre-2020 period by agreeing to its 2nd commitment period. Besides that, it is also to ensure that the Paris Agreement would not be replaced for Kyoto Protocol.

In the situation of growing climate impacts, Malaysia remains devoted to the climate agenda and is counted far more accomplished if the promises made under the commitment

that Malaysia kept. Although mitigating the negative impacts of climate change is crucial, it is also important to adapt the impacts through alertness and protective action such as policies and instrument from the governments.

No matter how, people and organizations need to pay more attention on climate change issue even though climate change might be limited to a specific region or may occur across the whole Earth. Malaysia government is now actively engaged with several international agreement and also national policy on climate change in order to mitigate the emission of greenhouse gases. Beside that joining the international, there are many questions being doubt in reducing the carbon emission in the country.

When discussing Malaysia government effort, are Malaysians aware about the initiative in reducing the carbon and greenhouse gases emission? Therefore, apart from joining the international committee and strengthen climate change policy, the government also need to deliver the climate change message effectively to the public and audiences. People might not be really care about the climate change situation and this is the reason media practitioners must deliver the key terms of climate change to the people and public.

1.5 Statement of the Problem

Climate change mitigation and adaptation has been an issue for a long time. From reading and analysing the previous research, it shows that the studies on media representations of climate change have mostly concentrated on Western societies. In this decade alone, climate change issue in news has been focus in research to reflect the importance of media in affecting public opinion and policy adaptation. Unfortunately, most of the research regarding climate change and media are mostly focused on Western countries compared to Asia countries.

On the other hand, the climate change situation in Malaysia might not be obvious but it happened from year to year. Here is the fact explanation. From year 2015, the unusual and prolonged dry season and water shortages happened frequently especially in the Klang Valley area. There were also severe floods happened in East Coast area, Sabah and Sarawak. The situation clearly shows that the climate change is looming over Malaysia. Therefore, it is important to see whether the issues of climate change mitigation and adaptation information has been delivered to the public from the media agenda.

Other than that, health-related issue is one of the concerns as people are fervent to know more about to lead a healthy lifestyle. While people think of climate change, they might need to have more information about health impact towards their daily life. There is a relationship between climate change situation and health issue. Is the media practitioners will relate the climate change situation with health-related problem? That is the problem that researcher keen to find out clearly.

Furthermore, the situations of climate change on the Earth are getting worse from year to year. The Earth's temperature in 2015 was the hottest ever recorded by NASA. Why does this matter? Because a change of even 1°C, even if it may sound insignificant but this could throw the ecosystem of its balance, affect plants and animals that inhabit them. The aftermaths from climate change is out of imagination. The Malaysian Chinese community who always gain their information from media should not still be underprepared on climate change mitigation and adaptation issues in Malaysia. In fact, the media can construct and determine the precise and suitable information to reach out behavioural changes among the public. Therefore, it is important to view seriously of the way of media portraying climate change issue on Chinese newspapers to reach out the Chinese community.

It is obvious enough that all parties have been starting notice about the climate change situation from the newspapers and others news media platform. Since it is 21st century now, people can get the information very fast from the online media. Consequently, media should have an ability to shape the people emotions, attitudes and perception towards the climate change issue. In the other word, media served as a platform and playing their role in convincing people about the environmental issues.

On the whole, the Earth is currently facing the impact of climate change. It cannot be denied that climate change is one of the most challenging threats that faced by Malaysia with the whole world.

1.6 Research Objectives

Basically, the general objective of this research is to determine the way of Malaysia's Chinese newspapers in reporting the climate change mitigation and adaptation with health-related issues. As mentioned before, media are very influential as a tool, in providing information and influencing public attitudes. For the specific objectives, there are

1. To examine the nature and pattern of the Malaysia Chinese print media attention level on climate change mitigation and adaption issue.
2. To understand the Malaysia Chinese print media coverage trend on climate change mitigation and adaptation issue.
3. To identify the differences between Malaysia Chinese print media coverage on reporting the climate change mitigation and adaptation on health-related issue.

1.7 Research Questions

As for today, the situation of climate change remains and it still exists right now. The better way in enhancing the climate change mitigation to another milestone is through media approaches and collaboration among the government around the world especially in Malaysia. This study will focus on the role of Chinese print media on climate change mitigation in Malaysia. Therefore, this study would answer the following questions specifically:

1. What is the Malaysian Chinese print media attention level on climate change mitigation and adaptation issue?
2. What is the Malaysian Chinese print media coverage trend on climate change mitigation and adaptation?
3. What are the differences between Malaysian Chinese print media coverage on reporting the climate change mitigation and adaptation on health-related issue?

1.8 Significance of the Study

On the whole propose of this study is to explore the news coverage on climate change mitigation and adaptation issue were represented in the printed media, especially the Malaysia Chinese newspapers.

When come to the relationship between newspapers and climate change issue, the study relevant because it will extend the literature and news coverage on environmental issue in Malaysia Chinese mainstream newspapers. In order to relate it with the media agenda, this research is significant because it investigates how the media set and represent the climate change mitigation and adaptation news stories.

It is important that to improve the knowledge of the health and environment effects of climate change. With the greater knowledge gains, the research can provides sustainable solutions for communities to manage and reduce the impacts of a changing climate effectively. Scientists are using media as an agenda to describe the climate change challenge. By understanding the media reporting on climate change issue, it can enhance the communication between people and scientists to reduce the harm of climate change to the environment and people.

Briefly, the study will be focusing purely on media's role in reporting climate change mitigation and adaptation issue while relate it to human health because the climate change brings negative impacts to the human health too. It is important that to determine whether the newspapers bring out the climate change and human health issue to the public.

1.9 Scope and Organization of Research

The research contains five chapters which include the background of the research, literature review and theoretical framework, methodology used, result analysis and discussion of the result. Firstly, Chapter 1 provides the background of the research. This chapter will discuss the general review of the research and research objectives. The justification of the research will also be included in this chapter to explain the reason of doing this investigation.

Continuously, Chapter 2 provides the previous researches which have been done by other scholars. Besides, the knowledge of climate change mitigation and adaptation will also be included in this chapter. This chapter will provide the concept of theoretical framework. Chapter 3 contains the methodology of the study. The method applied and process of data collection for the study will be contained in this chapter.

After that, Chapter 4 will demonstrate the results of the study. The interpretation and analysis of the result will be shown in different ways such as chart view, bar chart or pie chart to have a clearer view of result.

Last but not least, Chapter 5 contains discussions about the result of the study. The chapter contains conclusions and limitations of the study too. The references for future research on the newspapers coverage on climate change mitigation and adaptation will also be included in this chapter.

Universiti Malaya

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter will encompass the theoretical framework of the research. It also includes the concept of climate change, media agenda, agenda setting theory and climate change health related issues. Besides that, the review of relevant literatures will also be examined in this chapter. Furthermore, the discussion of previous studies related with climate change and human health done by other scholars will be included in this chapter too.

2.2 Theoretical Framework

2.2.1 Conceptualising Climate Change and Media Agenda

Climate change is often referred to as changes in climatic averages and variability brought by global warming (Khan, 2011). The climate changes happened on a regular basis. However, even if extreme weather conditions occurred such as floods and droughts, it can be considered as climate change situation. A normal climate under normal situations may change over a period of several decades, while ‘climate change’ is caused by human behavioural by releasing the excessive greenhouse gas (GHG) heating up the atmosphere and causing drastic changes in climatic conditions (IPCC, 2013).

In the recent times, the climate change situation is getting worse which consists of the rapid change in temperature, rise in sea level, increased glacial and permafrost melting, frequency and length of extreme weather conditions such as floods, draughts and extremely hot weather. The information of climate change mitigation and adaptation issue should be delivered to the public respectively.

Nevertheless, climate change has the potential to change the climate and weather patterns in the world. Media has a significant role in educating and delivering the message

to the community on certain issues. Newspaper is an official pathway to expose the messages because people typically start their day with newspaper instead of reading journals. It cannot be denied that in our daily lives, newspapers provide a host of tips and information about the salience of the topics in the daily news. Newspaper coverage can have positive or negative impact on the specific issue.

Moreover, the public awareness on climate change and its coverage in the news media may be attributed to the increase the awareness among the public, which includes some environmental agenda such as carbon cycle, greenhouse gas emissions, global warming, melting of polar icecaps and rising of sea-level (Hart & Victor, 1993). In fact, the failure of delivering the messages to the public and leaders might cause the situation of climate change getting worse. It can be explained that when the people are enthusiastic to know the consequences of climate change, some attitude changes will lessen the harm to the environment.

In the case of climate change news reporting, there are some important practices that affect environmental news reporting which include the value or the newsworthiness of a story. Newsworthiness is the capability of a news story to attract the attention of the readers or viewers (A. Hansen & Cox, 2015). In order to determine the newsworthiness of a certain news story, the reporter or media gatekeeper will focus one or more of these following criteria that included prominence, timeliness, proximity, impact, magnitude, conflict, oddity and emotional impact towards the readers (Yopp, McAdams, & Thornburg, 2009).

As a result, the reporters think that they must fit or package the environmental problems according to these news value. For example, in reporting a climate change issue, a reporter might bring out the issue first then complete the story in a package which include the negative impacts of climate change crisis and include the voice of people,

interviewing with the members of public. Therefore, the reporter believes that it can attract the attention of the people as the issue is related with people daily life.

Furthermore, due to the impacts of climate change are getting serious from day to day, the awareness among the public is needed. Now, the media has become important to deliver message and even educate the member of public. The public awareness is the key role to mitigate the impacts of climate change. The public also need to know the ways to adapt the current climate change situation. On that count, media play a significant role in creating awareness about climate change among the public.

In the other way, all the media platforms such as television, radio, newspapers and new media spread the news and information rapidly. Therefore, the more coverage on the climate change issue, the more people will get the media impact on mitigation and adaptation of climate change matter. The media exposure can affect the public action and behavioural changes on climate change mitigation and adaptation. More specifically, the communication of climate change mitigation and adaptation issue between the scientists and policymakers to the public can be done via mass media. It can create a public understanding towards this environmental global issue.

However, back to the history of media coverage on climate change reporting, the earliest entry point of climate change coverage on media platform was happened on early 1900-an (Boykoff & Roberts, 2007). During the beginning stage of climate change reporting, there are some challenges facing by the media agenda which included state-control over the public opinion, lower literacy competency and limited development of technological (Starr, 2005). Due to the problems and challenges mentioned above, the media coverage of climate change mitigation and adaptation become insignificant and lower compared to the modern era.

Continuously, a study showed that between year 1986 and 1995, the scientific found that climate change mitigation and adaptation issue had become more popular and common in some of the popular newspapers such as The New York Times, The Wall Street Journal, The Chicago Tribune and Los Angeles Times (Zehr, 2016). When the climate change mitigation and adaptation issue become more popular on the media platform, it inspired the scientist and researcher giving new research topic and methodology while journalist are keen to know the salient of the topic.

On the contrary, the media provide information among people at a large quantity so that there is acceptance of any idea to create human interest. Media can showcase the information about climate change mitigation and adaptation, as well as to raise the awareness of the public as to prevent the situation of climate change getting worse. The media have the power to direct human attention towards certain issues. On that count, mass media play a key role in educating the members of public about certain issues. Media agenda is often determined through content analysis.

While it is true that the communication media is the dominant feature in human daily life. Media intend to convey information and to produce reactions. The purpose of news media in reporting certain issue is to engage the readers and viewers or even influence their way of thinking about the certain subject. One of the examples is the more climate change news appears on the newspapers, the readers will pay more attention on the specific issue. It is because it will stick to people's mind when they read more related news.

It cannot be denied that most of the people obtain information and news story through print media and even social media. But, the more accurate information and official news story are basically reported from official news media, whether it is on print or electronic media. Therefore, the media play its role to create awareness of issues related to climate

change for the public. Naturally, it is true that media have the ability to influence over the public's perception of climate change (Schmidt, Ivanova, & Schäfer, 2013). Understanding of a certain issue is being reported in this way can give important perception being framed into the public's mind.

However, during the environmental crises, the members of the public who must reach and adapt well to any negative effect, no matter on health or on other aspects of social and individual life. The media play a pivotal role in mitigation and adaptation of climate change. Through its agenda setting powers, the media hold the potential to educate the public about climate change and health. It is because the media can boost the alertness among the Chinese community while reporting the ways to reduce the harm of climate change and adaptive strategies to live well with climate change. When environmental crisis occurs, the policy makers are also urged to make serious commitment to mitigate climate change and take adaptive actions.

Nowadays, most of the people tend to rely on media especially the newspaper to find out the most accurate news happened around them and to form a public discussion among them on a specific issue. In their many forms, mass media have the potential to provide information, raise awareness, to educate and shape public behaviour (Bullock, Wyche, & Williams, 2001). When the readers are without direct personal experience or specific background knowledge of climate change issue, they might doubt the accuracy of the news. On that count, lack of information about climate change on newspaper might lead the reader to disbelief the existence of climate change crisis and low attention on awareness. Unfortunately, when the weather is extremely hot to fit their selfishness, the only thing that the people thought of is to turn on the air conditioning to reduce the heat. Therefore, media agenda can raise the awareness among the reader while reader can share the information among themselves.

Another distinction is the people understanding and behaviour towards the environmental crisis depend not only on environmental sciences but also on media representations and public conversation as well as ordinary conversation in daily life (Cox, 2013). The influencing of different media content, frequency, news slant on newspaper can lead the changing of readers' attitudes, views and behaviours. However, the traditional news media, the newspaper also face an ongoing crisis where people are learning about the information from new media such as social media, especially Facebook.

In addition, the media tend to emphasize different topics to be addressed by the media source. In reflecting an issue, the mass media may determine the important of the issue and the media may set the agenda of the issue (McCombs & Shaw, 1972). For climate change issue, the more attention will be given during some international climate change event such as Climate Change Conference, UN Climate Summit, Earth Day or Earth Hour.

Indeed, the media coverage of global issue such as climate change, AIDS or poverty has been widely discussed between media and the public. Over the years, climate change mitigation and adaptation issue has become a major topic of discussion. At the current situation, the average surface temperatures are expected to rise by 4°C by year 2100 (WHO, 2014a). The Earth's temperature is getting warmer from year to year. On the other hand, increasing the average temperature could also lead to more health problems such as heat stroke, heart attacks and other illness caused by the extremely temperature in Earth. Therefore, it is essential to communicate with the community to enhance their awareness and better understanding on the climate change issue.

Continuously, the long history of research towards the role of media in reporting environmental issues which includes climate change can trace back to year 1990

(Anderson, 2009). From that time, a huge range of studies regarding environment focus specifically on climate change issue. Recent years, many scholars and researchers are getting more interested in the topic of the way the media chose to report climate change issue. The climate change news bring out the accurate representation of climate change and some of the others reports has been mixed with science fact (Boykoff, 2007). Accordingly, this study suggests that in general, the media need to provide the discussion of climate change adaptation and mitigation way instead of providing the concentration of climate change situation.

For the reporting of climate change issue, peaks coverage of climate change on news media were between year 1990 to 1999 (Kiouisis, Mitrook, Wu, & Seltzer, 2006). This study found out that compared to year 1970 to 1980, the United States news media portrait more than 100 news stories on global warming between year 1990 to 1999. The researchers also found out that the peaks in coverage over this time could be linked directly to Kyoto Protocol 1997, which is an important policy events associated to climate change and connected with organization all around the world.

Therefore, it can be clearly seen that once there is any international policy or events about climate change, the reporting of climate change related issue would increase. On that count, it can raise the awareness and attention of the readers. A significant amount of news media coverage was shown and there was a very large media presence on climate change from more than hundreds of countries.

Moreover, public discourse and the media reports on climate change and its impacts have been categorised in two competing paradigms which tend to divert the reader attention from the central issues and their mitigation (Rashid, 2011). One of the characteristics is the coverage on climate change is replete with exaggerations which indicated the news media have the tendency to amplify the environmental risks, without

paying attention on the current situation of the issue. While the second characteristic is delivering the message, which related to the current climate change situation such as giving the data or mitigation ways that had been carried out by policy maker.

For instance, media play a role in portraying key events or information sharing of climate change. The news media constitute perhaps the most powerful transmitter of the original message. The media transfer the original message to the public via different platforms. News reporting can influence risk perception and public understanding on climate change (Corfee-Morlot, Maslin, & Burgess, 2007). Therefore, the community get the information about climate change issue directly from the local newspapers which are closer to the readers.

Significantly, the coverage of climate change mitigation and adaptation issue, the terms being used by the chief editor, journalist and sub-editor might also have the bias elements. Unfortunately, if the bias appeared in the newspapers, it can cause the misleading of the issue to the public. No matter how, the media intends to deliver the information and situation of climate change to the public in order to have a deeper understanding among the public concern.

When talking about the media agenda in dealing with certain issue, using news media in delivering the health messages and information has more impacts and effects compare with health campaigns (Carroll & McCombs, 2003). The level of news exposure on media platform such as newspaper and television broadcasting are much higher than health campaigns. In fact, it cannot be denied that the coverage of news might be small, but the impact to the public are huge. It is because the persuasion of news coverage may influence the audiences directly. For example, the current weather is hot and people will relate it to global warming and climate change provided that the audience had just received an information from the media platform.

In sum, while relate the climate change issue with newspapers, it is undoubtedly that climate change is one of the most important issues that human is facing today. News media is the platform for the people to understand what the people should do in dealing climate change issue.

2.2.2 Agenda-Setting Theory

The literature on agenda setting is voluminous and wide ranging. In recent decade, the influence of the powerful mass media became greater and their effect on public opinion has appeared. The broad scope definition of agenda setting involves the consideration of three related agendas which are media agenda, public agenda and policy agenda (Miller, 2005). Perhaps the most influential theory of media effects that applies to environmental news is agenda setting. Cohen (1988) suggested the idea of agenda setting to distinguish between individual opinion and the public's perception of the salience or importance of an issue.

Allowing that when an issue happened around people, the media can act as a transmitter to deliver messages to the population. Therefore, only the stories which considered as important and more newsworthiness compared with others news will be selected. In this process, the media gatekeepers play its role to select the important news. In sum, the media gatekeepers are the people who has the responsible to select or provide the news about any events happened during the specific period and region.

