

**An Empirical Assessment of the National
Environmental Policy Plan (NEPP) as an Adaptive
Governance Program: the case of Netherlands**

Niloufar Rouzbeh

Submitted to the
Institute of Graduate Studies and Research
in partial fulfillment of the requirements for the Degree of

Master of Science
in
Tourism Management

Eastern Mediterranean University
February 2014
Gazimağusa, North Cyprus

Approval of the Institute of Graduate Studies and Research

Prof. Dr. Elvan Yılmaz
Director

I certify that this thesis satisfies the requirements as a thesis for the degree of Master of Science in Tourism Management.

Prof. Dr. Mehmet Altınay
Dean, Faculty Tourism

We certify that we have read this thesis and that in our opinion it is fully adequate in scope and quality as a thesis for the degree of Master of Science in Tourism Management.

Assoc. Prof. Dr. Habib Alipour
Supervisor

Examining Committee

1. Prof. Dr. Mehmet Altınay

2. Prof. Dr. Hasan kilic

3. Assoc. Prof. Dr. Habib Alipour

ABSTRACT

This study aims to evaluate and explore the organizational structure and programs of Netherlands' environmental institution known as National Environmental Policy Plan (NEPP). The environmental activism has been one of the popular movements in the Netherlands since 1960s. The growth of this movement resulted in the establishment of one of the highly active environmental institutions in Europe. Although, the environmental issues in the Netherlands expanded out of necessity to combat some of the natural and manmade challenges; however, it is the performance and success of NEPP that received several prizes for its success as an example of progressive environmental institution. An evaluation and understanding of factors that involved in the success of this institution is the main objective. Various dimensions including public policy, technological advance, social and cultural aspects, popular support, environmental governance, as well as, economic approaches has been investigated to measure the workings of NEPP. Furthermore, the policy making process and planning approaches are also explored. The aim is to explore how and in what ways the Dutch model can be replicated or remodeled in similar situations. One of the main factors behind the success story of the Dutch case is the involvement of public in NEPP's implementation. This aspect is also focused in the context of bottom-up planning approach. For the purpose of this research, a qualitative methodology based on an in-depth / open-ended interview questions. The convenient sampling aimed to target those respondents who are involved in NEPP and those who have an intimate knowledge of its functions and performance. A close attention has been given to the role NGOs as well. In the meantime, the 'Ecological

Modernization' (Geoforum, 2000) theory has been the theoretical backdrop to this study, which has been guiding the Dutch model.

Keywords: National Environmental Policy Plan (NEPP); Environmental performance; sustainable development; the case of Netherlands; Organizational evaluation; Ecological Modernization.

ÖZ

Araştırmanın amacı Hollanda Çevre Politikası Planı (NEPP) olarak bilinen Hollanda Çevre Enstitüsü'nün örgütsel yapılanması ile programlarını değerlendirmek ve daha detaylı bir şekilde incelemektir. Çevresel aktivistlik 1960'lardan beri Hollanda'da popüler akımlardan biridir. Akımın büyümesi Avrupa'daki en büyük çevresel enstitülerden birinin kurulmasında etkili olmuştur. Hollanda'daki çevresel sorunların doğa ve insan kaynaklı olarak büyümesi onlarla savaşmayı zor bir hale getirse de NEPP'in bu konudaki azimi, başarısı ve örnek bir çevresel örgüt olması ona ödüller getirmiştir. Temel amaç bu başarının arkasındaki faktörleri anlamak ve incelemektir. NEPP'in çalışmalarının incelenmesinde kamu politikaları, teknolojik ilerleme, sosyal ve kültürel yönler, halk desteği, çevresel yönetim gibi konular yanında ekonomik yaklaşımlar da göz önünde bulundurulmuştur. Ek olarak, politika geliştirme süreci ve planlama yöntemleri de incelenmiştir. Amaç, Hollanda modelinin nasıl ve hangi yollarla, benzer durumlara tekrarlanabileceğini bulmaktır. Hollanda'nın başarısının arkasındaki faktörlerden birisi NEPP'in örgütlenmesindeki toplumsal katkıdır. Bu görüş tümevarım planlama yaklaşımına da odaklanmıştır. Bu araştırmanın amacına uygun olarak, nitel metod temel alınmış ve derinlemesine/ açık uçlu cevaplar için oluşturulmuş röportaj soruları kullanılmıştır. Katılımcıların bulunmasında özel amaç örnekleme metodu kullanılmış ve katılımcıların NEPP'in işleyişi ve performansı hakkında bilgisi olan, aktif kişiler olmasına dikkat edilmiştir. STK'ların rollerine daha yakından bakılmıştır. Ekolojik Modernleşme teorisi bu araştırmaya Hollanda sistemini çalışmak için zemin oluşturmaktadır.

