# CHAPTER I

# INTRODUCTION

## A. Problem Background

At the present global environmental issues become the major issues in world politics however in the past it only become minor issues. Pollution, ecosystem destruction, and natural resources depletion are not new problems, many regions and localities were grappling with these issues long time ago before the industrial revolution or even the emergence of the modern system nation states.

Today, the issues of global environment politics are increasingly played out on a global stage. In some cases this problem happens because the system is globally interconnected in a physical sense, as in the case of the Earth's climate, the oceans, or the atmosphere's protective ozone layer. In other cases, accumulated of local actions produce consequences of global significance as in the reduction of the planet biodiversity.

Many people are increasingly talk about global environment problem, with the major issues is climate change. But, what are they means when they talking about global environment politics? To answers this question, consider what human see when they look at the forest. Some of people see forest as a stock of timber to be exploited for economic gain. And the others see forest as a complex ecological system that holds the soil in place stabilizes the local water cycle,

moderates the local climate, and further biological diversity. Another side sees a forest as a home for people and other living thing, such as plant and animal.

It is true, that the forest problem become the major issues in the world politics today. In such world, conflicting visions of the forest turn into an international significance. Some see in the forest an important source of international economic power, giving those who control it influence in international markets and a reliable source of foreign exchange. Others see the forest as a powerful symbol of global interdependence. The forest reflects the global consequences of local acts in that its destruction may change the global climate or deplete the global stock of biological diversity.

At the close of the twentieth century, there are approximately 3,500 million hectares of forests in the world, representing 27 per cent of land use. Of this total forest area, 2,000 million hectares are found in developing countries, mostly in the tropical and sub-tropical regions (FAO 1997)[1]. Although the original forest area is not known precisely, it is estimated that the world has lost approximately 40 per cent of the original forest area of 6,000 million hectares over the last 8,000 years (Bryant, 1997; Laarman and Sedjo, 1992)[2].

Indonesia is endowed with some of the most extensive and biologically diverse tropical forests in the world. Many of Indonesians depend directly on these forests for their livelihoods, whether gathering forest products for their daily needs or working in the wood-processing sectors of the economy.

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[1] Ralph W. Roberts R.P.F., ing.f; *Deforestation: Tropical Forests in Decline*; Canadian International Development Agency Hull, Quebec, Canada

[2] *Ibid*

Tropical forests in Indonesia have a special role in the conservation of biodiversity. Forests influence the local and global climates. They moderate the daily range of air temperatures and maintain atmospheric wetness levels. Forests absorb atmospheric carbon and fill the oxygen in the air we breathe.

Indonesia has the third largest expanse of tropical rainforest in the world but it is shrinking rapidly under the onslaught of logging, land clearance and man-made forest fires[3]. The country now finds itself the unwelcome center of world attention, as domestic and international outrage mounts over the rampant destruction of a great natural resource. At the recent time Indonesia has break the World Guinness Book of Record as the fastest forest destroyer. Based on the research that done by Greenpeace Indonesia, every year Indonesia lost 1, 8 ha forest every year[4].

It is generally accepted that a country has a right to manage its forests for economic purposes, but in Indonesia exploitation is running out of control. A recent World Bank study warned that the lowland forests of Sumatra could be gone soon after the year 2005 and those of Kalimantan by 2010, sparing only those areas too hilly for loggers to reach[5].

Indonesia's "economic miracle" of the 1980s and 1990s turns out to have been based, in part, on ecological devastation and abuse of local people's rights and customs. As late as 1900, Indonesia was still a densely forested country with

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[3]UNEP (2001). *An Assessment of the Status of the World's Remaining Closed Forests*. UNEP/DEWA/TR 01-2.Division of Early Warning and Assessment (DEWA) United Nations Environment Programme (UNEP)

[4] Guardian Unlimited, *Sumatran Deforestation Driving Climate Change and Species Extinction, Report Warns* (accessed March 5, 2008); available from http://www.buzzle.com/articles/180385.html

[5] *Ibid*

the total forest representing 84 per cent of the total land area[6]. In the early 1970s Indonesia used this valuable resource to its economic benefit with the development of the country's wood-processing industries. Since the late 1980s, production capacity has increased nearly 700 per cent in the pulp and paper industries, making Indonesia as the world's ninth largest pulp producer and eleventh largest paper producer[7]. Indonesia's economic success in the 1980s and 1990s was based in part on the growth of this forest-related industry. The expansion of these industries since then has created a level of demand that cannot be met by any sustainable forest management system and instead has effectively accelerated the rate of forest loss. The mass clearance of forests has had a devastating environmental impact. Illegal logging has been rampant for years and destroyed some 10 million ha of forest. Wood is routinely smuggled across the border to neighboring countries, costing the Indonesian government millions of dollars in lost revenues each year.