Therefore, the media gatekeepers need to decide what kind of news have the potential to attract the readers' attention. In order to select the news stories, the gatekeepers need to think from several and different angles which include how to place the news in suitable order to make sure it can bring more impact among the readers. For example, the gatekeepers need to decide to put the headlines on the front page of newspaper, right page of newspaper or even upper part of newspaper. Basically, the most important news will

be place on the front page to make it salient among the readers. Furthermore, the designing the positioning of the news story will be decided accordingly and different organization has a different in house news arrangement (DeFleur, 2010). Therefore, once the news had been selected, the editors and sub-editors will arrange the news accordingly.

In general understanding, the term “agenda” refers to the matter that normally discussed in a meeting, or issues that a certain group think that are important (DeFleur, 2010). According to Dearing and Rogers (1996), if the media gatekeeper hope an issue to be included in an agenda, the issue needs to be exposed more to the mass media before the issues can be considered as public issue. Therefore, to reach out the purpose in generating public’s attention on a certain issue, the news media need to provide a suitable platform in presenting the certain issue. On that count, the decision making is defined as agenda setting theory.

Eventually, agenda setting theory was devised by McCombs and Shaw (1972) in their research article. They defined that there is a significant between news media, public and policy makers. The position and attribution of news story can determine the prominence of the news story. To determine a certain issue’s salience in the public agenda, the agenda setting theory can be applied throughout the whole research.

However, according to Tham and Zanuddin (2012), the needs to reach out the messages to the public, media planners or media gatekeepers need to ensure that the media agenda used is absolutely correct. It is because once the media practitioners used the correct media channels, the message can be delivered more smoothly than expected. Once the agenda repeated as consistent and frequent as possible through the correct media channel, the message can be delivered out effectively. On the contrary, if the media use an inappropriate media channel to deliver the message, it automatically will not reach out to the public effectively. Same goes to the climate change news story, if the story was

delivered out through the wrong channel such as advertisement, people might not even care about this.

Accepting that the role of newspaper can shape the public ideas about important issues, personalities and social phenomenon. It can be explained that when an issue or event is reported via newspapers due to its newsworthiness, it becomes part of the media agenda. The effectiveness of media are recognised rather than persuasive elements (Dearing & Rogers, 1996). It is to understand that the readers or audiences would rather believe the main concern or issues delivered by the newspapers itself. They have a point of view that whenever news appeared in the newspapers are important. Eventually, the newspaper can give a greatest impact in forming and leading the public mind. On that count, the effect of media exposure towards an issue can be related to awareness of the public after receiving information from the press. Continuously, the attitude and behaviour of people will change following by the information received.

Still, the media agenda is the first stage of agenda setting theory, following by public agenda and policy agenda (Singhal & Rogers, 2003). The stages in agenda setting is a round circle and recycle. When media gatekeepers have selected an issue or news, for example climate change issue, then the issue mentioned above will attract the media attention in media agenda. On that count, with the higher coverage of the issue, the media agenda will guide to attract more public attention. The media agenda will make the issue to be salience among the public. Continuously, the policy agenda will then influence on media agenda and public agenda. Therefore, it is clearly seen that the agenda setting process are relying one to each other which include media agenda, public agenda and policy agenda.

In news reporting, it may not be successful to tell people what to think rather than telling the readers what to think about (McCombs & Shaw, 1972). It may well be the

news report of climate change mitigation and adaptation need to tell the readers what to think about and to give the opportunity for the public to form its perception. Anders Hansen (1991) also claimed that the media are able to play a potentially persuasive role in setting the agenda for the public concern about and awareness of environmental issues especially on climate change issue. For example, when climate change news appear in the newspapers, it will attract the people's attention but the heading must be attractive enough.

Furthermore, Dearing and Rogers (1996) define agenda-setting theory as the process of an ongoing competition among issue protagonists to gain the attention of media practitioners, the public and policy elite. In further explanation, it means that there is a necessary of differentiation clearly is needed between three different agendas which are the priorities of the media, those of the public and those of policy (Dearing & Rogers, 1996). The interaction for the agendas mentioned above might be complicated and generate effects in different direction.

Consequently, the power of media to set a direction or prominent of a news to focus the public attention towards a few different news is not an easy task at all. Hence, the readers or viewers also learn how much important to attach to a topic among the diverse types of news. The agenda setting influence of the news media is not only focusing public thoughts on a topic and the media have the responsibility to set the example.

On the other hand, the media also influence the next step in the communication process which is the understanding and perceptive on the topic in the news (McCombs, 2002). Malaysians have a closer relationship to mass media such as radio, newspaper or television as they prefer to be updated by the formal news and information through these media. Thus, the role of newspaper in media agenda become more complicated as the newspaper may become the prominent source of inter-media agenda setting (Weaver,

McCombs, & Shaw, 2004). For instance, the amount of news coverage in newspaper will affect the coverage of other news media such as television or radio.

Apart from that, the media agenda is the pattern of news coverage across major print and broadcast media as measured by the prominence and length of the stories (Griffin, 2011). For newspaper, the front-page headline story, a three-column story on an inside page and the lead editorial were all counted as evidence of major focus of an issue. It is because the front-page headline story will attract the people attention before reading the contents of the news.

Additionally, unlike the scientists or academic researcher, most of the people do not simply carry out on environmental issues research but they rely solely on media to act as the presenter of information. Therefore, the gatekeepers are important in news media. It is because the gatekeepers act as a filter to choose which stories to be published. Nonetheless, the quantity of media coverage is possibly the most important factor in generating public thought and opinion (Mazur, 1998). For an example, studies also shown that media coverage of an issue will influence the public judgements and salience. While it is true that the amount of coverage in newspaper will also affect the coverage in other media channels such as radio and television or even online news media.

No matter what, agenda setting theory gives an idea that media can give an impact to the public if the audiences or readers pay more attention in certain popular issues. On the contrary, the audiences will pay less attention on the issue which has less exposure from media platform. Audiences will aware the information highlighted by media and does not really care about the issue that has less highlighted by the media. Most of the research studies on agenda setting have measured the effect of media agenda on public opinion. However, the researchers keen to focus on media agenda which is concentrating more on the way of media portraying on climate change issue.

2.2.3 Climate Change and Human Health

Climate change is a remarkable and potential threat to public health. Most of the consequences of climate change would result to some physical changes on the earth such as the rise of the sea-level, higher earth temperature and changes in rainfall patterns. It cannot be denied that the most obvious health-related issue caused by climate change is directly from the heat of the surrounding. In fact, more people would suffer from heat stroke, heart attacks and other illness caused by the heat with the increase of heat waves.

Nowadays, public are paying more attention on climate change impacts which are related to economic, physical and political fields. But, people apparently forget the health-related issue from climate change. According to (Sherwood & Huber, 2010), because of the human has less tolerance of heat, most of the area on Earth surface may not be habitable by year 2300. This statement was made due to the underestimating the seriousness of climate change. On that count, with some of the effects from climate change such as sea level arise and economic slowing in future, it can cause the widespread of anxieties among human. This situation will also lead to the Earth partly or wholly become uninhabitable by human. Global climate change poses huge rises to the planet's existing life-support systems and conditions.

Unfortunately, the climate change happened for pass few decades will have a long-term negative impact on human health, ecosystem, water resources and every single life on the Earth even for the future time. Due to the climate change is happening now, the sea levels rising, low lying coastal regions will be flooded and lands will be threatened. Despite the climate change is getting serious from day to day, the situation mentioned above is not a prediction but it is actually happening from day to day as the situation of climate change are getting worst. This will also lead to the spread of vectors diseases and hot related deaths. If there is still appear future changes in temperature, it has the direct

and indirect potential impacts on human health on the Earth. For example, in Cambodia, during the rainy season throughout the year, the malaria cases increase and cause many people were being affected by the diseases.

On the other hands, Kerala, a state in Indian which displaced 1.3 million of people are facing the worse situation of global warming if the climate change situation continues to happen. According to Indian meteorologists, the monsoon rains will affect the farmers' livelihood and human health. In a recent research done by local scientists, a three-fold increase in widespread extreme rains during year 1950 to year 2017, leading to a large-scale of flooding. Continuously, the rapid warming in the Arabian Sea and nearby landmass causes monsoon winds to fluctuate and intensify for short spans of three-to-four days. During those periods, moisture from the Arabian Sea is dumped inland.

According to Stolbova, Surovyatkina, Bookhagen, and Kurths (2016), due to the climate change happened, the overheating of landmass leads to the intensification of monsoon rainfalls in central and southern India. The climate changes observed so far have occurred after an increase in Earth's average surface temperature of only one degree Celsius above the pre-industrial levels. Actually, the current climate change situation that can observed is the wet season is going to be wetter and the dry season will become drier.

Besides that, the 196-nation Paris climate treaty calls for capping global warming at well below 2 degree Celsius and 1.5 degree Celsius if possible. But at the same time, people and industry able to reduce greenhouse gas emissions, it would still see the global temperatures rise at least three degree Celsius. It cannot be denied that flooding is not the only problem faced by the living creature in the world, but also the population will face the health problem.

For the view of extremely wet and hot weather may bring to different kinds of illnesses. Floods are more frequently happened and it can lead to the vector-borne disease following by dengue, fostering fungus growth and chemicals into the water system (McMichael, Woodruff, & Hales, 2006). On the other hands, the prolonged droughts situation caused by extremely hot weather will promote the wildfires, which can cause injuries, burns, respiratory illness and even deaths. The situation mentioned above is the effect from the extreme temperature happened around the world. It is to understand that the dry season will be hotter while during the wet season, more floods will happen.

Consequently, by exposing people to dangerous heat waves and more extreme weather, climate change is having impact on human health. If countries and cities do not view the global warming seriously and urgently by mitigation ways such as carbon emissions, switching to renewables and electric cars, the climate change situation will only getting worsen. As mentioned above, excessive heat can make people feel dizzy, faint and unconscious. Extremely heat can also cause kidney problems due to dehydration. If the situation above continues without medical support, it can kill the people in the world. Therefore, this situation makes children, elder people and people with health conditions particularly vulnerable to rising temperatures.

Apart from that, the increasing amounts of greenhouse gases in the atmosphere and global warming or climate change can lead to more health concerns which bring some negative impact to the human health. According to a statement released by Intergovernmental Panel on Climate Change (IPCC), climate change is considered as to have wide-ranging and mostly adverse impacts on human health, the more serious can be loss of life. This statement can be explained that as the temperature on the Earth increase, similar to farmland, insects and other pests could migrate up to 550km. in fact, some of the insects might carry diseases such as malaria and dengue fever and migrant to another

place. On that count, an increase status in these insects will also increase the malaria and dengue fever disease among the human being.

Other than that, the extremely weather can cause malnutrition among the people especially children and elderly people. It is because increasing in temperature can cause drought and automatically drought can affect the crop production. Looy, Dunkel, and Wood (2014) has found that as the Earth become warmer and warmer, the insects that eat crops will be hungrier and there will be more of them. This will mean that less food will be provided on the dining table for the human and more insect are going to damage wheat, corn and rice crops.

On this issue, it can be explained that when temperatures around the world starting to increase and creeping up, the metabolism of insects will increase as well. Immediately after this, it will create a huge population of bugs that damage wheat, corn and rice crops. Unexpectedly, study also found out that the hotter weather will speedy up the bugs metabolism causing them greedy for more food like rice, grains and other plants.

Other than that, since 1990, the number of people who are facing malnutrition problem in 30 countries in Asia and Africa has increase from 398 million to 422 million. Increasing temperatures and drought can affect the crop production while each 2 degrees Celsius rise in temperate reduces global wheat production by 6 percent and rain grain yields by 10 percent (Nelson et al., 2009).

Furthermore, the extreme weather can be related to flooding and hurricanes. This can create a lot of health problems too. Floods can cause the spread of water-borne and mosquito-borne diseases. On the other hand, flood can impact the water quality for human health. Continuously, hurricanes can destroy crops and causing to food insecurity.

While climate change issue has a connection with human health, it is to understand that a range of risks would occur which included environmental migration, natural disasters, health hazards and others (Khan, 2011). The sector level of impacts are heat stress and heat related mortality, intense winter deaths, malaria and dengue fever, food and nutritional deficiencies. The physical and biophysical also includes overall poor health of human being especially for women and children.

The examples of projected climate changes include significant slowing of the ocean circulation that transports warm water to North Atlantic (Syed, 2009). Recently, the report also shown that large reductions in the Greenland and West Antarctic Ice Sheets. However, the probability of these changes occurrence is likely to increase the rate and duration of climate change. It might endanger the species on the Earth.

Other than that, a new study by United States scientists is looking at what happens to insect life as the global climate changes. When temperatures around the world start creeping up, the metabolism of insects increases, creating a ravenous population of bugs, according to the scientists. In year 2016, rice farmers in Thailand struggled when hot weather and severe drought affected their water supply. On this farm, the family tried growing rice strains which use less water and have a shorter life cycle, but the strain is not disease and bug resistant. Therefore, it can be clearly seen that climate change bring a lot of negative impacts to the human health.

During the year 2015, the western United States and Canada, vast areas of dead timber have replaced once lush green forests as the bark beetle eats its way through the wood. When temperatures around the world start creeping up, the metabolism of insects increases, creating a ravenous population of bugs, according to the scientists.

In fact, it cannot be denied that the most obvious health effect is directly from the heat itself. It is because with the extremely increase in heat waves, there would be more people suffer from heatstroke, heart attacks and other diseases by the heat. According to United States Environmental Protection Agency, in July 1995, a heat wave killed more than 700 people in the Chicago area alone. It might be long lost history, but it is indeed happened about 20 years ago.

On that count, it can be explained that the most obvious health effect is directly from the heat itself. With the increase of heat waves and heat trap in the atmosphere, there will be more human being will face the heatstroke, heart attacks and other disease caused by the heat. Imagine the human being future with global warming, hot conditions could also cause the smoke particles in the air to generate other harmful pollutant. Automatically, this will lead to an increase in risk of respiratory diseases such as bronchitis and asthma especially among the children and elderly people.

Besides that, the risk of respiratory diseases such as bronchitis and asthma have valid example. For example, when the heat is trapped in the atmosphere, the temperature surrounding the human being will be getting higher from day to day. Then, the high temperatures along with the dry weather conditions will led to extensive wildfires that will bring the negative impacts to the human being and also the animals in the forest. It is because as the emission of heat-trapping gases continue to rise and global average temperature continue to increase, there will be more related negative impacts continue to happen on the living creature.

Alternatively, the impact of climate change has been significant enough to endanger human health. It cannot be denied that the human health effect can be both directly and indirectly via heat stress, air pollution, rising sea levels, food and water security, extreme weather events such as floods, droughts, earthquakes, volcano eruptions, tsunamis or

hurricanes (K. H. Kim, Kabir, & Jahan, 2014). On that count, it can be seen that children and the elderly are the group of people who will be affected by the harmful effects the most due to climate change.

Accepting that health issues from climate change will occur from the extreme temperature, air pollution and infectious disease. A few hotspots of climate change and health has been determined by Patz and Kovats (2002). The consequences of climate change to human health including heat waves or air pollution, sea level rise, flooding, drought, El-Nino effects and highland malaria. Climate change serves as one of the greatest environmental and health challenges at the same time.

On the other hand, the global effect of climate change on public health will be a long-term run. The climate change health effects report has been done by World Health Organization (WHO). One of the reports shown that climate change is expected to cause approximately 250 000 additional deaths per year between 2030 to 2050. From the figures mentioned above, 38 000 elderly might deaths due to heat exposure, 48 000 due to diarrhea, 60 000 due to malaria and 95000 due to childhood malnutrition (WHO, 2014b). In fact, all the population will be affected by climate change, especially those children who are living in poor countries would be more vulnerable than others.

Besides that, it is clearly shown that the global warming causes the oceans to be warm and expanded, inducing the sea-level to arise (Syed, 2009). Eventually, the rising waters situation can lead to destroy the land habited by the people, in the end forcing them to move. When there are more people moving to inland areas, the populations density of inland area will increase and causing the rise in hunger and disease in some poor countries such as Bangladesh.

Nevertheless, to mitigate the current climate change issue, the cut down of greenhouse gases emissions from power plant, a shift toward solar, wind and less polluting natural gas are needed to reduce the health effect from climate change. It cannot be denied that the current climate is now rapidly changing and threatening the people, animals and living place.

In fact, climate change does not happen by default, but it occurs because of human selfishness. Therefore, people need to view the environmental crisis seriously to mitigate and adapt well for the current situation because the origin of climate change situation is the actions done by the human being such as open burning or emission of greenhouse gases. Thus, scientist have warned that the Earth might be just decades away from a rapid change in climate and it threaten humanity's health and existence. Inouye, Barr, Armitage, and Inouye (2000) concluded that the Earth will reach a climate tipping point when temperature are two degrees Celsius higher than now. In fact, the temperature and currently one degree higher and are on the rise from year to year (WHO, 2014a).

Other than that, the consequences of ten climate changes which also known as tipping elements are predicted when the global temperature rise above two degrees Celsius (Inouye et al., 2000). Apart from that, the consequences included release of methane trapped on the ocean floor, sea levels arise from the melting of the Greenland Ice, human health effected, dieback of rainforest and others.

In a nut shell, it is impossible to be certain that there will be any positive benefits of climate change and global warming. It is because some significant negative impacts are projected clearly and people need to show the concern about climate change, as well as attempts to mitigate the current climate change situation or adapt well to its effects. However, the negative impacts and effects of climate change will outweigh the positive effects which is cannot be denied by most of the scientists.

2.3 Review of Relevant Literature

2.3.1 Media Coverage of Climate Change

Media coverage of climate change has been discussed widely. Climate change considered as one of the environmental crises that became more prominent in the world for decades. Nowadays, people are getting any information from media platform. In this section, the previous research concerned with climate change issue will be analysed. Besides that, comparison will be drawn between the previous research and current research.

During the pass global effort in dealing with climate change problem, people concentrated on mitigation, which is reducing and stabilizing the greenhouse gases concentrations in the atmosphere. In the other words, it means that to reduce the emission of greenhouse gases to slower the situation of climate change. However, with the slow progress in achieving this target, adaptation was applied as an alternative option to reduce the vulnerability to the negative impacts of climate change and global warming.