Anahtar Kelimeler: Hollanda Çevre Politikası Planı , Çevresel performans;
sürdürülebilir gelişim; Örgütsel değerlendirme; Ekolojik Modernleşme;
Hollanda vaka çalışması.

ACKNOWLEDGMENT

First and for most, I would like to express my gratitude to my supervisor Assoc. Prof. Dr. Habib Alipour for his guidance and for his constant support. This thesis would have not been possible without his generous help, I really owe a great deal to him, for his teachings to enable me to produce this thesis. Furthermore, I would like to thank all the faculty members that helped me during my master courses for their constant encouragement of my study into academic research. Also, I like to thank all of those people who helped me to gather all these information; they answered all my questions honestly. I would like to thank my family, my mom and my dad, my sisters Maryam, Elahe and Haniyeh who have supported me throughout the entire process, both by keeping me harmonious and helping me putting pieces together.

TABLE OF CONTENTS

ABSTRACT	iii
ÖZ	v
ACKNOWLEDGMENT	vii
LIST OF TABLES	x
LIST OF FIGURES	xi
LIST OF ABBRIVIATIONS	xii
1 INTRODUCTION	1
1.1 Introduction.....	1
1.2 Significance of the study.....	2
1.3 Rationale of the study	3
1.4 Methodology and data analysis.....	3
1.5 Organization of the study	4
2 ENVIRONMENTAL ISSUES.....	5
2.1 Background	5
2.2 Importance of Environmental concerns	13
2.3. Approach to environmental problem	14
2.3.1. International level.....	14
2.3.2. National level	21
3 THE CASE OF EUROPE	32
3.1 The case of Netherlands.....	34
3.2 Ecological Modernization Theory (EMT)	37

4 METHODOLOGY AND DATA ANALYSIS	43
4.1 Data analysis	45
4.2 Findings.....	50
5 CONCLUSION AND DISCUSSION.....	55
5.1 Conclusion	55
5.2 Limitations of the study	57
5.3 Implications and contribution	57
REFERENCES.....	59
APPENDICES	66
Appendix A: Dutch EIA towards EIS.....	67
Appendix B: Interview questions.....	68
Appendix C: List of respondents	70

LIST OF TABLES

Table 1: Top 10 environmental issues	10
Table 2: List of approach to environmental concerns in international scale.....	15
Table 3: Principles of Earth Summit, 1992.....	18
Table 4: Objectives of NEMC	23
Table 5: Policies and approached of Brazil regarding the environment	27
Table 6: Hierarchical fluctuation of economic condition of Europe.....	34
Table 7: Five clusters of institutional and social transformations pertaining to ecological modernization theory (EMT).....	40
Table 8: Data analysis and scales of interpretation	49

LIST OF FIGURES

Figure 1: The degree of importance of environmental problems.....	11
Figure 2: Subcategories of environmental issues.....	12
Figure 3: Kyoto Protocol Commitment map 2010.....	17
Figure 4: Trend of ratification of international agreement from 1972 to 2011.....	20
Figure 5: Allocated financial share to international agreements by type of environmental issues	21
Figure 6: Share of the main polluter countries in carbon dioxide emission from 1990 to 2010	26
Figure 7: Environmental health management in Western Australia	31
Figure 8: Map of Europe with capitals.....	32
Figure 9: Political-administrative border of Netherlands.....	35
Figure 10: Consumption practices and the duality of structure	39
Figure 11: Qualitative Data Analysis model.....	46
Figure 12: Qualitative data analysis process	48

LIST OF ABBRIVIATIONS

NEPP	National Environmental Policy Plan
EMT	Ecological Modernization Theory
NGO	Non-Governmental Organization
EIA	Environmental Impact Assessment
EIS	Environmental impact Statement
NIC	Newly Industrialized Country
UNEP	United Nations Environment Program
GHG	Green House Gas
NEMC	National Environment Management Council
NEPA	National Environmental Protection Agency
MEP	Ministry of Environmental Protection
GDP	Gross Domestic product
TEU	Treaty on European Union
EPA	Environmental Protection Agency
CONCOM	Council of Nature Conservation Ministries
AEC	Australian Environment Council