Indonesia contains 10% of the world's tropical rainforests (World Bank, 1994), and these forests are excessively rich in biodiversity (Ministry of State for Population and Environment, 1992). Consequently conservation of Indonesia's forests is a global priority. Nevertheless, the quantitative range of deforestation in Indonesia is surprisingly poor. From 1990 to 1995 Indonesia lost an estimated

[6] "Forest Resources Assessment 1990: Tropical Countries," FAO Forestry Paper No. 12, 1993
[7] *Ibid*

54,220 sq km (20,930 sq mi) of tropical forest[8]. The annual rate of deforestation from 1990 to 2005 was 1.6 percent[9].

The fastest rate of deforestation in Indonesia is occurring in central Sumatra's Riau province, where some 4.2m hectares (65%) of its tropical forests and peat swamps have been cleared for industrial plantations in the past 25 years[10]. Illegal and legal forest clearance for the development of settlements, infrastructure and agriculture has traditionally driven deforestation in Riau. Since 1982, about 30% of the province's natural forest has been cleared for palm oil plantations, 24% for industrial pulpwood plantations, and 17% has become wasteland (land that has been deforested but not replaced by any crop cover) while twenty-five years ago, forest covered 78% of the Riau province[11]. Today it covers just 27%. In just one year, 2005-06, it lost 286,146 hectares – 11% of forest cover[12].

The most serious and most short-sighted consequence of deforestation is the loss of biodiversity. Deforestation is an important contributor to global warming that can cause the climate change. Removal of forest cover through deforestation is the primary contributor to greenhouse gasses emissions from changes in forest areas. Forest degradation from high impact logging, shifting

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[8] *Republic of Indonesia*, Microsoft Encarta Online Encyclopedia 2007 (accessed March 5, 2008); available from http://encarta.msn.com

[9] *Republic of Indonesia*, Microsoft Encarta Online Encyclopedia 2007 (accessed March 5, 2008); available from http://encarta.msn.com

[10] Guardian Unlimited, *Sumatran Deforestation Driving Climate Change and Species Extinction, Report Warns* (accessed March 5, 2008); available from http://www.buzzle.com/articles/180385.html

[11] *Ibid*

[12] *Ibid*

cultivation, wildfires, and forest fragmentation also contribute to Greenhouse gases emissions. Deforestation is the permanent loss of forests to other land uses such as agriculture, grazing, new settlements, infrastructure, and dam reservoirs. Tropical deforestation is now widely recognized as one of the most critical environmental problems facing the world today, with serious long-term economic and social consequences.

Climate change is a global phenomenon, because it cause globally by the activity of human around the earth. It is also give effect globally, felt by entire creature which life in the earth. So, it is need global solution.

During the 20th century, the average global temperature increased by 0.6°C. This increase is likely to have been the largest of any century during the past 1,000 years[13]. The IPCC states that "there is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities"[14]. Human activities have lead to the increase of atmospheric concentrations of greenhouse gases and changes in land use, inducing an increase of global averaged atmospheric temperatures. The current rate of increase of greenhouse gases is unprecedented during at least the past 20,000 years[15].

But the temperature increase is just one of the many indicators for the ongoing Climate Change. It is also give the impact to the people and their environments, including species, ecosystems and protected areas around the world. Changes in climate patterns are already being felt now at the local scale, as

[13] Intergovernmental Panel on Climate Change. Third Assessment Report of Working Group II on Climate Change Impacts, Adaptation and Vulnerability, 2001.
[14] *Ibid*
[15] *Ibid*

shown by observations in the United Kingdom: temperatures are already rising, provoking more rainfall in the wetter north of the country but less rainfall in the dryer south[16]. Indirect consequences include the cost of weather related natural catastrophes that significantly increased since 1953[17].