Firstly, Schmidt et al. (2013) explained that climate change is a global phenomenon and its outcomes affect the whole societies around the world. So far, studies on media representations of climate change are mostly Western-centric. The study describes the development of media attention for climate change for 27 countries. Secondly, the study also compares the amount of media attention and explores whether it corresponds with the indicators measuring the relevance of climate change. As a result, the climate change coverage has increased in the 27 countries. Still, overall media attention levels are different among these countries. Malaysian Chinese print media had been selected as the main target to investigate the coverage of climate change mitigation issue towards the Chinese community to have a narrow and focusing attention.

In recent years, Malaysia print media industry is growing and fast expanding as the print media has become highly profitable due to the advertisement collected. For the reader of newspapers, there are many types of audiences from different age group, gender and interests. Actually, mass media play a key role in delivering and informing the public about the certain issues. The information function is important and most importantly is the strong linkage between the level of knowledge and participation in the various activities (S.-H. Kim, Scheufele, & Shanahan, 2002). In the other words, it means that the coverage of the climate change issue on the matters of connected with the people and scientists will involved in the discussion.

Besides that, Schmidt et al. (2013) also concluded that media attention is especially higher compare to the ordinarily time, the coverage of climate change news is higher if the countries took part with commitment in Kyoto Protocol. In fact, the news media are acted as “interpretative system” among the public and society. Therefore, media are important to raise the awareness among the public and acted as agent to disseminating information. Apart from that, media coverage also can increase the level of understanding and awareness of climate change mitigation and adaptation issue, ideally inform the individual and hope for a behavioural changing among the public.

In this research, it is also concluded that the pressure to engage in climate change and media attention are quite strong correspondence. The reason behind of the fact mentioned above is the news coverage closely related with the countries committed to Kyoto Protocol 1997. On that count, the higher media attention levels can increase the responsibility of public. This is also a positive sign for the climate change mitigation and adaptation issue. Research also suggested that in the future research, it would be better if focusing on role of mass media in shaping the public opinion on climate change mitigation and adaptation issue.

Besides that, Koh, Pereira, and Aziz (2013) claimed that there are three important platforms of climate change issue discussion which are science, media and policy. The three platforms mentioned above are significant in discussing climate change issue. In general, science is needed to strengthen the public's knowledge on climate change issue. For media, it is essential in communicating this knowledge to the community while the policy platform enables both science and media elements to get involved in addressing the climate change issue. The descriptive case study suggests that the climate change discussion is more likely to be driven by policy.

This study also reviews the evolution of the climate change by identifying the main platforms to express the ideas and opinion. Three platforms are selected in this research which are media, science and policy. On the media platform, the exposure of newspapers towards the climate change mitigation and adaptation are sketched. On the science platform, the theories related to greenhouse gases effect and enhancement is observed while on the policy platform, the decisions of United Nations relating to climate change mitigation and adaptation are noted. On that count, the three identified platforms of climate change mitigation and adaptation has a focus on different roles such as the media platform is the focus on climate change mitigation and adaptation news coverage.

From the result of the study, it shown that science, media and policy are three important platforms of climate change. The three platforms need to work closely together and important to each other. The media platforms play an important role in communicating the knowledge to the public. Without the media platform, the information and study from the scientist cannot be delivered effectively to the public and audiences. Besides that, without a science fact, the media also cannot portray the current news for the reader. While in Malaysia, the climate change mitigation and adaptation issue discussion are

more to driven by the policy and the media playing its role to deliver the policy information.

Other than that, another comparative of content analysis on a conservative and liberal newspapers was conducted in Chile by Dotson, Jacobson, Kaid, and Carlton (2012). The research aimed to look at the relationship between media industry, ideology and content of environmental news coverage. The content analysis compares the portrayals of climate change based on political ideology of the media. Apart from that, the role of newspapers in agenda-setting has become more intricate in the modern media environment. This study found a greater coverage climate change by liberal newspaper than in a conservative newspaper.

However, from the aspect of government and scientific knowledge, the newspapers focus more on the solutions than problems because the climate change issue has matured and scientists were no longer necessary to explain the science fact of climate change. There is a similarity between both research that carried out. The similarity between both research from this investigation and researcher's studies is the comparative between two newspapers. But, researchers only compare the same background and language of newspapers because different characteristic newspapers will have different types of news reporting for sure. The background of the research materials shall have the similarity to compare the portraying of climate change issue.

Furthermore, both newspapers which are conservative newspapers and liberal newspapers in the research above are using the words "climate change" and "global warming" to analyse the news content. According to the research, the role of newspapers in agenda setting has become more complex in the modern environment era compared with the beginning era of reporting climate change mitigation and adaptation issue. Elite newspapers shown to have the ability to influence the agenda of nonelite media, including

both local television and newspapers agenda and national newscasts (Protest & McCombs, 2016). On that count, the major newspaper coverage had a substantial impact on coverage of issue on broadcast news and this can magnify the agenda setting effect of newspapers.

While newspapers coverage can influence the public opinion and interpretation towards a certain issue such as climate change mitigation and adaptation issue, newspaper coverage virtually is influenced by the interplay between the news value such as relevancy, controversy and proximity (Carvalho, 2007). For an example, this can be proof when the climate change mitigation and adaptation news coverage is highly salient during a certain period, the policy maker will take a serious action on reviewing the issue while audiences will pay more attention on the issue mentioned above.

Back to the history of the research between climate change and media, the research on media and the environmental issue such as climate change and global warming since year 1970 has overwhelmingly focused on the news media and reporting on the impacts of climate change (Anders Hansen, 2011). Accordingly, this research intends to interpret the evidence that influence news media attention to the environmental news. Besides that, the studies contribute the understanding of media coverage on environmental issue, but also explain the roles of media and communication processes on climate change issue.

In one of the longitudinal studies by Escobar and Demeritt (2014) regarding the British newspapers coverage of flooding and flood management over the 25 years period which is from year 1985 until 2010. The study shows that the changes in amount of news coverage in term of relationship between the frequency of flooding happened and its news presence. In fact, there are differences between the public concern about the management of flood risk and news coverage. In this research, the media coverage can provide the insights of the news value and define the individuals which include the member of public

with the environmental issue. Same goes to the research, the researchers are keen to develop the relationship between news media coverage on climate change issue and regarding health-related issue.

In Malaysia, another media coverage on climate change issue has been conducted, focusing on Malaysia mainstream newspaper which are New Straits Times, Utusan Malaysia, Berita Harian and The Star. The newspapers chose to focus on two languages only which are Bahasa Malaysia and English. The results revealed that the coverage of climate change was effected by another global climate change event when the trend of newspaper coverages shows a dramatic surge in coverage during important events related to global climate change (Azmi, Omar, Zaid, Wahab, & Yusof, 2015).

For instance, it is rather insufficient to identify the coverage on selected mainstream newspaper to reflect the whole Malaysia community since the newspapers language selected are limited to English and Malay language only. Therefore, Chinese language mainstream newspapers with the highest circulation are selected as a comparative research material to focus specifically on reporting climate change issue.

Besides that, a similar research was conducted by Eskjaer (2009) to investigate regional variations in the international news coverage of climate change by comparing news reporting in two regional media systems that consists of two different newspapers in Denmark. In term of the methodology, the research used qualitative content analysis to qualitative differences on how the media approach and frame climate change. Eskjaer (2009) also claimed that quantitative content analysis only describes half of the story. On the contrary, qualitative differences can explain the editorial priorities or journalistic practices.

Furthermore, the findings from the research mentioned above shows a significant regional difference in the media coverage of climate change in terms of quantity and quality. The quantity indicated the number of news articles while quality signified the editorial variations, sources, framing and use of graphics. The research suggests that regional differences in climate change coverage can be traced back to the financial resources and journalistic fields of different regional media systems.

Consequently, Eskjaer (2009) also implied that the global climate change media coverage has mostly been documented by quantitative content analysis while lesser research using qualitative analysis to see how the media approach and frame climate change issue. However, the quantitative analysis can tell the story from the angle of qualitative differences, such as news genres, domesticity of the news, editorial practices and others. Therefore, by doing quantitative content analysis, it can determine the significance of quantitative variations on climate change news coverage in the newspapers. Generally, quantitative content analysis contains three essential elements which include objective, systematic and quantitative. The objective to analyse a message or context, formulated rules and procedures are with most importance as to avoid bias while categorizing and measuring the messages. The systematic analysis focuses on a consistently and systematically rules and steps in to analyse the contexts.

By acknowledging the importance of regional differences in international news reporting, the role and function of media coverage in reporting climate change is also important. If the media coverage is the main source for public understanding and risk perception of climate change, the news can lead to a perception of climate change and then take the appropriate action for the global action and problem. On that count, people can rely on the newspapers to know the exact information about climate change mitigation and adaptation issue.

Subsequently, in North American, Ford and King (2015) examine the coverage and framing of adaptation in influential newspapers between 1993 to 2013. Most of the research reflected the importance of media in affecting public opinion and policy but the understanding on how adaptation is being profiled in the media is limited. Therefore, this study will quantitatively examine the coverage and framing of climate change adaptation in four different North American newspapers. In terms of the news reporting, the adaptation remains overshadowed by stories on climate change impacts and mitigation. The importance of extremes in reporting adaptation coverage is only evident in recent year but not all coverage serves to generate adaptation attention. (Ford & King, 2015). In sum, the increasing salience of adaptation in the media these few years, adaptation content in newspapers remains in a minimal level.

Moreover, in the context of media coverage on climate change, there is a huge amount of research conducted on climate change communication. However, most of the research focus on western media, especially the United Kingdom and the United State of America (Schäfer & Schlichting, 2014). In sum, the previous research done by other scholars mostly focuses on two themes. One of the themes is how often climate change is reported in media agenda and another theme is how the climate change is portrayed in the media agenda.

Significantly, the public perception of certain issues is usually not only shaped by their own personalities or experiences but also shaped by the media agenda. This also means that the salience on the media can influence the public opinion. Therefore, Kakade et al. (2013) summarised that media platform is able to help people to get more information on climate change and its impacts towards the people health. Among the people in Bijapur City, India, television is the most popular media to know the information of climate

change, followed by newspapers, radio and internet respectively. In sum, the media plays important role in delivering accurate climate change message to the public.

Many people might doubt that is there any relationship between media usage and climate change awareness among the public? Be frankly, according to a research carried out by Arlt, Hoppe, and Wolling (2011), an integrated model has been created to explain the awareness of environmental problems which is climate change and people behaviour intentions for the problem mentioned above. The methodology used is representative survey. Besides that, the research not only focus on the effects of information usage but the different effects from variety media platforms. Hence, the result also shown that the media usage does have a certain influence on awareness of climate change problems and behavioural changes. On that count, the researcher keen to know only the distribution of media on climate change but not to interact with the public opinion and behavioural changes.

When public health information becomes a focus among the community, the media is important to explore the message to the public. The present climate change situation can threat the people health and the population on the Earth. On that count, climate change can lead to illness and even deaths among the people especially children and elderly people. In general, for an example, the extreme temperature can lead to dehydration and heat exhaustion among the population.

In a nut shell, media is the platform to deliver the climate change message to the public. Furthermore, the media and climate change issue can also interact in different ways. It cannot be denied that climate change coverage in media contribute the global flow of communication around the world. The relationship between media coverage and public awareness of climate change is broadly recognised, the more media coverage on climate change issue might have the impact of information transform to the public.

2.3.2 Climate Change and Agenda-Setting Theory

An agenda-setting perspective can help people to understand the current climate policy politics by determining the factors that will contribute to the climate change matter and stay high on the government or non-government sector (Pralle, 2009). For example, the climate change issue is high on a policy agenda after weather-related natural disaster but then slowly fade after politicians turn their attention to other issues.

Firstly, a research was carried out by Pralle (2009) discussed about the relationship between climate change issue and government policy. In the research, two agenda-setting models provide the ideas of how policy issue can maintain the climate change issue on public and policy agendas. The two agenda models are Kingdon (1995) 'streams' model of agenda-setting and punctuated equilibrium model (Baumgartner & Jones, 1993). The conclusion from the research found out that climate change needs a sustained political and policy attention in the future. The policymakers need to raise the salience of the issue with the public with certain strategies such as emphasise on the public concern on climate change issue.

In generally, an agenda setting perspective can help the audiences and readers understand the current climate change news and policy by identifying the higher exposure topic on media platform. Pralle (2009) assumed that keeping climate change issue on the front concern will create more awareness among the people including government policy makers. For example, when climate change is included in government agenda, it will become prominence among the politicians and more policy can be applied. For the readers and audiences which are the general public, indirectly they will pay more attention on climate change mitigation and adaptation issue.

In recent years, public lacks the knowledge regarding the basic of climate change issue. The people have less concern on environmental issue. One of the ways to inform and

educate the media about the information of climate change is through media platform. A press coverage on climate change has been conducted in Nigeria and agenda-setting theory is used to guide this research. It is clearly shown that the impact of media coverage on climate change in Nigeria is a lack of standard translation and understanding of climate change specific terminology as Nigerian has three major languages which are Igbo, Hausa and Yoruba (Batta, Aschong, & Bashir, 2013). The situation caused the people in Nigeria unable to receive the proper climate change information.

Furthermore, the research includes the content analysis of four national dailies in Nigeria. The results shown are from various aspects including frequency of reports from year 2007 to 2009, issues reported, frames and genre. A media agenda could influence both public and policy agenda on climate change issue. Another result shown that most of the news framing climate change mainly focus in terms of mitigation. In Batta's research, they recommend that the equal attention should be placed on climate change issue and political issue because climate change can affect the life, work, livelihood of Nigerians too.

Other than that, the power of media which is to set a direction according to the prominent of a news for the focus of the public attention diverge towards a few different news is not an easy task at all. The readers or viewers also learn the importance of attaching to a topic among the different types of news. Subsequently, the agenda setting influence of the news media does not only focus the public's attention on a topic, but the media also has the responsibility to set up the news coverage of climate change mitigation and adaptation issue.

On the other hand, the media influences the next step in the communication process which is the understanding and perceptiveness on the topic in the news. In Malaysia, most of the Malaysians approach mass media such as radio, newspaper or television to get formal

news and information. On that count, the role of newspaper in media agenda become more complicated as the newspaper may become a prominent source of inter-media agenda setting (Weaver et al., 2004). Similarly, the amount of news coverage in newspaper will affect the coverage in other news media such as television or radio.

In the same way, most of the people are aware the actions or measures that can be taken to reduce the emissions of carbon dioxide such as adopting cleaner sources of energy and increasing the use of public transport. These are some of the easy action that can help in mitigate the climate change situation. But, in fact, how many people are willing to give a helping hand for the Earth? This is an unknown question with no proper or exact answer.

In the meantime, climate change is a critical issue where came across a news evolution and now become less prominent among the members of public. People might not even care about the climate change situation and also the negative impacts caused by climate change. More particularly, the media are informed with the certain issue and tend to present both sides of a story, just like the climate change mitigation and adaptation issue.

In a nut shell, with the majority of people getting information through newspapers, television or internet, the media agenda creates awareness of issues related to climate change and established more response from the members of public. Most important, the people need to create an awareness action not only to mitigate the climate change issue but to adapt well the climate change situation.

2.3.3 Background of Sin Chew Daily and China Press

The major Chinese newspapers are Sin Chew Daily and China Press which have the highest readership and circulation compared to other Chinese newspapers in Malaysia. Sin Chew Daily, formerly known as Sin Chew Jit Poh, is a leading Chinese-language

newspaper in Malaysia. Sin Chew Daily was established in 1929. From the time when Malaysia was still a British colony, throughout the time of the anti-Japanese struggle and the independence movement, Sin Chew has played the role as a witness to history as well as being a participant. In October 2004, Sin Chew Media Corporation, the parent company of Sin Chew Daily was public listed on Bursa Malaysia

Until today, Sin Chew Daily is a publishing phenomenon. From the near liquidation at one time, it has risen to become Malaysia's best selling newspaper and become part of an enlarged media group which is the largest Chinese newspaper group in world outside of mainland China (Ou, 2009). Sin Chew Daily also become the leading Chinese news portal in Malaysia by offering a wide range of editorial and media directions.

Back to the time when Sin Chew Daily has its first publication, it expanded to become part of the largest newspaper circulation in China, Taiwan and Hong Kong. Besides being distributed in Malaysia, Sin Chew Daily is also published in neighbouring countries such as Thailand, Brunei, Indonesia and north Borneo.

Now, Sin Chew Daily adheres strongly to the principle of running the paper with a no-nonsense approach in conformity with universal and fundamental principles of journalism. To keep up with new development in this digital age and deliver news to the readers' fingertips, Sin Chew Daily have also set up online news portal which is 'Pocketimes' and English website.

To fulfill its social corporate responsibility, Sin Chew Daily does not resort to sensational or incendiary news reporting. Neither does it resort to tabloid journalism and invasion of privacy to sell newspapers. Although it was originally founded in Singapore, the newspaper has nevertheless over the years become firmly rooted in the country's history and identified with its aspirations, hope and sense of community.

On the other hand, China Press is a broadsheet format newspaper owned by The China Press Berhad. It was launched in 1946. China Press is the second-largest Chinese language daily newspaper in Malaysia with a daily circulation of 210,000. China Press is a Malaysian Chinese-language newspaper set up by Tun Henry Lee Hau Shik H. S. Lee and was first published on 1 February 1946. Its daily circulation had increased from year to year, making it the fastest-growing paper in Malaysia. Until today, China Press remains as one of the most popular newspapers as it is known to be unbiased in reporting news.

Some history of China Press is quite interesting as it was once been suspended for a month in year 1969 because the newspaper portray and report on the May 13th incident. Since 1990, China Press started publishing its evening edition. Then, it had the tagline of “Today News Tonight Know” where it provides and report the latest news for the public. Sold for RM1.30 per copy, China Press reports on local and international news which also includes sports, technology, entertainment, gossips and recipes.

Despite the growing popularity of social media and online news sources, China Press is still going strong. This is most evident with its evening edition where vehicles are always seen stopping at the side of roads to buy a copy from the vendors. This is because China Press is preferred by readers from the Chinese community who are more elderly.

Apart from that, it also contains the latest news and happenings in around the region. This simply means that China Press has an advantage in reporting news of the day in the same evening without having to wait for the next morning.

Despite being owned by Nanyang Press which is also a company linked with MCA, a political party and component within the ruling government, China Press remains as one of the most popular newspapers as it is known to be unbiased in reporting. As such,

readers are more receptive of what are being published in China Press as compared to other mainstream media.