Chapter 1

INTRODUCTION

1.1 Introduction

The Dutch parliament has tried to improve Environmental policy plan, which began in 1989. The general aim of NEPP is to devise environmental programs and approaches to overcome the challenging environmental problems in Netherlands. NEPP designs and prepares plans/policies to guide all aspects of Dutch environmental issues in line with achieving sustainable development. (Klaus, B, 2000). The NEPP and its policy / planning approach have involved various different institutions and organizations, which cover different parts of the country. In order to achieve these targets, there are some private and governmental groups that are responsible for the control of the agriculture, transportation, construction, gas and electricity supply and consumer and retail trade. The degree of participation in the process is multidimensional and multidisciplinary. Dutch government national environmental program under the banner of NEPP has received many praises from various environmental organizations and scholars for its practical approach and success stories (Hofman, 1998; Stanhope, 2000). This study aims to explore the factors and processes behind the success of NEPP. How can it be emulated in different locations? What is the extent of government's input? What is the community's role in the process? Who are the main policy makers? Furthermore, to investigate other issues that has made the NEPP so successful. In the meantime, what are the shortcomings and the weaknesses of NEPP?

Nowadays, Netherlands with the population of more than 15 million is one of the most densely populated countries in the world. “The population density (people per sq. km) in Netherlands was last reported at 492.60 in 2010, according to a World Bank report published in 2012”

(<http://www.tradingeconomics.com/netherlands/population-density-people-per-sq-km-wb-data.html>)

NEPP reviews and approves Dutch policies every 4-6 years. In addition, NEPP established five types of target levels in order to reduce specific goals, which include:

- Local (outdoor planning and reaction)
- Regional (landscapes and industrial practices)
- Fluvial (rivers and seas)
- Continental (continent and ocean)
- Global

In order to develop these targets, all governmental and private organizations strive to focus on each level one by one with details, in order to establish a framework for the country’s environmental policy.

1.2 Significance of the study

Environmental problems and the issue of sustainable development are intensely debated issues around the world. The tourism industry is highly relevant to this topic as well. Without a clear policy and a practical sustainable planning model, achieving environmental goals are not possible. The Dutch story is one of the more highly cited and sampled cases. However, the interworking’s and the nature of NEPP (Maas et al, 2012) are not familiar to all. The familiarity towards this unique plan can provide

valuable insight into the workings and functions of a practical plan towards sustainable development, especially in tourism.

1.3 Rationale of the study

This study is conducted to assess the role of National Environmental Policy Plan in Netherlands as well as the processes, which helped them become successful. In addition, the study contains information to help understand problems that are behind the policy process.

The purpose of this study is to explore the organizational and institutional nature of NEPP as well as to better understand the policy process, factors behind this policy and the variables that have made it a success story. The aim is to explore how and in what way this kind of approach can be replicated. The aim is also to learn lessons from the Dutch case in terms of community participation and responsible approach towards environmental protection and sustainable development.

1.4 Methodology and data analysis

In order to fulfill the objectives of the research, a meticulous investigation will be applied to secondary data regarding EU's publications on STD (i.e., content analysis).

A comprehensive interview with policy makers in the relevant institutions (i.e., in an attempt to explore/describe governance for sustainability); factors that contributed to the success of NEPP will be explored through interviews with relevant institutions. Various NGO's will be contacted for an interview in order to provide vital information regarding the grass-roots level of activism in relation to sustainability. Interviews will also reveal the extent of awareness regarding the implementation of the concept (i.e., especially in line with EU's standards). The study will target different community members to be interviewed in order to explore the nature of

their involvement in environmental protection, conservation, quality and implementation. Data analysis will be furnished through recorded interviews, open coding/ recoding of the interview transcripts, and tabulation of the results.

1.5 Organization of the study

This thesis contains five chapters that will discuss the “empirical assessment of the National Environmental Policy Plan (NEPP) as an adaptive governance program: the case of Netherlands” as well as the importance of this study. Chapter 1 will contain the introduction. Chapter 2 will contain the history of environmental movements and environmental issues as well as the importance of this topic. The second chapter will also include the main approach towards environmental problems and the roles of the government towards developing the environment. Chapter 3 discusses tourism and the environment of Europe by focusing on the problems, plans, institutions and various sectors in Netherlands. Chapter 4 contains the methodology as well as brief information about the qualitative approach, data collection and data analysis. In the last chapter, the thesis is discussed and summarized.