Climate change is long-time change weather patterns, especially increases in temperature and storm activity, regarded as a potential consequence of the greenhouse effect. Climate change, one of the most serious problems facing global sustainable development, it's become great concern to humanity and is being addressed by several global and regional organizations and institutions. Adaptation is one of the lanes available to society for dealing with climate change.

Climate change is mainly caused by the result of fossil fuel burning (coal, Earth's oil, gas, natural gas). Those fuels produce $CO_2$, the main greenhouse gas. Greenhouse gases are naturally important for the life on Earth. Without them, we cannot live as the Earth will be too cold. Nevertheless the excessive amount of those gases and the increase of global temperature make the climate become unstable, thus our health and global ecosystem will be in danger. Human's activities have released more greenhouse gases to the atmosphere, increasing the average global temperature and created climate change.

As a consequence of increasing atmospheric temperatures ('global warming'), additional changes in geophysical features are expected, as follows[18]:

1. Change of precipitation patterns

[16] Conca, Ken and Geoffrey D. Dabelko, Green Planet Blues, Environmental Politics from Stockholm to Johannesburg, Third Edition. Westview Press, 2004
[17] *Ibid*
[18] Intergovernmental Panel on Climate Change. *Third Assesment Report of Working Group II on Climate Change Impacts, Adaptation and Vulnerability, Summary for Policy Makers*, 2001.

2. Increase in the frequency of warm episodes of the El Niño-Southern Oscillation (ENSO)
3. Change of the frequency, intensity and seasonality of extreme events such as droughts, fires, heavy precipitations, floods, storms, tropical cyclones
4. Rise in sea level (caused by glacier retreat, ice melt and thermal expansion of sea water in response to higher temperatures) with serious implications for low-lying coastal areas and islands
5. Increase of carbon dioxide levels in the atmosphere and dissolved in the oceans causing increased marine acidification

Climate change is a global phenomenon, because it effect globally, felt by entire creature which life in the earth. So, it is need global solution. World Meteorological Organization (WMO) as one of the body in United Nations (UN) which specialized on weather, climate and water has big role in global climate changes issues.

The World Meteorological Organization (WMO) is the UN system's authoritative voice on the state and behavior of the Earth's atmosphere including its interaction with the oceans, the climate and water resources[19]. WMO has a membership of 188 Member States and Territories (since 24 January 2007)[20]. As weather, climate and the water cycle know no national boundaries, international cooperation at a global scale is essential for the development of meteorology and

[19] *WMO in Brief* (accessed March 10, 2008); available from http://www.wmo.ch
[20] *Ibid*

operational hydrology as well as to gather the benefits from their application. WMO provides the framework for such international cooperation.

It originated from the International Meteorological Organization (IMO), which was founded in 1873. Established in 1950, WMO became the specialized agency of the United Nations in 1951 for meteorology (weather and climate), operational hydrology and related geophysical sciences[21]. Its leading role in the coordination of international climate issues dates back to 1929 when the International Meteorological Organization established a Commission for Climatology. It was WMO that, in 1976, issued the first authoritative statement on the accumulation of carbon dioxide in the atmosphere and the potential impacts on climate[22]. The organization facilitates international cooperation in the establishment of station networks and centers to provide meteorological and hydro meteorological service and observations. It promotes the establishment of systems for the rapid exchange of weather data and the standardization of meteorological observations, and encourages research and training to further the application of meteorology to aviation, shipping, agriculture, and other activities.

WMO promotes cooperation in the establishment of networks for making meteorological, climatological, hydrological and geophysical observations, as well as the exchange, processing and standardization of related data, and assists technology transfer, training and research. It also fosters collaboration between the National Meteorological and Hydrological Services of its Members and furthers the application of meteorology to public weather services, agriculture,

[21] *Ibid*
[22] *Ibid*

aviation, shipping, the environment, water issues and the mitigation of the impacts of natural disasters.

WMO facilitates the free and unrestricted exchange of data and information, products and services in real- or near-real time on matters relating to safety and security of society, economic welfare and the protection of the environment. It contributes to policy formulation in these areas at national and international levels.

In the specific case of weather, climate and water-related hazards, which account for nearly 90% of all natural disasters, WMO's programs provide vital information for the advance warnings that save lives and reduce damage to property and the environment[23]. WMO also contributes to reducing the impacts of human-induced disasters, such as those associated with chemical and nuclear accidents, forest fire and volcanic ash.