2.3.4 Climate Change Health-related Issues

The effects of climate change are getting worse due to the rapid urbanization in many countries. Severe weather conditions have a direct effect on disease emergence, especially vector borne diseases. Other diseases linked to climate change patterns are deemed to be cardiovascular, respiratory infections and malnutrition in nature.

In generally, vector-borne diseases are illness that are transmitted by disease vectors, which include mosquitoes, ticks and fleas. Why climate change situation can relate to vector-borne disease? It is because when there is changes in temperature which is extreme temperatre, the huge range of diseases spread by vectors can lead to illnesses throughout the year.

According to (WHO, 2014a) , the release of huge quantities of carbon dioxide and other greenhouse gases is caused by human activities especially fossil fuels combustion over the last 50 years. The action prompted is to trap the extra heat in the lower atmosphere and caused the increase of global climate change. Basically, it cannot be denied that human actions are contributing more drastic in climate change issue. Besides that, climate change can also cause some diseases such as vector borne diseases, heat stroke, asthma, bronchitis or other health related issues and being harmful to the public.

For instance, the most obvious and directs effects of climate change include increase heat stress, floods, drought and more extreme events such as thunder storms (WHO, 2014b). Put aside the directly effects from climate change, there is also some indirect effects such as air pollution, the spread of diseases, population migration and some of the people might face the post-traumatic stress caused by the disasters mentioned above.

As the climate change situation continues, the Earth might become a very different and harsh place to stay in future time. Over the past few decades, the climate change happened from year to year, from day to day. But how does people pay attention and awareness on this issue? According to (WHO, 2014b), climate change can even lead to land degradation with available agricultural land falling by year 2050. It could also lead to the lack of water resources due to the extremely hot weather throughout the year. It is considered as serious consequences as the people's daily life is being affected by climate change situation.

In fact, all people around the world are being affected by climate change situation. Most importantly, people need to take action to mitigate and adapt the climate change situation. The impact of climate change is even more serious for the populations in some of the countries, where the health information and structure is less such as some of the backward countries in Asia including Bangladesh where drought has caused the decreased of food resources to be supplied to the human being. For example, Europe experienced summer heat waves during year 2003, with the warmest seasonal temperatures even recoded in Spain, France, Germany and Switzerland. During that time, the record shown that approximately 15,000 people died in heat wave during the summer season in Paris. Furthermore, extremely high temperature with drought happened around the western countries contributed to severe wildfires happened in Australia, southern California and British Columbia. Generally, the wildfires will contribute to affect people health beside coughing and trouble breathing, many people will experience headaches, sore throat and even tiredness. On that count, wildfire smoke can be harmful especially to the elderly, pregnant woman, children and those patients with chronic heart and lung diseases.

On the field of human health, many systems are affected by wildfire smoke, predominantly through the respiratory system. Cardiovascular effects and ocular

problems can also occur as well as acute burns. It is because both water and soil pollution can cause longer term threats to human and ecosystem health after a wildfire. As climate change helps push up the number of wildfires in the western of United State, communities face losing lives and properties to the flames. The smoke can trigger asthma attack or lead to a heart problem and more seriously will link to the development of cancer.

While climate change brings about negative effects on public health, adaptive strategies are needed to address negative health consequences. Adaption refers to adjustment in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities (McMichael, 2003). There are some control strategies that can help to protect population health against the threats of climate change such as administrative or legislative, engineering and personal behavioural. Administrative or legislative action can be taken by government while adaptive action may be encouraged on a voluntary basis via media advocacy and education.

A health content analysis is a useful tool to know how the media delivers health messages and how the readers receive the health information (Heinrichs & Peters, 2004). As aforementioned, climate change situation has a strong relationship with human health. The relationship and information should be delivered to member of public via news media. The information included amount of space related to health issues, format of the news, advertisements, graphics or visual.

Other than that, some of the potential outcomes of climate change include a rise in world temperature, sea levels and thunder storm (IPCC, 2013). Rising temperatures will affect the agriculture and industry. Apart from the development of agriculture and industry, climate change will cause increase the risk of respiratory disease. The most visible example is heatwaves around the world may lead to deaths among elderly due to heat stroke. The risks of respiratory and cardiovascular disease are increased because of

extreme temperature and air pollution. The higher temperature on Earth can lead to wildfire and then closely related it to air pollution. Apart from that, air pollution can cause the risk of respiratory and cardiovascular disease increase. The WHO (2014b) estimates that there are currently 245 million of asthmatics cases in the world. It is the most common disease among children, but it also causes the most deaths among the adult and elderly.

Other than the risk of respiratory disease, seasonal disease may occur among the human being. Viruses such as flu do not withstand extreme temperature and to be present for a relatively short period of time. As a result, seasonal illnesses could become more widespread throughout the year due to the extreme temperature.

Climate change does not only imply increased average global temperature but also lead to other diseases such as water-borne and food borne-disease. In generally, extreme weather-related events from climate change will bring negative effects on water availability, quality or posing a threat to human populations (Samad et al., 2012). In Malaysia, dengue is a highly endemic disease with its warm and humid tropical climate all year round. Therefore, the community need to be alert with the risk of diseases from climate change and get the basic understanding from media agenda.

The aftermath to mitigate and adapt to the impacts of climate change requires the concerted effect of various stakeholders. Key stakeholders include policy makers, the public and the media. It is reasonable that the media could be a platform for the change in terms of fostering positive behavioural change to adopt and adapt to the climate change. Based on a review of related literature, this should be particularly practical in Malaysia, which has a very vibrant media industry designed to serve the audience (Tham & Zanuddin, 2015). However, the research holds the role of media in delivering positive behavioural change and public health prevention against the threats of climate change remain largely unexplored.

Eventhough the impacts of climate change have the potential to affect human health around the world, there is a lot of ways people can do to prepare and adapt well to these changes. The actions and ways to be taken such as early warning systems for heat eave, taking step to reduce the emission of carbon, say no to open burning, spreading the climate change news among the community, ensuring the infrastructure is built to environment friendly to mitigate the future changes in climate. Most importantly, people need to understand the threats that climate change poses to human health to work together to lower the risk of climate change, which are mitigation and adaptation well.

2.4 Summary

This chapter provides the information and previous research done by other scholars on media coverage of climate change mitigation and adaptation. However, only media agenda on climate change mitigation and adaptation issue would be focus on this study.

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter discusses the method to be used in the research. Methodology refers to the technic used in a social sciences research to fulfil the criteria to answer the research questions. The method that is applied in the research is quantitative content analysis. Research methodology serves as the backbone of a research study.

3.2 Quantitative Content Analysis

Majority of the studies have focused on using the content analysis or survey instrument to analysis or interpret the media effects in distributing information to the members of public. Hence, the lack of media effects on quantifying the relationship between media and public has inspired the researcher to understand the relationship among these three components in health communication. In fact, quantitative research's main purpose is the quantification of the data.

According to Berelson (1971), content analysis is a research technique for the objective, systematic, and quantitative description of the manifest content of communication. Another scholar Holsti (1969) mentioned that content analysis is any technique for making inferences by systematically and objectively identifying specified characteristics of messages. While Kerlinger (1986) defined the content analysis as a method of studying and analysing communication in a systematic, objective, and quantitative manner for measuring variables. It allows generalisations of the results by measuring the views and responses of the sample population.

Generally, quantitative content analysis contains three essential elements which include objective, systematic and quantitative. The objective to analyse a message or

context, formulated rules and procedures are with most importance as to avoid bias while categorizing and measuring the messages. The systematic analysis focuses on a consistently and systematically rules and steps in to analyse the contexts.

Meanwhile, the quantitative concerns on such units of analysis in the study, such as the subject of the study, the measurement numeric values and instrument of the study standardized coding sheets and coding book. Indeed, content analysis method is used for qualitative and quantitative analysis of health-related topics covered in several communication media (Gupta & Sinha, 2010).

Furthermore, the quantitative focus on unit of analysis in the study. For instance, the subject of the study, and the measurement and instrument of study. Hence, content analysis method can be used in this study. In accordance to that, quantitative content analysis of climate change mitigation and adaptation issue appeared in Sin Chew Daily and China Press was conducted in this research.

To have a deeper understanding of this research, the research design plays an essential role in providing a clearer structure of the whole research. The research design in Figure 3.1 shows the background of the research method in content analysis the Malaysia Chinese newspapers news articles on climate change mitigation and adaptation with health-related issue. Apart from analysis the content of the news article, the way of portraying news content is also important.

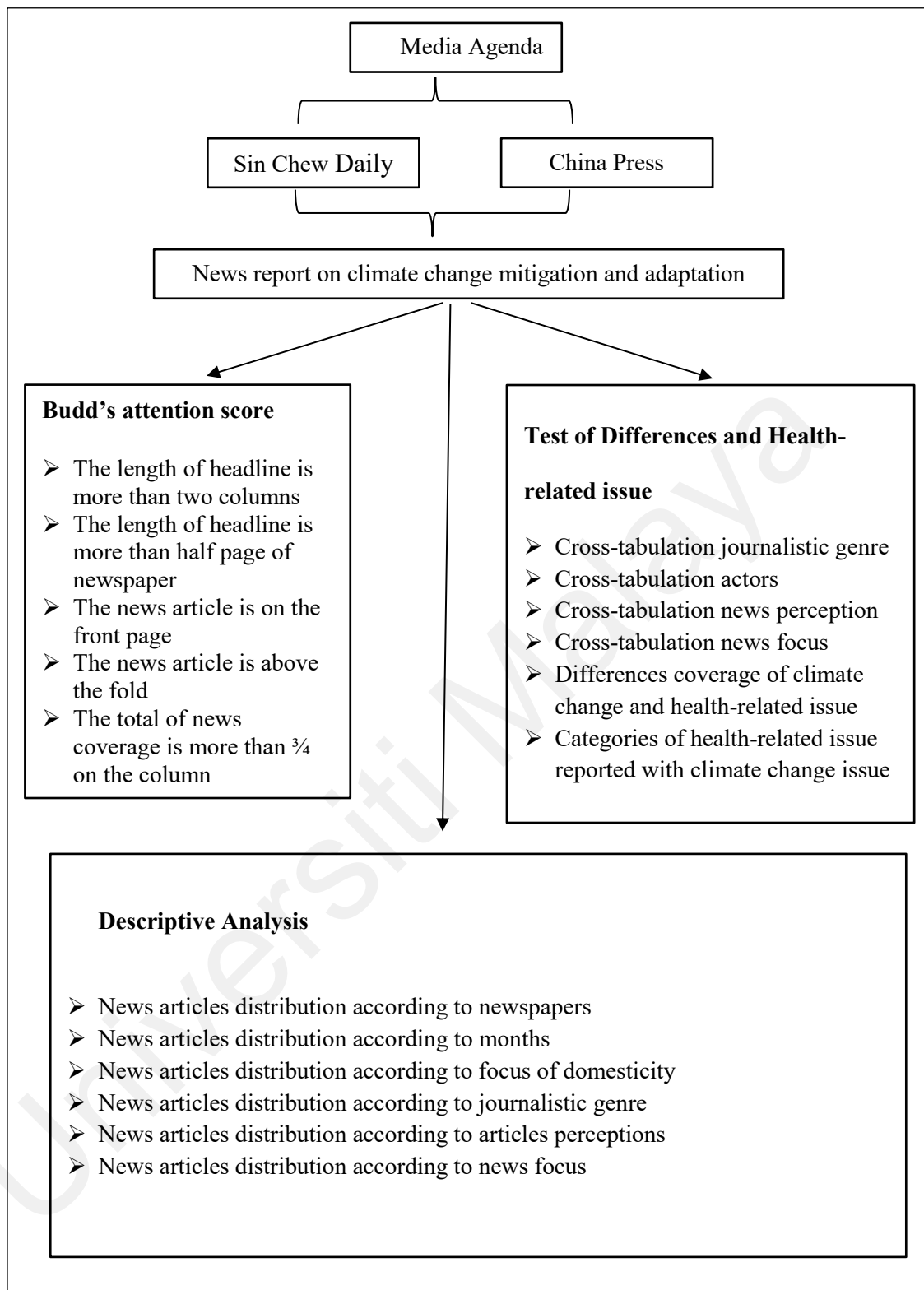


Figure 3.1: Research design. Adapted and modified from (Tham, 2014)

3.3 Sampling Procedure

The Chinese newspapers that will be used as research material are the major Chinese newspapers in Malaysia. The major Chinese newspapers are Sin Chew Daily and China Press which have the highest readership and circulation compared to other Chinese newspapers in Malaysia. Sin Chew Daily, formerly known as Sin Chew Jit Poh, is a leading Chinese-language newspaper in Malaysia. Sin Chew Daily was established in 1929. From the time when Malaysia was still a British colony, throughout the time of the anti-Japanese struggle and the independence movement, Sin Chew has played the role as a witness to history as well as being a participant.

Until today, Sin Chew Daily is a publishing phenomenon. From the near liquidation at one time, it has risen to become Malaysia's best selling newspaper and become part of an enlarged media group which is the largest Chinese newspaper group in world outside of mainland China (Ou, 2009). Sin Chew Daily also become the leading Chinese news portal in Malaysia by offering a wide range of editorial and media directions.

Back to the time when Sin Chew Daily has its first publication, it expanded to become part of the largest newspaper circulation in China, Taiwan and Hong Kong. Besides being distributed in Malaysia, Sin Chew Daily is also published in neighbouring countries such as Thailand, Brunei, Indonesia and north Borneo.

Now, Sin Chew Daily adheres strongly to the principle of running the paper with a no-nonsense approach in conformity with universal and fundamental principles of journalism. To fulfill its social corporate responsibility, Sin Chew Daily does not resort to sensational or incendiary news reporting. Neither does it resort to tabloid journalism and invasion of privacy to sell newspapers. Although it was originally founded in Singapore, the newspaper has nevertheless over the years become firmly rooted in the country's history and identified with its aspirations, hope and sense of community.

China Press is a broadsheet format newspaper owned by The China Press Berhad. It was launched in 1946. China Press is the second-largest Chinese language daily newspaper in Malaysia with a daily circulation of 210,000. China Press is a Malaysian Chinese-language newspaper set up by Tun Henry Lee Hau Shik H. S. Lee and was first published on 1 February 1946. Its daily circulation had increased from year to year, making it the fastest-growing paper in Malaysia. Until today, China Press remains as one of the most popular newspapers as it is known to be unbiased in reporting news.

Some history of China Press is quite interesting as it was once been suspended for a month in year 1969 because the newspaper portray and report on the May 13th incident. Since 1990, China Press started publishing its evening edition. Then, it had the tagline of “Today News Tonight Know” where it provides and report the latest news for the public. Sold for RM1.30 per copy, China Press reports on local and international news which also includes sports, technology, entertainment, gossips and recipes.

Despite the growing popularity of social media and online news sources, China Press is still going strong. This is most evident with its evening edition where vehicles are always seen stopping at the side of roads to buy a copy from the vendors. This is because China Press is preferred by readers from the Chinese community who are more elderly.

Apart from that, it also contains the latest news and happenings in around the region. This simply means that China Press has an advantage in reporting news of the day in the same evening without having to wait for the next morning.

Despite being owned by Nanyang Press which is also a company linked with MCA, a political party and component within the ruling government, China Press remains as one of the most popular newspapers as it is known to be unbiased in reporting. As such,

readers are more receptive of what are being published in China Press as compared to other mainstream media.

On that count, the information is important to deliver out and mass media play a key role in informing the members of public about the issues. Newspapers help readers become informed public and let the public make a better decision by providing a lot of facts. Same goes to the climate change mitigation and adaptation issue. On that count, newspapers connect the people to stay in touch with everyone around the world. They deeply touch everyone about important things and matter around the world. It is very important to spread knowledge to everyone because people can be knowledgeable and know more information about the climate change issue. Public and personal complaints are reflected from time to time in newspapers in the section of opinion or editorial section.

In this research, Sin Chew Daily and China Press were chosen based on their readership and circulation obtained from (*Media Planning Guide 2015*) which has 1,390,000 readerships and 364,739 circulations from 1st June to 31st December. China Press obtained 1,072,000 readerships during year 2015 which is after Sin Chew Daily. The figures are shown in Table 3.1 below:

Table 3.1: Readership and circulation for major Chinese newspaper in Malaysia

Daily Newspaper	2015 readership	Circulation 1st June - 31st December 2015
Sin Chew Daily	1,390,000	364,739
China Press	1,072,000	210,053
Oriental Daily	317,160	85,616
Nanyang Siang Pau	88,000	80,000

Furthermore, in the process of collecting news related to the research, a few keywords have been determined as the keywords that appear in the headlines or contains such as

“climate change mitigation”, “global warming” and “greenhouse effect”. The news that contains the above keywords will be selected as the research materials. For this study purpose, The University of Malaya Main Library, the Za’ba Memorial Library and The National Library of Malaysia provided both newspapers.

In sum, the analysing of the news was conducted from the front page of the newspaper to the last page, from the top to the bottom of the news, from the left of the page to the right to get the news related to the research. The keywords can be discovered from the news headlines, photo captions and the first three column of news. After some clarification of sampling selection, data analysis can be carried out when the data collection has done. Photos are important elements in the news as the photos can tell the background and story behind the news. Therefore, a news which attached with a picture or graphic can attract the attention of the readers.

3.4 Time Frame

Time frame is an important element in evaluating the feasibility of the research. The climate change mitigation and adaptation stories were examined from January 1st, 2015 to December 31st, 2016. Total news articles found from Sin Chew Daily is 183 and 103 news from China Press. The reason for choosing year 2015 for the time frame is because the global average temperatures in 2015 breaks a record by having the highest temperature compared with the previous year temperature in 2014 by increasing 0.13°C. According to independent analyses by National Aeronautics and Space Administration NASA and the National Oceanic and Atmospheric Administration (NOAA), Earth’s 2015 surface temperatures was the warmest since modern record keeping began in 1880. In a nut shell, the planet is getting warmer and warmer over the century.

In fact, heatwaves around the world, a huge sea level rise following by global warming, the Earth condition are getting so much worse. In addition, the local environment effects are happening as well such as crops dying before of the extreme temperature or the water sources are getting less. Unfortunately, people need to migrate from a place to a better place. Anyway, people can imagine all sorts of extreme examples leading by climate change, but people are tend to do something to mitigate and adapt the situation. Therefore, by analysing the continuous year 2016, the researcher is eager to examine the spotlight of the media to communicate with the community after announcing the hottest year ever in 2015.