Chapter 2

ENVIRONMENTAL ISSUES

2.1 Background

The history of environmental movements and environmentalism in general is rather a long one. However, its severity as a challenge, most likely dates back to the postindustrial revolution times. This does not mean it was not an issue before then; but it was permeated into the processes of industrialization and urbanization as societies and economies evolved into complex systems. Between 1730 and 1850, the Industrial Revolution sparked an unparalleled wave of mining, forest clearance, and land drainage. It was also a period of the building of great factories. Jobs and economic development ruled. The oceans and rivers seemed unlimited in size and were the sewers of the world. Reacting to this onslaught, a few scattered individuals began to speak out. But it took 150 years for environmentalism to mature into the public movement we know today (Reynolds, 2013).

The history of environmentalism, some believe dates back to the Middle East, as writing that is mainly concerned with pollution and environment were found in Arabic and were written during the Revolution (700-1100 AD). They were primarily concerned with air pollution, water pollution, soil contamination, solid waste mishandling as well as environmental assessments. It is thought that this was the beginning of environmentalism (<http://feelfriendly.com/environmentalism-looking-into-the.html>).

Nevertheless, by 1950, environmental awareness began to grow as certain species fall into the verge of extinction and writings like '*our vanishing wildlife*' by Willam Hornaday drew attention to the demise of wildlife and in a way, coined the 'conservationists' movement. It was followed by more publications such as '*A sand county almanac*' in 1949, which became an influential book on 'conservation'. He believed humans should extend to nature the same ethical sense of responsibility that we extend to each other (Raynolds, 2013).

There are also complaints about the lack of attention to the environmental issues within different perspectives and political persuasions. Some scholars believe that

"A broad lack of historical perspective about green crusaders and environmental events has its origins in both neglect and misinformation. This lack of perspective is becoming more obvious as environmental protection becomes an increasingly important part of the global social fabric. Issues often emerge in the mass media without context and then disappear with little more than symbolic resolution. Political conservatives seem not to recognize the reflection of their own values in conservation movements. Political liberals lack a sense of the traditions of social reform" (<http://www.onehistory.org/green.html>).

In the history of environmentalism, environmental ideas became more popular with the beginning of 20th century. During this century, efforts were being made to save wildlife, and Wildlife Service was formed in 1916. In 1972, the United States Environmental Protection Agency banned the use of chemicals in agriculture.

Environmentalism in the 20th century

The foundations for the institutionalization of the environmentalism and environmental movements were paved by the 1950s as Environmental issues were epitomized by the plight of certain species. These were North American Buffalo, the now extinct passenger pigeon and the near extinction of some other species. The first outcry regarding this topic came from the publication of '*our vanishing wildlife*'

by William Hornaday in 1913. This is considered to be one of the first conservationists to draw attention to the plight of endangered wildlife (Raynolds, 2013).

At this period, Britain was second after the USA to designate certain areas as national parks. In 1951, somewhat behind the US, Britain designated 10 national parks. Not exactly the wilderness areas that constitute America's parks (in Britain wildernesses had long since disappeared), but the British parks afforded protection from further development.

(http://www.eryri-npa.gov.uk/__data/assets/pdf_file/0004/132934/The-History-of-National-Parks-in-the-United-Kingdom.pdf).

The birth of the movement: 1960s and onwards

By the 1960s, changes and new development resulted in serious views and understandings of the environmental issues. Especially in the US, the environmental issues began to take a new discursive nature. Various publications began to appear here and there; however, it was the Rachel Carson's book '*silent spring*' (1962) that brushed upon the views in the US about the nature of environmental problems. As Brulle (2008, p. 5) stated:

'However, these issues were not a major focus of the leading discursive frames of the early environmental movement in the form of wildlife management, preservation, or conservation. Following a number of highly publicized environmental pollution incidents, and spurred on by the publication of Rachel Carson's book *Silent Spring*, pollution concerns rose dramatically among the American public. This gave rise to a new discursive community oriented around a concern that links human health and survival to environmental conditions. In this discourse, nature has a delicate balance, and humans are part of it. This perspective emphasizes that nature is an ecological system, that is, a web of interdependent relationships. Humanity is part of this ecological system'.