WMO plays a leading role in international efforts to monitor and protect the environment through its Programs. In collaboration with other UN agencies and the National Meteorological and Hydrological Services (NHMS), WMO supports the implementation of a number of environmental conventions and is instrumental in providing advice and assessments to governments on related matters. These activities contribute towards ensuring the sustainable development and well-being of nations.

[23] *WMO in Brief* (accessed March 10, 2008); available from http://www.wmo.ch

The WMO Convention reaffirms the vital importance of the mission of NMHSs in observing and understanding weather, climate and water resources as well as providing related services to support national needs in areas such as:

• Protection of life and property,

• Safeguarding the environment,

• Contributing to national security and sustainable development and

• Promotion of endogenous capacity building.

In the case of deforestation in Indonesia that can cause global climate change, WMO as the specialized UN Agency on weather, climate and water, in collaboration with its Members comprising a global network of National Meteorological Hydrological Services (NMHSs), have the potential to play an important role in the implementation of the Nairobi Work Program.

The Nairobi Work Program on Impacts, Vulnerability, and Adaptation to Climate Change (NWP) was developed to assist Parties to the Convention, especially developing countries, including least developed countries and small island developing states, to improve their understanding and assessment of climate change impacts, vulnerability, and adaptation and to make informed decisions on practical adaptation actions and measures to respond to climate change[24].

The NWP is structured around nine areas of work that are recognized as vital to increasing the capacity to adapt. Parties, intergovernmental and non-governmental organizations, the private sector, communities, and other stakeholders implement activities that support the objectives of the NWP.

[24] *Nairobi work programme on impacts, vulnerability and adaptation to climate change* (accessed October 5, 2008);available from http://www.unfcc.com

Expected outcomes include enhanced capacity for adaptation; improved information and advice to the Conference of the Parties to the UNFCCC; enhanced dissemination and use of knowledge; enhanced cooperation to manage climate change risks; and enhanced integration of climate change adaptation with sustainable development.

WMO, the specialized UN Agency on weather, climate and water, in collaboration with its Members comprising a global network of National Meteorological Hydrological Services (NMHSs), have the potential to play an important role in the implementation of the Nairobi Work Program. It has a vast reservoir of expertise, knowledge, data and tools among its Members, Programs, Technical Commissions, Expert Teams and partner organizations, capable of bringing strong scientific and technical capability along with local, regional and global knowledge that offers authoritative and targeted analyses for consideration by Parties and the SBSTA and can contribute actively to the Nairobi Work Program, using a range of modalities[25]. Contributions could include providing expert advice, guidelines, technical inputs to workshops and seminars and also taking on operational responsibilities for the implementation of some components of specific activities.

WMO, with the support of NMHSs, could contribute to the Nairobi Work Programme in the following two thematic areas[26]:

[25] WMO Concept Paper: *the Role of WMO and NMHSs in the Implementation of the Nairobi Work Programme.* WMO, April 2007
[26] *Ibid*

**(a) Impacts and vulnerability:**

(i) Promoting development and dissemination of methodologies and tools for impact and vulnerability assessments, such as rapid assessments and bottom-up approaches, including as they apply to sustainable development;

(ii) Improving collection, management, exchange, access to and use of observational data and other relevant information on current and historical climate and its impacts, and promoting improvement of observations, including the monitoring of climate variability;

(iii)Promoting the development of, access to, and use of information and data on projected climate change;

(iv) Promoting understanding of impacts of, and vulnerability to, climate change, current and future climate variability and extreme events, and the implications for sustainable development;

(v) Promoting the availability of information on the socio-economic aspects of climate change and improving the integration of socio-economic information into impact and vulnerability assessments.

**(b) Adaptation planning, measures and actions:**

(i) Facilitating communication and cooperation among and between Parties to the Convention and relevant organizations, business, civil society, and decision makers, and other stakeholders;

(ii) Promoting understanding and the development and dissemination of measures, methodologies and tools including for economic diversification

aimed at increasing economic resilience and reducing reliance on vulnerable economic sectors;

(iii) Collection, analysis and dissemination of climate information relevant to past and current impacts (especially of extremes), and practical adaptation measures and actions;

(iv) Promotion of research on adaptation measures and diffusion of know-how and best practices.