3.5 Coding Book and Coding Sheet

Before starting the content analysis, coder would have to review and understand all elements and attributes in the coding sheet. Therefore, coding book and coding sheet are the important instruments to carry out the quantitative content analysis in the research. Coding book is prepared by the researcher as a guideline for the coder when carrying out the data collection procedure. The purposes of creating coding book are for the researcher to categorize the contents and also inter-coder reliability test. The coding book contained detailed instructions on how to do the coding process of the elements or variables. Similarity, the coding book can be served as dictionary which contains the definition of every variables.

On that count, the coder needs to understand the coding book completely to get more accurate finding. Coding can also be used to analyse different types of written or visual content such as newspaper stories, people's facial expressions or even television commercials.

The coding book has three sections, which are Section A: Basic Information, Section B: Budd's Attention Score 1964 and Section C: News content. In the process of collecting news, a few keywords had been established as the keywords that appear in the headlines or contains of the news articles such as "climate change" (气候变化 or "pronounce as qì hòu biàn huà") and "global warming" (全球暖化 or pronounce as "quán qiú nuǎn huà").

In the Section A, the basic information includes the analysed newspaper such as Sin Chew Daily and China Press. To differentiate it, the coder will remark 1 as Sin Chew Daily and 2 as China Press. The coder will also need to write down the date and headline exactly as it appears in the newspaper. The headline needs to be translated to English or Malay language for easier understanding. If there is a picture of photo caption attached together with the news article, the coder needs to record it clearly.

In the section B which is Budd's Attention Score (1964) section, there are five important criteria by Budd (1964) to examine the news salience and news prominence for both newspaper. The five criteria are length of headline is more than two columns, length of headline is more than half page of newspaper, the news article is on the front page, the news article is above the fold and the total of news coverage is occupied more than $\frac{3}{4}$ on the column. One point was assigned to any articles which has any of the criteria mentioned above.

For Budd's (1964) attention score section, there are five important criteria by Budd (1964) to examine the news salience and news prominence for both newspaper. The five criteria are length of headline is more than two columns, length of headline is more than half page of newspaper, the news article is on the front page, the news article is above the fold and the total of news coverage is occupied more than $\frac{3}{4}$ on the column. One point

was assigned to any articles which has any of the criteria mentioned above. To apply this model, simply add up the total score for every article. The data need to key into Microsoft Excel, then calculate the mean score from each category. Instead of using a calculator, use Microsoft Excel to do the calculator is more convenience. The data for Budd's attention score of both newspapers, Sin Chew Daily and China Press can be recorded.

As for example, the length of the headline is more than two column, one point was assigned to the article. Then, the length of headline is more than half page of newspaper, one more point was assigned. Thirdly, if the news article in portrait inside the newspaper pages, no point will be assigned. Continuously, the article is above the fold and total coverage is more than three per four on the column, two points was assigned. Therefore, the total Budd's Attention Score (1964) for the article is four points. At the end of the research, the total points will be calculated according to average. Due to the different layout of design on the newspaper, if the news article has a vertical headline, then the length of headline would not be assigned to the category mentioned above.

Furthermore, in understanding the newspaper design and the attention of a certain issue, besides the historical understanding and the evolution of newspapers, the media attention score can also be used, and one often used scale is by Budd (1964). Media attention scores start from score of zero to five depending on how and where the article is shown. Media attention scores focus on delivering the message more effectively, powerfully, with more profound impact. It reaches a maximum communication level with provided resources. It will hide the text written in a weak communication and put out photo or animations to attract attention to avoid misunderstanding of anything that is not clear.

Continuously, Section C for the coding book and coding sheet is other categories which included the background data and the contents of news article. In this section, the

background data of the news article such as news perception, focus of domesticity, journalistic genre and news focus are included in this section. Therefore, in the process of collecting news, a few words have been chosen as the keywords that appear in the headlines or contains of the news such as “climate change” or “global warming”. When the news articles contain “climate change” or “global warming” words no matter in heading of the news or contains of the news, the news article will be taken.

For the focus of domesticity, the news article can be divided into national, domestic and international. The national focuses on the local news article while domestic is only concentrating the issues on regional or state such as Johor or Selangor. International region is the news article that has its focus on the news out of Malaysia.

For instance, in the daily newspaper, there are many sections and each section fixate on different issues such as health, feature, event or point of view. The section of the news article will be recorded as well to distinguish the type of news. One of the important parts of this section is journalistic genre. The journalistic genre refers to the basic categories and styles of the standardization of news reporting (Zukas, 2012). Due to the rapid development of journalism, the number of news reports has increased. To determine the journalistic genre, it must be based on the actual needs of the audiences and the news content. There are differences between journalistic genre such as the structure, style and materials used to express the news. The journalistic genre is divided into news, interview, feature, opinion or the others.

From the categories mentioned above, the news is the pure news where it is a report about the climate change mitigation and adaptation issue no matter it is a local news or international news. An interview is a conversation where the questions are asked and answer are given by the interviewer. The feature is an exclusive articles or scoop news. There is another section which is opinion or editorial which is the view from the public

or journalist or even scientist. Other categories indicated the genre other than above which includes advertisement or comic strips.

While the online news platform and social media are spreading information more widely and rapidly, the growing of journalism might face some problems. For climate change information and news, the role of newspapers in reporting the issue above cannot be denied. In generally, some of the people will rely on newspapers to get some relevant and accurate information. Therefore, the newspapers still playing an important role in delivering the climate change messages to the public.

Next, the news depicts a pure news which is a report about climate change and mitigation issue. The interview is a conversation where the questions are asked by the reporter and answers were given. For example, the reporter can interview a doctor or scientist to get some relevant answer on climate change issue. Exclusives articles and scoop news are categorised as feature news in a newspaper. The newspaper will also have a section which providing a platform for the public and editor to voice out their point of views towards climate change issue. Sometimes, the member of public can share the mitigation way or some ideas about current climate change situation.

Besides that, health-related issues and categories of the health-related issues will be analysed in this section too. If the news article related to health, for instance, the increase of global temperature brings negative effects to human health, then the news article considers as yes to health-related issues. In sum, the categories of health issues include malaria, dengue fever, heatstroke, asthma and others health problems.

Additionally, in the coding sheet, simple “Yes” or “No” categories were chosen to measure the variables or categories. The coder has to clearly identify the categories are whether “Yes” or “No” according to the news articles selected.

To ensure a good quality of content analysis, the researcher need to understand and review all the contents in the coding sheet. The coder needs to refer coding book continuously during the content analysis process. After the data recorded in coding sheet, the data need to key into the Statistical Package for Social Sciences software (SPSS) and it is used by researcher to perform statistical analysis. For an answer of 'Yes', the coder would record '1' and '0' for answer of 'No' in the SPSS software. The data analysis via SPSS software provide an advanced statistical analysis and the proper methods to collect the data, employ the correct analyses and present the results effectively. (Kirkpatrick & Kidd, 2013)

No matter how, in the content analysis, coding book and coding sheet are equally important because the coder needs to use the coding book as a guide line and uses the coding sheet to record all the criteria of the news article.

3.6 Inter-coder Reliability Test

In getting the connection and the reliable of a research, inter-coder reliability test was conducted to avoid bias and subjectivity when measuring the content of a news. It is also a way to ensure the high quality and credibility research results. Overall, there are a variety of popular reliability tests such as Scott's π (Pi), Cohen's κ (Kappa) and others reliable test (Riff, Lacy, & Fico, 2014). In this research, Holsti's CR (1969) was applied in this procedure.

Ultimately, to achieve the minimum 70% level of agreement between the coders, inter-coder reliability test is important to act as a balancing instrument. If the agreement is less than 70%, the coding book and coding sheet must do amendment and simplify it.

Therefore, before the coding process, inter-coder reliability test was carried out to have non-bias perception while categorizing the news content. The formula is shown as below:

$$CR = \frac{2M}{N_1 + N_2}$$

where:

CR= Holsti's CR level of agreement

M= observed agreement

N₁= agreement of coder 1

N₂ = agreement of coder 2

After the calculation, inter-coder reliability test average scores for this study is 0.84 or 84% based on the Holsti's CR formula (Holsti, 1969) which implies both coders reached the level of agreement at minimum of 70%. The example of calculation of inter-coder reliability test for Sin Chew Daily by using Holsti's CR formula is shown as follow:

$$CR = \frac{2 \times 71}{90 + 90}$$

CR = 0.79 or 79% Sin Chew Daily

Therefore:

N₁ = 18 variables × 5 selected news articles from Coder 1 = 90

N₂ = 18 variables × 5 selected news articles from Coder 2 = 90

$$CR = \frac{2 \times 80}{90 + 90}$$

CR = 0.89 or 89% China Press

In sum, the inter-coder reliability test average scores for Sin Chew Daily and China Press is 0.84 or 84% % which is considered as significant.

3.7 Data Analysis and Hypothesis

Apart from descriptive analysis, inferential statistics analysis Chi-square would be used to make judgments of the probability that an observed difference between groups is a dependable one or one that might have happened by chance in this study. The statistic proposed for the test of hypotheses are as below:

H₁ There is a significant difference in association on media attention level in reporting climate change mitigation and adaptation issue among Sin Chew Daily and China Press.

H₂ There is a relevant difference in association on descriptive analysis in reporting climate change issues among Sin Chew Daily and China Press from different aspects such as focus of domesticity, journalistic genre, articles perceptions and news focus.

H₃ There is a significant difference in association on journalistic genre in reporting climate change issue among Sin Chew Daily and China Press.

H₄ There is a significant difference in association on the actors in reporting climate change issue among Sin Chew Daily and China Press.

H₅ There is a significant difference in association on news perception in reporting climate change issue among Sin Chew Daily and China Press.

H₆ There is a significant difference in association on news focus in reporting climate change issue among Sin Chew Daily and China Press.

H₇ There is a significant difference in association on coverage of climate change and health-related issue among Sin Chew Daily and China Press.

H₈ There is a significant difference in association on coverage the categories of health-related issue reported with climate change issue among Sin Chew Daily and China Press.

3.8 Summary

The chapter explain the methodology using by the research during data collection and draws out the steps that used to collect valid and reliable data for the present research. The whole process of data collection is explained well in the chapter. Quantitative content analysis is a useful way to explain the media portraying on certain issue. Through the proper research materials and methodology, the researcher able to answer the research question and relate the whole research back to the research objectives which is determined in Chapter 1.

CHAPTER 4: RESEARCH FINDINGS

4.1 Introduction

This chapter will present the results and findings of the research according to the research method which is quantitative content analysis. It includes the Budd's attention score, descriptive analysis, and comparison of Malaysian Chinese newspapers in reporting the climate change issue. To obtain greater understanding and insight view on climate change and health-related issue, the analysis of climate change and health-related issue will be included in this chapter.

4.2 News Articles Distribution

4.2.1 Sin Chew Daily and China Press News Articles Distribution

In term of news articles distribution on Sin Chew Daily and China Press, climate change issue portrays on both newspapers but Sin Chew Daily reported more news on climate change mitigation and adaption compared with China Press. Table 4.1 below shown the news articles distribution according to newspapers respectively and year which is 2015 and 2016.

Table 4.1: News articles distribution according to newspapers

Year	2015		2016		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Sin Chew Daily	83	64.3%	100	63.7%	183	64.0%
China Press	46	35.7%	57	36.3%	103	36.0%
Total	129	100.0%	157	100.0%	286	100.0%

In this research, a total of 129 news articles were analysed during year 2015 while for year 2016, a total of 157 news articles were collected. From the entire amount, Sin Chew Daily contributed a total of 183 news articles while China Press has contributed 103 news

articles. From the result shown, Sin Chew Daily has depicted more climate change news articles compared with China Press. From the detailed content analysis, it can be concluded that China Press highlights on more local and community news such as accidents, lifestyle, political news, crime and current news while Sin Chew Daily has the more variety choices of news.

As for the result, Sin Chew Daily and China Press have a different amount of news articles in year 2015 according to months. The result shown that Sin Chew Daily contributed more news articles on global climate change event such as Earth Hour during March while China Press only contributed 2 news articles during the same month. The Earth Hour news will portray the situation of whole Malaysia shopping complex or building in conjunction of this event. For example, Petronas Twin Tower will join the Earth Hour every year as well. Every year during the Earth Hour day, Petronas Twin Towers as lights were dimmed in Kuala Lumpur, Malaysia. As everyone know Petronas Twin Tower, so when the news portrayed in newspaper, people will get know about this significance event. Therefore, the messages can be delivery to the public and seek for their attention.

Other than that, the result also clearly shown that Sin Chew Daily and China Press has a different in-house news reporting way in climate change mitigation and adaptation issue. It is because the result shown that the different quantities of both newspapers in reporting climate change mitigation and adaptation issue are more than half. From the result, Sin Chew Daily are keen to have more variety of news by not only focusing on political issue but also raise up the public awareness by reporting the environmental issue.

When compared China Press and Sin Chew Daily, it is clearly to show that China Press has lesser attention on environmental issue. It is because China Press will focus more on political news compared with global news. The level of public awareness can be

influenced by news reporting coverage too. When more news coverage on climate change mitigation and adaptation issue portrayed on newspaper, it will become the hot topics among the public.

No matter how, the journalists will face some challenges especially when covering the climate change mitigation and adaptation news. In balancing the journalistic norm, reporting the climate change issue must have a balance point of view. The climate change problem is happening and it is a result of human activities, so coverage of climate change must reflect a balance view point from the public, scientists, policy makers, government and other sector in the related field.

However, the climate change coverage for Sin Chew Daily and China Press is on the rise even the world-wide coverage. Despite the increase in science and environment stories, in-depth coverage of scientific developments, technology solutions and political responses is decreasing by the day. In the end, media practitioners read dozens of stories and found little news analysis that explained how the climate talks would affect the global environment. Without strong reporting on climate change impacts and solutions, some scientists predict the public will become increasingly apathetic to climate concerns.

4.2.2 Monthly news articles distribution

Table 4.2: News articles distribution according to months

Month	2015		2016		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
January	14	10.9%	14	8.9%	28	9.8%
February	4	3.1%	4	2.5%	8	2.8%
March	13	10.1%	26	16.6%	39	13.6%
April	9	7.0%	13	8.3%	22	7.7%
May	9	7.0%	7	4.5%	16	5.6%
June	12	9.3%	14	8.9%	26	9.1%
July	13	10.1%	13	8.3%	26	9.1%
August	9	7.0%	16	10.2%	25	8.7%
September	8	6.2%	10	6.4%	18	6.3%
October	8	6.2%	9	5.7%	17	5.9%
November	10	7.8%	16	10.2%	26	9.1%
December	20	15.5%	15	9.6%	35	12.2%
Total	129	100.0%	157	100.0%	286	100.0%

Sin Chew Daily and China Press climate change news distribution will be also included in the result section. In term of news articles distribution according to months and years, both newspapers showed the most numbers of climate change issue news articles in March which is 39 news. This result is related to the Earth Hour which fall on 24th March. A lot of news regarding Earth Hour 2015 and 2016 were reported in both newspapers. The private and government sector support the Earth Hour event by set aside an hour to host environmental-friendly events that includes switching off their lights on the need for climate action.

Earth Hour is a worldwide movement organized by the World Wide Fund for Nature (WWF). Earth Hour is an annual event, usually held on the last Saturday evening in March, when millions of people and thousands of business worldwide turn off lights and shut down most electrical appliances to celebrate sustainability and show their support for strategies that will help solve the problem of global warming. WWF works with communities, governments and businesses worldwide to reduce greenhouse gas

emissions and prepare for the impacts of climate change. This is an important component of human conservation efforts to prevent further habitat and ecosystem services losses. In Malaysia, through Earth Hour, WWF-Malaysia is not only engaging corporations, individuals and communities, but also city councils, to support environmentally sustainable action.

On the other hands, news articles related to climate change for both newspapers are considered as peak season during month December even though it is less than March news distribution. This result can be related to the flood which happened nearly every year during the monsoon season. The most devastating natural disaster experiences in Malaysia is flood. During flood season, more news coverage on this issue is appeared on newspaper. When floods occurred, it will bring out a lot of impacts on people as it can disrupts their normal day activities and the impact can last for a few days or even a few weeks. According to National Financial Reporting Authority (NFRA), climate change is likely to make the floods situation even more challenging.

For Sin Chew Daily, the news article distribution achieved a highest reporting during December while China Press has a highest climate change news coverage during March. It is because Sin Chew Daily in-house reporting style more focus on social news which is related to the human daily life. Therefore, more floods and climate change issue are appeared in Sin Chew Daily during December. For China Press, it will portrait more politic news compared to social news. Therefore, the coverage of climate change on December is less than Sin Chew Daily. Besides that, during end of the year which is December has more news article is also because of many news regarding extreme temperature during December such as the temperature in Western country and China is extremely cold. Therefore, more climate change related issues were being covered by the

media. The reason may simply because of the 2015 Paris Climate Conference was carried out during end of the year which is November and December.

From the quantitative content analysis, it is clearly shown that both newspapers share a similar characteristic which the media attention level is influenced by global climate change events. Most of the news reported in the newspapers are connected with global climate change issue. During some global events such as Earth Day 2015 or Paris Climate Change Conference November 2015, the numbers of news appeared in newspaper are greater than the other months. Other than the conference news, people demonstration news will also be reported in the news. The environmental organization and a lot of people will have rally for action of climate change. This is considered as headline news and it will portrayed on the whole page of newspaper. So it will also effect the Budd's attention score of the result.

In sum, the news media have covered climate change news since late 1980s. although it is unevenly, but it clearly shown that climate change is a problem from a decade to another decade. The measure way of newspapers doing great in reporting climate change news is the frequency of news articles about climate change and global warming.

4.3 Budd's Attention Score

For Budd's (1964) attention score section, there are five important criteria by Budd (1964) to examine the news salience and news prominence for both newspaper. The five criteria are length of headline is more than two columns, length of headline is more than half page of newspaper, the news article is on the front page, the news article is above the fold and the total of news coverage is occupied more than $\frac{3}{4}$ on the column. One point was assigned to any articles which has any of the criteria mentioned above. To apply this model, simply add up the total score for every article. The criteria mentioned above can produce an overall "attention score" for each title (Budd, 1964). For Budd's (1964) attention score section, three categories have been determined which are according to months and newspapers. One point was assigned to any articles which has any of the criteria mentioned above. To apply this model, simply add up the total score for every article.