In implementing the Nairobi Work Program, WMO as the specialized UN Agency on weather, climate and water is covered nine activities areas. The nine areas of activities are as follows: Methods and Tools, Climate Data and Observations, Climate Modeling, Scenarios and Downscaling, Climate Related Risks And Extreme Events, Socio-economic information, Adaptation Planning And Practices, Research And Delivery Of Improved Climate Products And Projections, Technologies for Adaptation, Economic Diversification.

**B. Research Question**

From the background above, the main problem is, "**How is the role of WMO in assisting Indonesian Government to control deforestation"?**

**C. Theoretical of framework**

To explain and answering the question, "**How is the role of WMO in assisting Indonesian Government to control deforestation"?** I use theory which is relevant with it problem, there are **Role theory**, **functionalism theory, organization theory.**

1. **Role theory**

**Role theory** said that role is a set of act which expected from some actor who settles a certain position in some group. The act of political actor is based on its own role or role that expected to its[27]. Role theory is a theory which assume that some political action which done by political actors is result from the expectation which emerge to the role which are handled by political actors, where those political actor which have certain position is expected also have certain position. Then the expectation is formed certain role from political actors.

Role theory emphasize that, *political role…, is an action in running political role".* This theory assume that most of political action is a demand or expectation to the role which handled by a political actor[28]. Then to measure the ability which is run by related actors, according to John Wahlke, role theory have two capabilities. First, it shows that generally political actors attempt to adapt it behavior with the norm which is prevail for the role which it's fish-net. Second, role theory is capable to descript an institution behaviorally[29].

From the roles that become an attribute for the subject so there is big expectation when the role is start running. According to Alan Isaak, the expectation could be come from two kinds of sources. First, expectation is come from the others to the political actors. Second, expectation could be come from the

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[27] Harwanto Dahlan, *Analisa Hubungan Internasional*, Jurusan Ilmu Hubungan Internasional, Fakultas Ilmu Sosial dan Ilmu Politik Universitas Muhammadiyah Yogyakarta 2008, Hal 42
[28] Mohtar Mas'oed, *Studi Hubungan Internasional Tingkat Analisi dan Teorisasi,* Pusat Antar Universitas-Studi Sosial Universitas Gajah Mada, Yogyakarta 1989, Hal 44
[29] Alan Isaak, *"Scope and Methods of Political Science."* Dikutip dalam Mohtar Mas'oed *Studi Hubungan Internasional Tingkat Analisi dan Teorisasi,* Pusat Antar Universitas-Studi Sosial Universitas Gajah Mada, Yogyakarta 1989, Hal 45

role player by interpreting its role that is it own expectation about what could it done.

International Organization functioning as a media to communicate internationally. So, the role of international organization could be guidance to taking action in certain situation in international environment. It could be say that role of international organization is a reaction from international situation that emerge.

In relevance of this case, World Meteorological Organization as the body of United Nations which has authoritative voice on the state and behavior of the Earth's atmosphere including its interaction with the oceans, the climate and water resources and also as a international actor which playing the role as the organization that has a duty to protect the global environment, is expected supporting Indonesian government in order to solve deforestation problem in it country. Because deforestation in Indonesia assist the increase of global temperature as one of the factor that can cause global warming and also climate change

2. **Functionalism Theory**

While, to deeply understand about function of WMO as international institution that is concern with special problem, so we can see through **functionalism theory**.

In the social sciences, functionalism is a sociological paradigm that originally attempted to explain social institutions as collective means to fill

individual needs, it came to focus on the ways in which social institutions fill social needs, especially social stability.

The influence of functionalism after World War II is marked by the forming of Social and Economic council and Representatives Council as the body of United Nations. Then, many special agents are formed on the core of various international needs that relate to health, refugee, economic development, Children, education, environment, labor, etc[30].

Functionalism focuses on the structure and workings of society. Functionalists see society as made up of inter-dependent sections which work together to fulfill the functions necessary for the survival of society as a whole. Functionalists believe that behavior in society is structural. They believe that rules and regulations help organize relationships between members of society

According to the functional theories of emerging world order, such as those held by David Mitrany, the habits of collaboration developed in functional areas should eventually spill over into the political sphere and lead to the breakdown of political barriers among state.

WMO as the UN specialized organization on Weather, Climate and Water is includes in the functional type. As a functional organization, WMO has the role to play it function to facilitate the collaboration in the meteorological services in order to adapt with the climate changes and global warming effects.