The data obtained from the both newspapers need to key into Microsoft Excel, then calculate the mean score from each category. Instead of using a calculator, use Microsoft Excel to do the calculator is more convenience. The data for Budd's attention score of both newspapers, Sin Chew Daily and China Press can be recorded and stated according to every months.

In understanding the newspaper design and the attention of a certain issue, besides the historical understanding and the evolution of newspapers, the media attention score can also be used, and one often used scale is by Budd (1964). For example, the length of the headline is more than two column, one point was assigned to the article. Then, the length of headline is more than half page of newspaper, one more point was assigned. Thirdly, if the news article in portrait inside the newspaper pages, no point will be assigned. Continuously, the article is above the fold and total coverage is more than three per four

on the column, two points was assigned. Therefore, the total Budd's Attention Score (1964) for the article is four points. At the end of the research, the total points will be calculated according to average. Due to the different layout of design on the newspaper, if the news article has a vertical headline, then the length of headline would not be assigned to the category mentioned above.

As stated earlier, the media attention scores start from score of zero to five depending on how and where the article is shown. Media attention scores focus on delivering the message more effectively, powerfully, with more profound impact. It reaches a maximum communication level with provided resources. It will hide the text written in a weak communication and put out photo or animations to attract attention to avoid misunderstanding of anything that is not clear. The total scores for each unit of analysis will be divided by the unit of analysis number to get the mean scores.

Table 4.3: Budd's attention score according to months

Month	Budd's Attention Score		Total
	2015	2016	
January	2.00	0.86	1.43
February	1.25	1.50	1.38
March	1.46	1.77	1.67
April	3.22	2.00	2.50
May	3.00	2.43	2.75
June	1.33	2.00	1.69
July	2.62	1.85	2.23
August	0.89	2.13	1.68
September	2.25	1.50	1.83
October	3.38	2.22	2.76
November	2.60	1.94	2.19
December	1.00	1.87	1.37
Total	2.08	1.84	1.96

Table 4.1 show Budd's attention score according to months during year 2015 and 2016 respectively. During year 2015, the highest Budd's attention score falls on October for

both newspapers and the total for whole year is 2.08 which contain of 286 news articles in total. For year 2016, the total of Budd's attention score is 1.84 while the month with highest score is May. Budd's attention score can determine the prominent of a certain news story.

Accordingly, in term of newspapers, the result clearly shown that Budd's attention score on 2015 is slightly higher than year 2016. It might be related to the situation on that time and the media practitioner emphasis more news story on the upper part of newspapers as they believe that it can attract the readers' attention. It is because the longer headline is used to highlight the news story so that people will read the headline following by the news story.

Back to the background of Budd's attention score, the five criteria are length of headline is more than two columns, length of headline is more than half page of newspaper, the news article is on the front page, the news article is above the fold and the total of news coverage is occupied more than $\frac{3}{4}$ on the column. One point was assigned to any articles which has any of the criteria mentioned above.

Table 4.4: Budd's attention score according to newspapers

Newspaper	Budd's Attention Score		Total
	2015	2016	
Sin Chew Daily	2.34	1.95	2.13
China Press	1.37	1.61	1.50
Total	1.86	1.28	1.81

As shown in Table 4.2, Budd's attention score (1964) for Sin Chew Daily during year 2015 obtained 2.34 while China Press obtained 1.37 only. Continuously, during year 2016, Sin Chew Daily obtained 1.95 while China Press has 1.61. The total of Budd's attention score for both newspapers related to climate change mitigation is 1.81. The

overall Budd's attention score for Sin Chew Daily is more than China Press which are 2.13 and 1.50 respectively.

The result shows that the attention score is very low on climate change issue for China Press. Sin Chew Daily obtained a higher score because most of the news related to climate change mitigation has achieved more spread in the newspaper. On that count, the result is slightly related with the floods happened in Malay Peninsular and some areas in Sabah during December 2014 and Sin Chew Daily highlighted most of the news related with floods on the front page of the newspaper. Sin Chew Daily journalists also have more attention on Paris Climate Change Conference November 2015.

Continuously, overall from the quantitative content analysis, China Press pays less attention on environmental news compared with the current news such as political news or breaking news. Apparently, the editor decided to put more effort on political news or breaking news because China Press in-house prominence focus on political news which the editor thinks that the political issue is public concern. Therefore, in order to attract the readers, they need to understand the target audience background and following by current situation.

Nevertheless, all the media platforms such as television, radio, newspapers and new media spread the news and information rapidly. Therefore, the more coverage on the climate change issue, the more people will get the media impact on mitigation and adaptation of climate change matter. The media exposure can affect the public action and behavioural changes on climate change mitigation and adaptation. More specifically, the communication of climate change mitigation and adaptation issue between the scientists and policymakers to the public can be done via mass media. It can create a public understanding towards this environmental global issue.

Table 4.5: The criteria of Budd's attention score according to newspapers

Criteria	Sin Chew Daily	China Press	Total
The length of headline is more than two columns	94 (51.37%)	36 (34.95%)	130 (45.45%)
The length of headline is more than half page of newspaper	76 (41.53%)	33 (32.04%)	109 (38.11%)
The news article is on the front page	12 (6.56%)	10 (9.71%)	22 (7.69%)
The news article is above the fold	129 (70.49%)	47 (45.63%)	176 (61.54%)
The total of news coverage is more than $\frac{3}{4}$ on the column	78 (42.62%)	29 (28.16%)	107 (37.41%)

Next, the criteria of Budd's attention score will be examined accordingly by divided into five different categories which are the length of headline is more than two columns, the length of headline is more than half page of newspaper, the news article is on the front page, the news article is above the fold and also the total of news coverage is more than $\frac{3}{4}$ on the column.

In terms of both newspapers, most of the news articles which is 70.49 percent of the climate change news articles in Sin Chew Daily able to be positioned above the fold of the newspaper. The same situation goes to China Press news articles which has a total of 47 news articles appeared above the fold of newspaper. This research findings show that there is not much difference in terms of the attention score criteria "the news article is above the fold". It can be concluded that both newspapers portrayed most of the climate change news above the fold of newspapers. From the result, it can be concluded that the climate change news portrayed above the newspapers. When people read the newspaper, first thing came to the eyes is the news above the newspaper. Therefore, it can leave an impression to the readers when the news reaches their minds. So, the editor and sub-editor will require to put the important news on the above place of newspaper.

Besides that, a total of 94 news articles from Sin Chew Daily and 36 news articles from China Press published the news articles with “the length of headline is more than two columns”. Continuously, another attention score criterion is “the length of headline is more than half page of newspaper”, Sin Chew Daily acquired 41.53 percent of climate changes news while 32.04 percent from China Press. Despite of how the climate change issue is viewed seriously worldwide, Sin Chew Daily placed only 6.56 percent of the news article on the front page to attract the public’s attention on the issue while China Press placed 9.71 percent of the news article on front page, which is slightly higher than Sin Chew Daily.

In examining the last criteria of the attention score, a total of 42.62 percent of the climate change news articles in Sin Chew Daily which the total of news coverage is more than $\frac{3}{4}$ on the column compared to only 26.16 percent by China Press. It can be seen that Sin Chew Daily will coverage more climate change news compared with China Press on a newspaper page. On the big sheet of newspaper, climate change news issue can occupy almost a full page is consider as important news. Occupy more space on newspaper can directly attract the attention of the reader. With some graphic or interesting photo added, the news will leave deeper impression for the reader.

The Budd’s attention score criteria can be used to examine well the media attention level of climate change issue. The system can overcome the media limitations by examining the several differences news presentation in reporting the climate change mitigation and adaptation issue.

4.4 Malaysia Chinese Print Media Coverage Trend on Climate Change Issue

4.4.1 Focus of domesticity news articles

Table 4.6: News articles distribution according to focus of domesticity

Year	2015		2016		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
National	38	29.5%	53	33.8%	91	31.8%
Domestic	41	31.8%	42	26.8%	83	29.0%
International	50	38.8%	62	39.5%	112	39.2%
Total	129	100.0%	157	100.0%	286	100.0%

Next, the news articles distribution according to the focus of domesticity will be recorded in this research. Table 4.6 shows the news articles distribution according to focus of domesticity. In this category, there are three category which are national, domestic and international news. The national news indicated the news take place in whole Malaysia, domestic means the news is related to a certain state such as Johor, Penang or Selangor. The international news is the news that reported out of Malaysia and happened in the other countries such as Singapore, United State of America or even Africa country.

Consequently, the detailed quantitative content analysis indicated that in year 2015 and 2016, both presses had similar numbers in reporting climate change news in both years recorded the highest news in reporting international news which are 50 news articles and 62 news articles respectively. For the result, the news articles are mostly focused on international news with a total of 112 news articles for both years. On the other hand, during year 2015, both newspapers have less focus on National news while year 2016 has less focus on Domestic news.

In generally, domesticity plays an important role in news as a significant element that the actor as the news source originated from local people such as politicians, government official or ordinary Malaysian citizens. Eventually, it will give an impact of closeness of

the issue and people. However, the international news will bring in the related news on climate change issue, but it creates a distance and far-fetch policies' impact towards the people. Some of the news that covered extreme temperature or flash flood which is closely to Malaysian citizens will carry out more significance to the readers because the disaster happened in Malaysia and it is more relatable as it affects their daily life.

Furthermore, international news is the news from other country, about a country or a global subject. For example, Sin Chew Daily portrait climate change news happened in Singapore and this is considered as a country reported a global subject which is climate change mitigation and adaptation issue. If there is a conference or forum of climate change happened in Singapore, then the news will be considered as international news.

In generally, the comparison between international news and local news is the international news might bring far apart from the people because the news is not happened around the reader. If the local news is portrayed in the newspaper, this will bring a closer relationship between the reader and the news.

Basically, what we know about the world is largely based on what the media decide to tell us. More specifically, the result of this mediated view of the world is that the priorities of the media strongly influence the priorities of the public. On that count, climate change is a global issue and people might not take it seriously. Media coverage may increase the community awareness and ideally fostering the community to take adaptive action on climate change issue.

However, climate change news in both Chinese newspapers which are Sin Chew Daily and China Press focus more on international climate change news such as the climate change protest happened in Paris. Due to the climate change issue is getting complicated

and severe harm on human populations, the people will rebel and fight against the climate change if the situation continues without any awareness from the public.

On that count, some of the example climate change international news included The National Aeronautics and Space Administration (NASA) statement or scientific fact, Conference of Parties regarding climate change issue or even how the United State carried out some effective ways on the issue of greenhouse gas emissions from power plants, and a shift toward solar, wind and less polluting natural gas.

4.4.2 News articles distribution according to journalistic genre

Table 4.7: News articles distribution according to journalistic genre

Year	2015		2016		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
News	97	75.2%	121	77.1%	218	76.2%
Interview	2	1.6%	4	2.5%	6	2.1%
Feature	8	6.2%	14	8.9%	22	7.7%
Opinion/ Editorial	20	15.5%	17	10.8%	37	12.9%
Others	2	1.6%	1	0.6%	3	1.0%
Total	129	100.0%	157	100.0%	286	100.0%

Table 4.7 shows the news articles distribution according to news genre which include news, interview, feature, opinion or editorials and others. News is the pure news where it is a report about the climate change mitigation and adaptation issue. An interview is a conversation where the questions are asked and answer are given by the interviewer. The feature is a exclusive articles or scoop news. There is another section which is opinion or editorial which is the view from the public or journalist or even scientist. Other categories indicated the genre other than above which includes advertisement or comic strips.

From the result, during year 2015, both newspapers reported 97 news articles while publishing more news articles on year 2016 which is 121 news articles. From the result, it can be seen that the growth of climate change news articles is considered as strong because there is an increment of 24 news articles on climate change mitigation and adaptation issue.

News genre for both newspapers are similar and they concentrated on reporting pure news in newspapers. Pure news is the newly received information, especially about the recent events happened among the people. Literally, newspaper is a platform to deliver the message to the public in order to create awareness towards climate change mitigation and adaptation ways. It is also a way to deliver the exact situation of climate change. Therefore, Sin Chew Daily and China Press deliver climate change mitigation and adaptation news to the public.

The opinion or editorial category is the second highest news contribution which is 37 news for both years. The opinion or editorial category indicated the view from public or editor. The opinion or editorial genre is related closely with news genre because the public or editors always voice out their opinion after the news related with climate change has been reported. When recent events are closely related with climate change, the public and editors will voice out their opinion and write an article published in the opinion column.

Basically, the opinion from public and editors from Sin Chew Daily and China Press is heighten to encourage or educate the community with the climate change mitigation ways such as 3R activities, power saving or reduce emission of carbon dioxide. The other categories indicated the advertisement or comic in the newspapers.

On the other hand, during year 2015 had only two environmental advertisement while year 2016 had comic strips related with way to mitigate climate change issue which has

been categorised in others category. The comic strips related with way to mitigate climate change issue can raise the awareness among the younger in a more attractive way. To achieve any kind of positive climate change situation, the comic not only bring out the funny statement but also tell reader the exact situation of climate change.

Furthermore, some of the news reporters think that they must fit or package the environmental problems according to these news value. For example, in reporting a climate change issue, a reporter might bring out the issue first then complete the story in a package which include the negative impacts of climate change crisis and include the voice of people, interviewing with the members of public. Therefore, the reporter believes that it can attract the attention of the people as the issue is related with people daily life. The news type mentioned above also appeared in the both newspapers where during some international climate change events, the pure news will be portrayed on the newspaper while opinion from the editorial will be published on the opinion section as well.

Due to the impacts of climate change are getting serious from day to day, the awareness among the public is needed. Now, the media has become important to deliver message and even educate the member of public. The public awareness is the key role to mitigate the impacts of climate change. The public also need to know the ways to adapt the current climate change situation. On that count, media play a significant role in creating awareness about climate change among the public.

4.4.3 News articles perceptions on climate change issue

Table 4.8: News articles distribution according to article perceptions

Year	2015		2016		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Positive	34	26.4%	54	34.4%	88	30.8%
Negative	46	35.7%	77	49.0%	123	43.0%
Neutral	49	38.0%	26	16.6%	75	26.2%
Total	129	100.0%	157	100.0%	286	100.0%

The climate change news portrayed in the newspapers can be divided into different categories of new perceptions, which divided into positive news, negative news and also neutral news. From the result of the research, as shown in table 4.8, for year 2015, among the total of 129 news articles, both newspapers portrayed a neutral perspective of news articles which contributed 49 neutral news (38%), followed by 46 negative news (35.7%) and 34 positive news (26.4%).

Consequently, during year 2016, the journalists pressed on more negative issue articles which consisted of 77 news articles (49%). There are some of the justifications of positive news articles which included the situation of climate change has improved, efforts to solve or reduce climate change issue, positive feedback for global warming or well adaptation for climate change issue while negative justifications are reversed from the positive feedback mentioned above. The negative justifications included situation of climate change is getting worsen, global temperature increase, negative impact of global warming, more droughts and heat waves and the news mentioned about the diseases caused by climate change issue.

In fact, there are many criticisms that the media publish too much negative news for the readers. Same situation goes to Sin Chew Daily and China Press. There is more negative news were portrayed to the readers. Therefore, by highlighting the negative outcomes of climate change can create a deeper awareness among the readers. When they

realised that the climate change situation is getting worsen, they will take some proper action and spread the information to the other people. The news salience which are positivity and negativity of news stories has been shown to impact consumers.

On the contrary, the positive news can bring more hopes and happiness to the readers, but the current climate change situation is not suitable for positive comments and news. The news articles perception plays a significant role in affecting the readers' minds and positives news can make the readers feeling good or better. Highlights a positive outcome of a negative event may present a practical way for media outlets to maintain the time-honored surveillance function of negative news yet also reap the affective benefits of positive news.

In the total climate change news coverage during year 2015 and 2016, most of the climate change news is reported in negative way. The effect of negative news content on the newspaper can make the people more worries about the situation. The negative news genre on climate change issue include some of the criteria such as situation of climate change is getting worsen, global temperature increase, negative impact of global warming, more droughts and heat waves and listing down the diseases caused by climate change issue.

At that point, the example of a negative news is the news content can bring out the anxiously feeling of the readers. One of the news that shocking most of the readers a news that polar bears are starving because of climate change and global warming. In the news, there is a photo clearly shown that the bear has a very thin frame and protruding bones. Without any doubt, the polar bear been starving for an extended period of time. From this point of view, people will start to get attention on climate change issue and starting to do some mitigation ways to save the living creature in this Earth including the human population.

Furthermore, from the detailed analysis, both newspapers also use a unique way to report the climate change issue. Sin Chew Daily concentrated on more adaptive ways to mitigate climate change issue while China Press focused more on the negative effects of climate change to the community. Therefore, no matter negative or positive news, the more news portrays on newspapers, the more attention will be given by the readers. The media plays a critical role in communicating this knowledge to the public and the media platform can deliver exact message and information of climate change to the public.

4.4.4 News focus on climate change issue

Table 4.9: News articles distribution according to news focus

Year	2015		2016		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Flood	13	10.1%	9	5.7%	22	7.7%
Flash Flood	7	5.4%	4	2.5%	11	3.8%
Extreme Temperature	25	19.4%	34	21.7%	59	20.6%
Droughts	6	4.7%	15	9.6%	21	7.3%
Diseases	1	0.8%	4	2.5%	5	1.7%
Air Pollution/ Haze Problem	11	8.5%	11	7.0%	22	7.7%
Sea Level Rise	2	1.6%	6	3.8%	8	2.8%
3R Activities	19	14.7%	25	15.9%	44	15.4%
Reduce Emission of Carbon Dioxide	29	22.5%	29	18.5%	58	20.3%
Glacier Collapses	1	0.8%	11	7.0%	12	4.2%
Others	15	11.6%	9	5.7%	24	8.4%
Total	129	100.0%	157	100.0%	286	100.0%

Table 4.9 shows the news articles distribution according to focus of news. From the result, year 2015 reported the highest news articles related with reduce emission of carbon dioxide which has 29 news articles out of 129. On the other hand, year 2016 focused on

reporting the extreme temperature especially the higher temperature during June and July 2016 in Malaysia which is a total of 59 news articles out of 157 news articles. Both years have different news focus in reporting climate change issue.

Continuously, during year 2015, both newspapers reporting highest news articles related with reduce emission of carbon. This is a way to mitigate the climate change situation. In fact, the excess gas is the main cause of global warming and climate change due to the greenhouse effect. Nevertheless, the climate changes are linked to the level of carbon dioxide and other greenhouse gases in the atmosphere, it is caused by human activities such as fossil fuels burning for the purpose of generating energy.

On the other hand, during year 2016, the news reporting changes the reporting way which is more to the bring out the fact of extremely weather on the Earth. People are discussing the Earth's temperature become hottest and warmest during year 2016. In the news articles, scientists also claimed that human activities are to blame. In 2016, global warming delivered scorching temperatures around the world. The resulting extreme weather means the impacts of climate change on people are coming sooner and with more ferocity than expected. In generally, the hottest and warmest temperature can cause the sea level to arise and more floods can be happened. This is a chain effect and bring negative impacts to the living creature and also the environment.

In addition, when the reporting doing the news reporting, more news on the both newspapers is related to the negative effect of climate change to the people such as impact of heatwave or extremely temperature. The result shown that most of the news are focusing on extreme temperature happened all around the world. On that count, The Intergovernmental Panel on Climate Change (IPCC) has declared that human common activity is the main cause behind climate change situation. The result in continuous climate change could result in more extreme and often more dangerous weather

phenomenon such as heat waves, droughts, heavy rains and thunder storms, which all these consequences are considered as extremely and abnormal weather. The hot weather might be hotter while during raining season, the raining will be more frequent.

In a nut shell, during year 2015, the news editors are keen to report more mitigation ways news in order to deliver the messages to the readers. In the news reporting, most importantly is to remind and bring out the mitigation ways to slow down the climate change situation which is getting worsen. For year 2016, the situation is getting worsen so that both newspapers reporting the exact situation for the people. The direct links to climate change is extreme weather which happened all around the world.

Universiti Malaysia

4.5 Test of Differences in Malaysia's Chinese newspapers Coverage

4.5.1 Association of Malaysia's Chinese newspapers and month

Table 4.10: Association of Malaysia's Chinese newspapers and month

Month	Sin Chew Daily	China Press	Total
January	18 9.8%	10 9.7%	28 9.8%
February	5 2.7%	3 2.9%	8 2.8%
March	24 13.1%	15 14.6%	39 13.6%
April	12 6.6%	10 9.7%	22 7.7%
May	13 7.1%	3 2.9%	16 5.6%
June	11 6.0%	15 14.6%	26 9.1%
July	17 9.3%	9 8.7%	26 9.1%
August	18 9.8%	7 6.8%	25 8.7%
September	8 4.4%	10 9.7%	18 6.3%
October	13 7.1%	4 3.9%	17 5.9%
November	18 9.8%	8 7.8%	26 9.1%
December	26 14.2%	9 8.7%	35 12.2%
Total	183 100%	103 100%	286 100%

Table 4.10 shows an association of newspapers and months. Based on the table, Sin Chew Daily reported more news compared to China Press which is 183 news in total while China Press only reported 103 climate change news articles. In terms of monthly distribution, Sin Chew Daily obtained the highest numbers of news articles during December which is 26 news articles. This indicated that newspapers concentrated on issue of climate change during the 2015 United Nations Climate Change Conference, COP 21

or CMP 11 that took place in Paris, France, from 30 November to 12 December 2015. The international Climate Change Conference is normally carried out during the end of the year.

News stories about the climate change are often driven by specific events or by the release of reports by scientific or government. The main intention of the newspapers is to draw the public's attention on the issue mentioned above. The news articles reported in China Press are more consistent. The highest number of news articles distribution falls on March and June which are 15 news articles respectively. The result shown is significant related with the Earth Hour happened during March. China Press prefer to highlight the news that brings the closure with the community. Therefore, the weather on June was hotter than the other months and more news related with extreme temperature were reported in the newspaper.

During the year-end of the news reporting, there are more climate change news were reported. The reason may simply because of the 2015 Paris Climate Conference was carried out during end of the year which is November and December. The year-end has more news article is also because of many news regarding extreme temperature during December such as the temperature in Western country and China is extremely cold. Therefore, more climate change related issues were being covered by the media.

Overall for the both newspaper, Sin Chew Daily and China Press, the most news coverage fall on March which is the Earth Hour month. On that count, the media and non-organisation can play a role in monitoring and overseeing these interactions.

4.5.2 Association of Malaysia Chinese newspapers and journalistic genre

Table 4.11: Association of Malaysia Chinese newspapers and journalistic genre

Journalistic genre	Newspaper		Total
	Sin Chew Daily	China Press	
News	136 (74.3%)	82 (79.6%)	218 (76.2%)
Interview	3 (1.6%)	3 (2.9%)	6 (2.1%)
Feature	15 (8.2%)	7 (6.8%)	22 (7.7%)
Opinion/ Editorial	28 (15.3%)	9 (8.7%)	37 (12.9%)
Others	1 (0.5%)	2 (1.9%)	3 (1.0%)
Total	183 100.0%	103 100.0%	286 100.0%

Hypothesis III predicts that there is an obvious difference in association on journalistic genre while reporting climate change issue among Sin Chew Daily and China Press. Table 4.11 shows association of Malaysia Chinese newspapers and journalistic genre. Both newspapers use a similar way of reporting climate change news which is the journalistic genre, the pure news. Therefore, the journalistic genres that Sin Chew Daily and China Press depicted are news comparing with other categories. Pure news is information about a recently changed situation or a recent event. From the detailed content analysis, the others are categorised as journalistic genre, which are advertisement or comic related with climate change issue.

In sum, both newspapers portrayed a similar way of reporting climate change issue which is aiming the most attention on news and followed by the comment and point of view from the public or journalists themselves. According to table 4.12, the Chi-square result showed that there is no significant difference in association on journalistic genre in reporting climate change issue among Sin Chew Daily and China Press. Therefore, the

Hypothesis III is rejected as Sin Chew Daily and China Press use a similar way in broadcasting climate change issue.

Table 4.12: Chi-square test for focus of journalistic genre among all newspapers

	Value	Degree of freedom	Asymp. Sig. 2-sided
Pearson Chi-Square	4.337 ^a	4	.362

4.5.3 Association of Malaysia Chinese newspapers and actors

Hypothesis 4 predicts that there is a substantial difference in association on the actors in reporting climate change issue among Sin Chew Daily and China Press. Table 4.13 shows the union of Malaysia Chinese newspapers and actors. In Sin Chew Daily, it shows that Malaysian government played an outstanding role in addressing climate change issue, attributed to 67 news articles, the highest numbers of climate change related news compared with other actors.

Other sources such as Intergovernmental Panel on Climate Change (IPCC), The National Aeronautics and Space Administration (NASA), World Health Organization (WHO) or other climate change related international organization has ascribed 65 news articles of climate change related news. On the contrary, China Press has reported 43 news articles by other actors which are Intergovernmental Panel on Climate Change (IPCC), The National Aeronautics and Space Administration (NASA), World Health Organization (WHO), World Wildlife Fund (WWF) or other climate change related international organization.

In this section, both newspapers have a similarity which is politicians are the least actors in reporting climate change issue which is 17 and 7 news articles respectively. Sadly, politicians pay less attention on environmental issue compared with political issue. The policy makers might think that the environmental issue will not bring a huge impact

to his political lifetime. Even the extreme weather also will not effect the voters' decisions. Therefore, politicians will pay less attention on environmental issue compared with political issue.

On the other hand, the media practitioners has no choice but to do more reporting on political issue to attract the readers' attention. Changing a way of thinking, what if a newspaper such as Sin Chew Daily everyday reporting the environmental issue, people will not even care about this. Therefore, the news editors and reporters need to think what is the news value of a certain issue which can attract the attention of the readers.

Table 4.13: Association of Malaysia Chinese newspapers and actors

Actors	Newspaper		Total
	Sin Chew Daily	China Press	
Government	67 (36.6%)	40 (38.8%)	107 (37.4%)
Non-Governmental Organization NGO	34 (18.6%)	13 (12.6%)	47 (16.4%)
Politicians	17 (9.3%)	7 (6.8%)	24 (8.4%)
Others	65 (35.5%)	43 (41.7%)	108 (37.8%)
Total	183 100.0%	103 100.0%	286 100.0%

Table 4.14: Chi-square test for main actors among all newspapers

	Value	Degree of freedom	Asymp. Sig. 2-sided
Pearson Chi-Square	2.676a	3	.444

Hypothesis 4 predicts that there is an important difference in association on the actors in reporting climate change issue among Sin Chew Daily and China Press. The Chi-square result showed that there is a significant disparity in association on the actors in reporting

climate change issue among Sin Chew Daily and China Press. Therefore, the Hypothesis 4 is accepted.

4.5.4 Association of Malaysia Chinese newspapers and news perception

Table 4.15: Association of Malaysia Chinese newspapers and news perception

News Perception	Newspaper		Total
	Sin Chew Daily	China Press	
Positive	56 (30.6%)	32 (31.1%)	88 (30.8%)
Negative	78 (42.6%)	45 (43.7%)	123 (43.0%)
Neutral	49 (26.8%)	26 (25.2%)	75 (26.2%)
Total	183 100.0%	103 100.0%	286 100.0%

Hypothesis 5 predicts that there is a significant distinctness in association on news perception in reporting climate change issue among Sin Chew Daily and China Press. From the detailed content analysis, Sin Chew Daily and China Press focused more on negative news articles which contributed 78 news articles and 45 news articles separately. There are some of the justifications of positive news articles which included the situation of climate change has improved, efforts to solve or reduce climate change issue, positive feedback for global warming or well adaptation for climate change issue while negative justifications are reversed from the positive feedback mentioned above. The negative articles contain some criteria such as negatively effects from climate change issue, the deteriorating situation of climate change, the increase of global temperature, the occurrence of droughts and heat waves or diseases caused by climate change issue.

From the result shown that, both newspapers have less focus on positive news compared with negative news which has 56 news articles from Sin Chew Daily and 32 news from China Press. Positive and neutral news article coverage is a more encouraging

way to deliver the message to the public. Positive news articles included the situation of climate change has improved, efforts to solve or reduce climate change issue, positive feedback for global warming or well adaptation for climate change issue. However, Sin Chew Daily and China Press have a unique approach of reporting news that brought out more ideas about the damage of climate change. One of the advantages of reporting negative news is to alert the community with the worst situation to create more awareness among them. The people are more alert to the issue when they know how the climate change issue would affect them.

Table 4.16: Chi-square test for news perception among all newspapers

	Value	Degree of freedom	Asymp. Sig. (2-sided)
Pearson Chi-Square	0.081a	2	.960

Hypothesis 5 foresees that there is a compelling change in association on news perception in reporting climate change issue among Sin Chew Daily and China Press. To answer the hypothesis, Chi-square test was conducted to verify the question. In table 4.16, there is no significant different was found between news perception among Malaysia Chinese newspapers.

4.5.5 Association of Malaysia Chinese newspapers and news focus

Table 4.17: Chi-square test for news focus among all newspapers

	Value	Degree of freedom	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.239a	10	.162

a. 5 cells (22.7%) have expected count less than 5. The minimum expected count is 1.80.

Hypothesis 6 predicts that there is an obvious difference in association on news focus in reporting climate change issue among Sin Chew Daily and China Press. From the detailed content analysis, Sin Chew Daily broadcasted the highest news articles related to the reduce on emission of carbon dioxide which has 41 news articles from the total of 183. On the other hand, China Press present the news report about extreme temperature on the Earth especially the higher temperature during June and July 2015 in Malaysia. The news articles that paid attention on extreme temperature has 19 news articles from China Press.

Furthermore, China Press concentrate on more issues related with the community to ensure a closer relationship between media and reader. Besides that, Sin Chew Daily also have news target on extreme temperature but the number of articles is lesser in focusing on reduce emission of carbon dioxide, which is 40 news articles. From the result shown, both newspapers also published about 3R activities news. Most of the news related with 3R activities focused on sharing information to the readers. The journalists intend to bring out the importance of 3R activities especially among the primary and secondary school. Therefore, the news are targeting the younger reader and also the people involved in the local climate change mitigation and adaptation.

Significantly, Hypothesis 6 states that there is a significant disparity in association on news perception in reporting climate change issue among Sin Chew Daily and China Press. The Chi-square result showed that there is no significant different in answering the hypothesis 6. But, the result is not satisfied as there were 22.7 percent of the expected count were less than 5. Therefore, hypothesis 6 stated there is a significant difference in association on news perception in reporting climate change issue among Sin Chew Daily and China Press is accepted.

Table 4.18: Association of Malaysia Chinese newspapers and news focus

News Focus	Newspaper		Total
	Sin Chew Daily	China Press	
Flood	13 (7.1%)	9 (8.7%)	22 (7.7%)
Flash Flood	10 (5.5%)	1 (1.0%)	11 (3.8%)
Extreme Temperature	40 (21.9%)	19 (18.4%)	59 (20.6%)
Droughts	8 (4.4%)	13 (12.6%)	21 (7.3%)
Diseases	4 (2.2%)	1 (1.0%)	5 (1.7%)
Air Pollution/ Haze Problem	15 (8.2%)	7 (6.8%)	22 (7.7%)
Sea Level Rise	5 (2.7%)	3 (2.9%)	8 (2.8%)
3R Activities	28 (15.3%)	16 (15.5%)	44 (15.4%)
Reduce Emission of Carbon Dioxide	41 (22.4%)	17 (16.5%)	58 (20.3%)
Glacier Collapses	7 (3.8%)	5 (4.9%)	12 (4.2%)
Others	12 (6.6%)	12 (11.7%)	24 (8.4%)
Total	183 100.0%	103 100.0%	286 100.0%

4.5.6 Differences Coverage of climate change and health-related issue

Table 4.19: Association of Malaysia Chinese newspapers and health-related issues

Criteria	Newspaper		Total
	Sin Chew Daily	China Press	
With Health-related issues	25 (13.7%)	32 (31.1%)	57 (19.9%)
Without Health-related issues	158 (86.3%)	71 (68.9%)	229 (80.1%)
Total	183 100.0%	103 100.0%	286 100.0%

Table 4.20: Chi-square test for climate change with health-related issue among all newspapers

	Value	Degree of freedom	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.514a	1	.000

Hypothesis 7 predicts there is a significant difference in association on coverage of climate change and health-related issue among Sin Chew Daily and China Press. Table 4.18 shows the association of Malaysia Chinese newspapers and health-related issues. For Sin Chew Daily, the climate change news with health-related issue has 25 news articles out only of a total of 183 news articles. On the other hand, China Press reported more climate change health-related issue which is 31.1 percent news.

Significantly, the result above clearly stated that China Press reported more climate change with health-related issue than Sin Chew Daily. China Press would highlight the climate change health effects in the news articles. Therefore, the hypothesis 7 is accepted because there is a significant difference in association on coverage of climate change and health-related issue among Sin Chew Daily and China Press.

4.5.7 Categories of health-related issue reported with climate change issue

Hypothesis 8 predicts there would be a significant difference in association on coverage the categories of health-related issue reported with climate change issue among Sin Chew Daily and China Press.

Table 4.21: Cross-tabulation of categories of health-related issue reported with climate change issue among Malaysia Chinese newspaper

Categories of health issues	Newspaper		Total
	Sin Chew Daily	China Press	
Malaria	0 (0.0%)	1 (1.0%)	1 (0.3%)
Dengue Fever	4 (2.2%)	1 (1.0%)	5 (1.7%)
Heatstroke	11 (6.0%)	16 (15.5%)	27 (9.4%)
Bronchitis	4 (2.2%)	4 (3.9%)	8 (2.8%)
Asthma	3 (1.6%)	3 (2.9%)	6 (2.1%)
Others	2 (1.1%)	7 (6.8%)	9 (3.1%)
No Relevant	159 (86.9%)	71 (68.9%)	230 (80.4%)
Total	183 100.0%	103 100.0%	286 100.0%

Table 4.22: Chi-square test for climate change with health-related issue among all newspapers

	Value	Degree of freedom	Asymp. Sig. 2-sided
Pearson Chi-Square	19.306 ^a	6	.004

Table 4.21 shows the cross-tabulation of categories of health-related issue reported with climate change issue among Sin Chew Daily and China Press. The health-related issue has the most news articles report is heatstroke. It is slightly linked to the extreme temperature reported. Furthermore, the journalists connected the health effect from

extreme temperature to the community which is considerable as the print media has the potential to shape the impression among the community.

By exposing people to dangerous heat waves and more extreme weather, climate change is having impact on human health. If countries and cities do not view the global warming seriously and urgently by mitigation ways such as carbon emissions, switching to renewables and electric cars, the climate change situation will only getting worsen. Excessive heat can make people feel dizzy, faint and unconscious. Extremely heat can also cause kidney problems due to dehydration. If the situation above continues without medical support, it can kill. Therefore, this situation makes children, elder people and people with health conditions particularly vulnerable to rising temperatures.

Overall, the news reporting on climate change mitigation and adaptation issue for Sin Chew Daily and China Press is not only focusing on human health. The newspaper did not bring out the health-related issue to the readers. As from the results, climate change news reporting which has no relevant is health issue has the highest news which is 183 news articles and 103 news articles respectively.

Hypothesis 8 predicts there would be a significant difference in combination on coverage the categories of health-related issue reported with the climate change concern among Sin Chew Daily and China Press. From the Chi-square test, it can be concluded that the hypothesis 8 is accepted.

CHAPTER 5: DISCUSSION AND CONCLUSION

5.1 Introduction

This chapter comes to the end of the whole research study. On that count, in this chapter, the researcher will discuss the test results for descriptive analysis related with the research objective and hypothesis made. Furthermore, limitations of the study are also discussed in this chapter. Finally, the recommendation for future research study are also highlighted in this chapter.

5.2 Discussions

Climate change mitigation and adaptation issue has become important in the world for decades. Media have an important role in educating and influencing public perception. From the detailed content analysis of climate change issue coverage, it can be concluded that news coverage related to climate change issue has been increased from year 2015 to year 2016. Therefore, the media has more attention on climate change issue on year 2016.