In the case of Indonesian deforestation, WMO could play it function in giving the technical assistance to Indonesian government in order to adapt from

[30] Walter S. Jones, *Logika Hubungan Internasional Kekuasaan, Ekonomi-Politik Internasional dan Tatanan Dunia,* P.T. Gramedia Pustaka Tama, Jakarta 1993, pages 387

the climate anomalies that called El Nino that had caused the deforestation. Through its program, Indonesia as WMO members has the right to receive the technical assistance from its UN body. To control the deforestation that caused by the extreme climate, Indonesian government need adaptation strategies. In this condition, WMO as the experts on Climate and Weather can influence Indonesian government in formulating adaptation strategies by giving the technical assistance.

**3. Organization Theory**

While, the action of WMO as international organization could be understand by using **organization theory**. **Organizational theory** is a theory which studies whole organizations, how they adapt, and the strategies and structures that guide them.

WMO as told in organization theory, it emerges because there is an urgent need which is related to the meteorological and also environmental problem, especially with the destruction of biodiversity. In every motion of WMO, it could not run the mission by itself. It needs to cooperate and coordinate with local government.

WMO as the international organization which focus on the climate and environment issues must plays a leading role in international efforts to monitor and protect the environment through its Programs. In this case, Indonesia as the country with the rich of biodiversity in its forest, face the serious problem in the destruction in it environment. As a developing country, the ability of its country to solve this problem is very low. This condition makes WMO as the organization

that have the duty to save the environment from the destruction must give the assistance to the Indonesian government as its member through it programs.

**D. Hypothesis**

WMO as the specialized UN Agency on weather, climate and water is able to influence Indonesian policies in formulating adaptation strategies to the El Nino as the cause of deforestation by implementing Nairobi Work Program.

**E. Purpose and Benefit of Research**

The purpose of writing the minithesis with the title, "The Role of World Meteorological Organization (WMO) in Assisting Indonesian Government Control Deforestation", writer mean to:

1. Studying scientifically the existence and the important of the environment, especially the forest as the infinite asset which is already draw attention for every group of people, neither developed nor developing country, mainly for the observer of International Relations Studies especially about the action of International Organization dealing with environment problem, in this case, role that played by World meteorological Organization (WMO) in solving deforestation problem in its member country, that is Indonesia.
2. Identify the importance of the effort protect the environment toward the future of biodiversity.
3. As an accomplishment of final task as clauses to pass strata 1 in order to degree of Master of Political Studies from Social and

Political studies Faculty of *Universitas Muhammadiyah Yogyakarta.*

**F. Research Method**

To collecting data, writer is using library research. Its mean that writer search the data by using book materials like, books, journals, newspaper, tabloid, and articles as the source of data. Writers also use the data from the sites on internet about, global climate change, deforestation Indonesia and WMO.

As for the technique or analytical steps that are used as follows. After collecting the materials and data's, then writer will do the selection based on relevance with the problem. The data must in line with the indication and tendency of International Relation at the present that become research object that is low politics. After the selection, the next step is analyzing the related data based on theoretical framework which already explains above.

**G. Range of Research**

This research will focused in on the beginning of implementation of Nairobi Work Program. This research also focused on deforestation problem in Indonesia since first era of commercial exploitation of forest in Indonesia in mid 1960s and Indonesian government policies to manage its forest under Susilo Bambang Yudhoyono regime.

**H. System of Writing**

**Chapter I** is the formulation of background of main problem and idea of framework and also proffering of main problem, hypothesis and theoretical framework which is related to problems background. This chapter also mentions

writing purpose of this thesis, technique of collecting the data, scope of research and System of writing of this thesis.

**Chapter II**, in the first of this chapter author will explain about World Meteorological Organization generally. In the further will explain about the history, system of work and strategy which is used in order to run its duty as the specialized UN Agency on weather, climate and water.

**Chapter III**, first part of this chapter will explain about Deforestation in global. The second, author will explain about the history of deforestation in Indonesia, the cause and effect of it deforestation and the policy of Indonesian government in manage it forest

**Chapter IV,** in the beginning of this chapter author will describe the Nairobi Work Program. In the further, author will explain about the role of WMO in implementing Nairobi Work Program as the base of work program of WMO to assist Indonesian government to solve deforestation problem in its country.

**Chapter V** as the last chapter in this thesis and also as the closing of this thesis. This chapter will mention conclusions from the explanation in chapter I, II, III, and IV which already explain before.