. A total of 183 news articles has been analyzed from Sin Chew Daily while China Press contributed a total of 103 news on climate change mitigation and adaptation issue. So, there is a total of 283 news articles related with climate change mitigation and adaptation news were included in Sin Chew Daily and China Press during year 2015 and 2016. Through the analysis of Malaysia major Chinese newspaper - Sin Chew Daily and China Press, both newspapers have a different level of media attention on climate change mitigation and adaptation issue. Thus, the media attention includes news monthly distribution, news focus, news perception, news genre and domesticity. Both newspapers mentioned above use different ways to report climate change issue. Consequently, the greater of media attention on climate change issue, the community would be more aware of this issue. In fact, the media coverage on climate change on both newspapers which

are Sin Chew Daily and China Press has risen over from year 2015 to year 2016. Media attention on climate change issue has increased from year to year as the climate change situation is getting worst. The growth of media coverage on climate change mitigation and adaptation issue is very strong as from the result, the numbers of news articles increased from 129 news articles to 157 news articles.

On the other hand, the frequency of the news appearance also affected by the global climate change issue such as Climate Change Conference. Furthermore, the journalists would proclaim their opinion towards climate change issue and feature some exclusive articles regarding the issue after some major environmental events such as Earth Hour and Climate Change Conference. In sum, greater media attention is needed to convey the matter well with the community. In fact, climate change mitigation and adaptation issue has become crucial in the world for decades and the media have an important role in educating and influencing the public's perception.

From the detailed content analysis of climate change issue coverage, it can be concluded that climate change issue coverage has a lower attention level compared to the other news such as political news, community news, entertainment news or breaking news. Still, media attention level overall for both newspapers is different. Sin Chew Daily has a greater media attention level on climate change news compared with China Press. It is because China Press need to attract more readership, so they publish the news according to the readers' interested.

On the other hand, both newspapers share a similar characteristic which the media attention level is influenced by global climate change events. Most of the news reported in the newspapers are connected with global climate change issue. Continuously, during some global events such as Earth Day 2015 or Paris Climate Change Conference November 2015, the numbers of news appeared in newspaper are greater than the other

months. From the detailed analysis, both newspapers also use a unique way to report the climate change issue. Sin Chew Daily concentrated on more adaptive ways to mitigate climate change issue while China Press focused more on the negative effects of climate change to the community.

On the other hand, from the aspect of reporting climate change with health-related issue, nowadays in the era of health communication, the public is now actively trying hard to get more information related to health from the media communication. The public is keen to know more on health-related information to stay healthy and to increase the level of awareness towards health. Hence, the communication between the media and public is acknowledged as an important element of health care environment. Therefore, media can deliver important messages such as environmental issue awareness through newspapers, television or even social media to reach out more targeted audiences.

Besides that, for the content analysis result, China Press reported more climate change with health-related issue than Sin Chew Daily to the public. In conjunction of that, the health-related news reported in China Press depicted the risk of diseases from climate change. Therefore, the journalists would deliver the climate change health effects in the news articles. Some of the news would also include the advices from the scientific field such as an interview column with traditional Chinese medicine doctor. In generally, a deeper connection could be formed among the media agenda and Chinese community by bringing out some powerful statements from the professionals.

Nevertheless, communication is the key to action. The media steered the readers and audiences to understand the importance of news issues in different ways by highlighting the different views and news. Accordingly, if people understand the exact situation and climate problems and how it will affect them, the wider society and business benefits of tackling climate change, then they would be more incline to act.

Similarly, same as the current situation of climate change, the fact from the scientists shown that the Earth is getting hotter from year to year, while people need to raise up their awareness on this issue. Otherwise, the problem will be getting serious from day to day, even it will remain for a few decades. At the same time, policy and actions need to be taken to mitigate the current situation of climate change. Extreme weather and climate can actually affect every people on the Earth, including the environments and cultures. So, the policy makers, decision makers and people need to seek the information on the disaster on such extreme weather condition.

Therefore, in the news reporting, more news is related to the negative effect of climate change to the people such as impact of heatwave. The Intergovernmental Panel on Climate Change (IPCC) has declared that human common activity is the main cause behind climate change situation. At the same time, the result in continuous climate change could result in more extreme and often more dangerous weather phenomenon such as heat waves, droughts, heavy rains and thunder storms.

In fact, by exposing people to dangerous heat waves and more extreme weather, climate change is having impact on human health. the situation is if the countries and cities do not view the global warming seriously and urgently by mitigation ways such as carbon emissions, switching to renewables and electric cars, the climate change situation will only getting worsen. In fact, people might understand that excessive heat can make people feel dizzy, faint and unconscious and extremely heat can also cause kidney problems dur to dehydration. If the situation above continues without medical support, it can kill people and increase the death cases from heat itself. Therefore, this situation makes children, elder people and people with health conditions particularly vulnerable to rising temperatures.

In sum, the researcher able to answer the research questions and research objectives accordingly which created from the beginning of the research. A figure was drawn to have an insight understanding of the whole research.

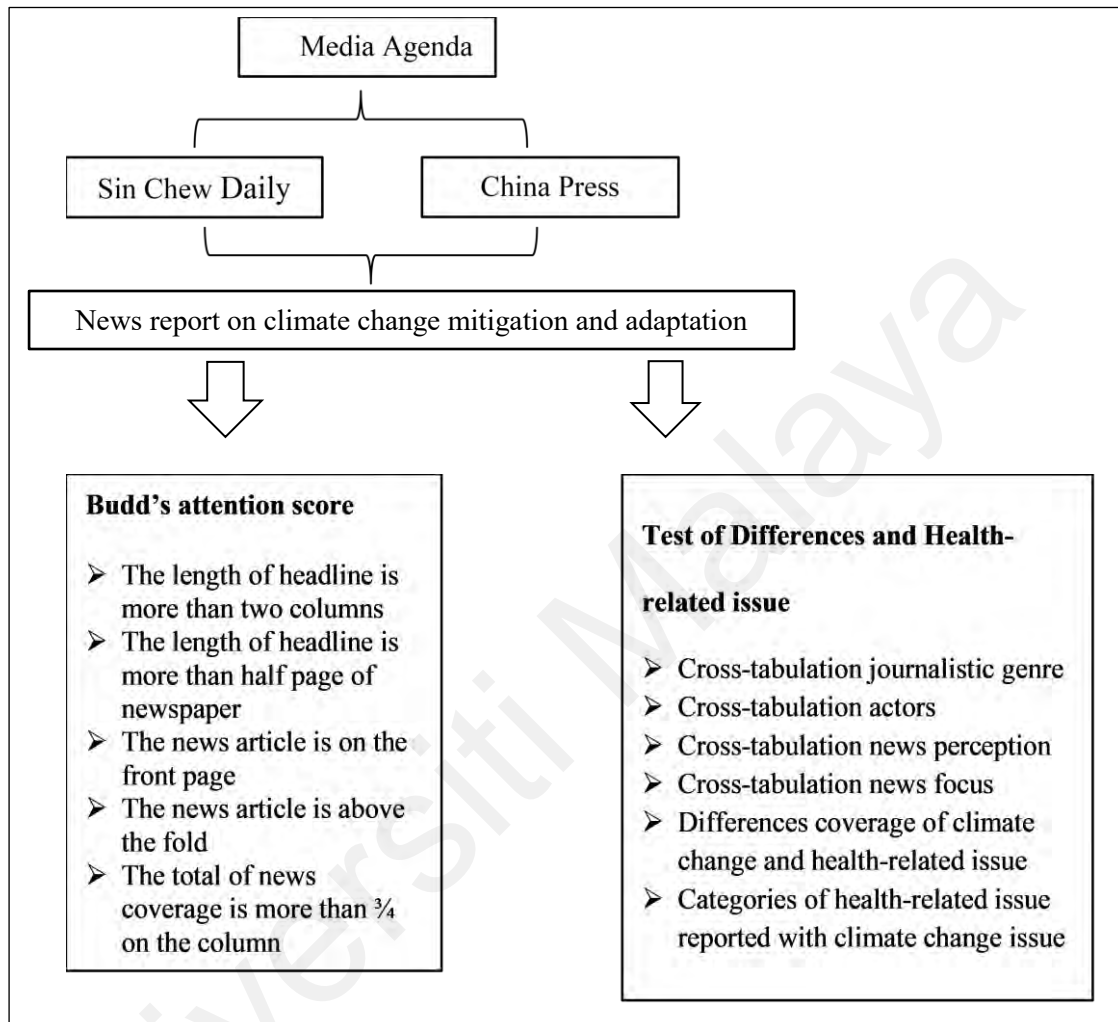


Figure 5.1: The research objectives and research design

From the news coverage and reporting on climate change mitigation and adaptation issue during year 2015 and 2016, for the Budd's attention score, during year 2015, the highest Budd's attention score falls on October for both newspapers and the total for whole year is 2.08. For year 2016, the total of Budd's attention score is 1.84 while the month with highest score is May. In the data analysis and hypothesis process, researcher made a assumption that there is a significant different in association on media attention level in both Sin Chew Daily and China Press.

As a result, it shown that the media attention score has a very low attention on climate change issue for China Press. Sin Chew Daily obtained a higher score because most of the news related to climate change mitigation has portrayed more space in the newspaper. It can be concluded that Sin Chew Daily portrayed more climate change mitigation and adaptation issue to deliver to the public and audiences. It can attract the public attention on the climate change mitigation and adaptation issue.

Besides that, on the result test of differences and health-related issues, there are differences between Malaysia Chinese print media coverage on reporting climate change mitigation and adaptation issue no matter from the aspects of journalistic genre, actors, news perception and news focus. Other than that, on the aspect of differences coverage and categories of health-related issue, researcher found out that there is an association between climate change mitigation and adaptation news coverage on both newspapers which are Sin Chew Daily and China Press. In general, the greater of media attention on climate change issue can communicate more with the community.

No matter how, the climate change news reporting should be improved and more in-depth reporting as well as the international coverage is also important. Other issues such as changing to lifestyle to low carbon, reduce emission of greenhouse gases should be included in the news reporting. If not, it may be too late to expose the problem to the public and flood will continue to happen around the people. In fact, the human activities could speed up the climate change situation and the issue eventually turns into a global concern. Meanwhile, the government and many scientists around the world are anxious to find out more suitable ways to lighten the current climate change situation. Therefore, people need to find out the origin of climate change which is human activity caused the climate change happened around us.

5.3 Summary and Conclusion

Although the impacts of climate change have the potential to affect human health around the world, there is a lot we can do to prepare for and adapt to these changes. For instance, establishing early warning systems for heat waves, taking steps to reduce vulnerabilities among populations of concern, raising awareness among healthcare professionals and ensuring that infrastructure is built to accommodate anticipated future changes in climate. By understanding the threats that climate change possesses towards the human health is the first step in working together to lower the risks and be prepared.

Eventually, fighting climate change is an on-going effort and the government should lead the community and gain everyone's support in the country. This study compared the news articles from the highest circulation and readership Chinese newspaper in Malaysia for year 2015 and 2016. It is rather insufficient and would be worthwhile to analyse and compare the newspaper from four different languages such as Malay language, English and Tamil to compare the ways of communicating to their readers separately according to different newspapers. Furthermore, comparative studies on climate change communication among different newspapers are rather important to further the comprehension of how differently the communities react to this global issue.

In fact, climate change does not happen by default, but it occurs because of human selfishness. On that count, people need to view the environmental crisis seriously to mitigate the harm of climate change and adapt well for the current worse situation. Scientist have warned that the Earth might be just decades away from a rapid change in climate and it threaten humanity's health and existence. Inouye et al. (2000) concluded that the Earth will reach a climate tipping point when temperature are two degrees Celsius higher than now. In fact, the temperature and currently one degree higher and are on the rise from year to year (WHO, 2014a). Somehow, a warmer Earth does not only mean

warmer temperatures. On the other hand, it also means the changes in rain, rising sea levels and more extreme weather like strong or destructive hurricanes.

On the whole, media has the potential to give an impact on public opinion and make the public paying more attention on certain issues with more media exposure. Therefore, the media agenda is very important in selecting prominence news deliver to the public. The news content can give the information to the public and encourage the public to have behavioural changes in order to mitigate the current climate change situation. For example, the media platform such as newspapers and broadcast news exposed the climate change news, no matter focusing on impacts of climate change or even the current situation of climate change, public can pay more attention on the issue mentioned above. On that count, the mitigation and adaptation of climate change issue can reach out to more people.

In the meantime, climate change has the potential to change the climate and weather patterns in the world. On this issue, media has a significant role in educating and delivering the message to the community on certain issues. There are a lot of news media platform. Eventually, newspaper is an official pathway to expose the messages because people typically start their day with newspaper instead of reading journals. In our daily lives, newspapers provide a host of tips and information about the salience of the topics in the daily news. Newspaper coverage can have positive or negative impact on the specific issue.

By exposing people to dangerous heat waves and more extreme weather, climate change is having impact on human health. If countries and cities do not view the global warming seriously and urgently by mitigation ways such as carbon emissions, switching to renewables and electric cars, the climate change situation will only getting worsen.

When discussing Malaysia government effort, are Malaysians aware about the initiative in reducing the carbon and greenhouse gases emission? Currently apart from joining the international committee and strengthen climate change policy, the government also need to deliver the climate change message effectively to the public and audiences. People might not be really care about the climate change situation and this is the reason media practitioners must deliver the key terms of climate change to the people and public.

No matter how, fighting with climate change is not an easy task. As the world become warmer, extreme weather events such as drought, rainfalls, melting of Greenland ice or even sea level rise will happen more frequently. It is very hard to imagine what can an individual do to resolve the climate change problem by mitigation and adaptation. Therefore, the scientists' message regarding climate change situation must be delivered effectively to the public via the media platform. People need to take proper action to fight against climate change situation.

5.4 Limitations of the Study

Throughout the whole research study, there is some limitations had been identified. Clarifying the limitations of a study allows the reader to understand better under which conditions the results should be interpreted.

Firstly, this research study was unable to examine the Malaysia mainstream newspapers in reporting climate change issue which include Bahasa Melayu newspaper, English newspaper and Tamil newspaper. In the multi-languages country, these three languages newspapers are important to include in the research because it can compare the different languages in house reporting way. If the research materials use four types of newspapers, it would have a greater and reliable result.

Unfortunately, in this research, Tamil language newspaper was unable to be included in the research tools as the researcher is not familiar with the language mentioned above. The researcher did not use the Bahasa Melayu and English newspapers because the main objective is to compare one language of newspaper. If there are many languages of newspapers used as research tool, it might be complicated and portrait a different way of result.

Other than that, from the methodology part, the research study is limited to one methodology only which is quantitative content analysis. Due to only focusing on media agenda, therefore quantitative content analysis is the only important methodology. Other than media agenda, in the future research, public agenda and policy agenda should be included. Therefore, not only quantitative content analysis will be used, survey questionnaire and in-depth interview with policy makers or editors should include in future research to enhance the quality of the research. On that count, it can relate the connectivity between media agenda, public agenda and policy agenda.

During the data collection process, it is a tough job as well because the researcher needs to find the sources of data. The climate change issue actually always happened but the researcher only take the 2 years research period which is considered as short period. The long-term research period will be greater for the result of the research.

Besides that, research methodology serves as the backbone of a research study. In this research, quantitative research's main purpose is the quantification of the data. It allows the generalisations of the results by measuring the views and responses of the sample population. Quantitative research methodology usually requires a large sample size. However due to the lack of resources this large-scale research becomes impossible. Therefore, the researcher can only focus on 2 year of time frame and limit to two Malayisa

Chinese newspapers only which are Sin Chew Daily and China Press. The methodology used is only one as well which is quantitative content analysis.

In a nut shell, the acknowledgement of a study's limitation is an opportunity to make suggestions for further research. other than that, it can also provide an opportunity to demonstrate the researcher thought critically about the research problem, understood the relevant literature published about it and correctly decided the methods chosen. By claiming the limitation of a study is a subjective process when the researcher to evaluate the impact of these limitations. Therefore, by sharing the limitation of the study can make the future study or research to become more successful as nothing is perfect.

5.5 Recommendations for the Future Study

From the limitations mentioned above, it is to recommend that to examine the same issue with other different languages which is not limited to Chinese newspaper only. A different language can bring out the different impact of the issue to the public. Besides than print media, the research can be done in other media channels such as broadcast media, which are television, radio or even online media news. By using a different media channels or languages, the understanding on media portrait on climate change news will be better.

Moreover, the time frame of the study can be extended to a longer period. This is a way to provide more insight, detailed and comprehensive of the media protraction on climate change mitigation and adaptation view. Since the climate change situation is getting worst, the longer time frame for the research study can determine the changes of the media in reporting the issue mentioned above from year to year.

Besides that, the future research can also include the relationship between media agenda, public agenda and policy agenda. The methodology that can be applied in the future research include interview and questionnaire method of collecting data.

By interviewing the media gatekeepers, the decision of the media gatekeepers in choosing and determining can be understood completely. The interviewing method can be used in future research to get the information from the public opinion. Hence, the future research can determine whether the three agendas which are media agenda, public agenda and policy agenda has a significant relationship or not significant relationship. Focus group discussion can be considered as one of the methodologies in order to find out the point of view among media gatekeepers or decision makers such as editors, reporters, non-organisation members and others.

For the global variations in climate change coverage have mostly been carried out by quantitative content analysis and less research has been devoted to qualitative differences on how the media approach and frame climate change mitigation and adaptation issue. Actually, the quantitative content analysis only tells half of the story. So, in future research, the research can deeper into the qualitative differences, such as editorial approach or journalistic practices. The future research can emphasis on the role and function of regional media systems in the media coverage of climate change issue.

In sum, future study or research regarding climate change issue can be more interesting and deeper from the suggestion given by researcher. It is useful when making future research suggestions because it can lead to entirely new avenues to explore in future studies.

5.6 Summary

In general, the research managed to answer the research questions and research objectives. The data collected met the criteria and research objectives in understanding the way of media portrait climate change mitigation and adaptation issue in Malaysia Chinese mainstream newspapers. On that count, the analysis of news distribution regarding climate change mitigation and adaption with health-related issue has been determine.

Eventually, this research can claim that the media has a different focus on climate change mitigation and adaptation issue. However, the message must be delivered effectively to the readers and public to mitigate the current climate change situation which is getting worst from day to day. People are urged to adapt well for the current situation.

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