Eventually, by the 1970s, numerous views began to appear in relation to the varieties of perceptions of the environment and environmental activism. Environmental concerns and discourse is contextualized into '*environmental management*', '*conservation*', '*Animal rights*', '*preservation*', '*reform environmentalism*', '*deep ecology*', '*environmental justice*', '*environmental health*', '*ecofeminism*', '*eco spiritualism*', and '*Anti-Globalization/Greens*'. In fact, by the 1970s, the discursive process resulted in the establishment of formidable environmental movements such as 'green peace' as well as the opening of environmental sciences fields in universities around the world. By the year 2003, there were 50 environmental organizations in the US alone (Brulle, 2008). At any rate, by the year 1960, the environment became a widely debated issue and the decade is associated with the birth of modern environmentalism. By end of the decade, environmental issues became an international concern that resulted in a significant outcome, which was the establishment of UNEP (United Nations Environment Program), designed to promote environmental practices across the globe. UNEP has coordinated the subsequent Earth Summits. The main concerns were:

- Natural systems are the basis of all organic existence, including humans.
- Humankind is an element within natural ecosystems, and hence human survival is linked to ecosystem survival.
- Ethical human actions (actions which promote the good life for humankind) necessarily promote action toward all life on earth in an ecologically responsible manner.
- Proper use of natural sciences can guide the relationship between humanity and its natural environment (Brulle, 2008, p. 5).

By the year 1972, the first Earth Summit was organized. It was held in Stockholm, Sweden and is generally considered to be the primary defining event of international environmentalism. The Earth Summit was initiated by the developed world to address the environmental effects of industrialization (113

nations attended). Sweden was concerned about acid rain, Japan was concerned about the industrial poisoning of their seas and oil tankers spilling their cargoes were a concern worldwide (Raynolds, 2013). By the 1980s, the overall environmental movements were pushed away from the limelight.

Water and air pollution caused a wave of diseases in the European countries in the 15th century. In addition, there were some practices in India, China, and Peru in terms of soil contamination about 2000 years ago. As a result of powerful media and global awareness, there were no public actions that were taken (Dalton, 1994).

Proceedings of environmentalist experience remarkable fluctuations during the recent centuries. In 1969, the seepage of the huge volume of oil in Santa trigger a large demonstration in the United States that caused the naming of that day as "Earth Day" in 1970. Millions of people hold an anniversary every year on the 20th of April to criticize the human activities against the environment.

Commonly, opposing sides including oil companies, conservative politicians, climate change, and repudiating media try to underdog the catastrophic consequences of environmental issues. Nevertheless, 40th anniversary of Earth day (2010), considering great challenges, was splendidly held by thousands of campaigners which lead to some green activities like tree planting and boosting well-arranged coherent measures (Gottlieb, 2005).

Some researchers believe that 1970 is the birth date of modern environmental movements. Regarding the apparent emergence of more aspects of environmental problems in the 19th century, some scholars reported contemporary environmental

movements were exerted in this period, which was inspired by the industrial revolution. Actually, most contributors including politicians, economist, and players in private and public sectors followed the Neo-liberalism perspective that has a significant effect on the increment of environmental issues. Environmentalists believe that the government, compared to, is a major contributor in mitigating the environmental issues through legislation and surveillance policies (Brulle, 2000). Generally, Environmental movements are tied with other socioeconomic factors such as animal and human rights, hunger and poverty, disease and war, etc. (Buttel and Flinn, 1974). Nowadays, the structure of environmental movements with the assistance from the Internet such as social networks, media, and technology development has been changed. However, the environmental issues are not only still present, but they also intensify over time.

To assess the history of environmental activities, recognition of its issues is very important. Investigation of previous studies revealed that 10 main environmental issues influence the earth and its inhabitants and are listed based on the priority in Table 1 below.

Table 1: Top 10 environmental issues

Rank	Issue
1	Climate change (global warming)
2	Energy production (consumption of fossil fuels)
3	Waste treatment and management
4	Agricultural production and water management

- 5 Air, land and water pollution
- 6 Deforestation (greenhouse gas emissions and biodiversity)
- 7 Mass consumption
- 8 Threat of disease
- 9 Endangered flora and fauna
- 10 Public Health

Source: adapted from Brandon (2013)

In Figure 1, results of the Scottish government’s survey about environmental issues have been ranked by people, which are split into three levels of importance. However, 8 issues were present in the survey that is more tangible in their countries. These issues more or less have affected the other countries (Scottish Government, 2006). Comparing the level of importance of environmental issues, which listed in Figure 1, Climate change and energy are the two main environmental concerns.

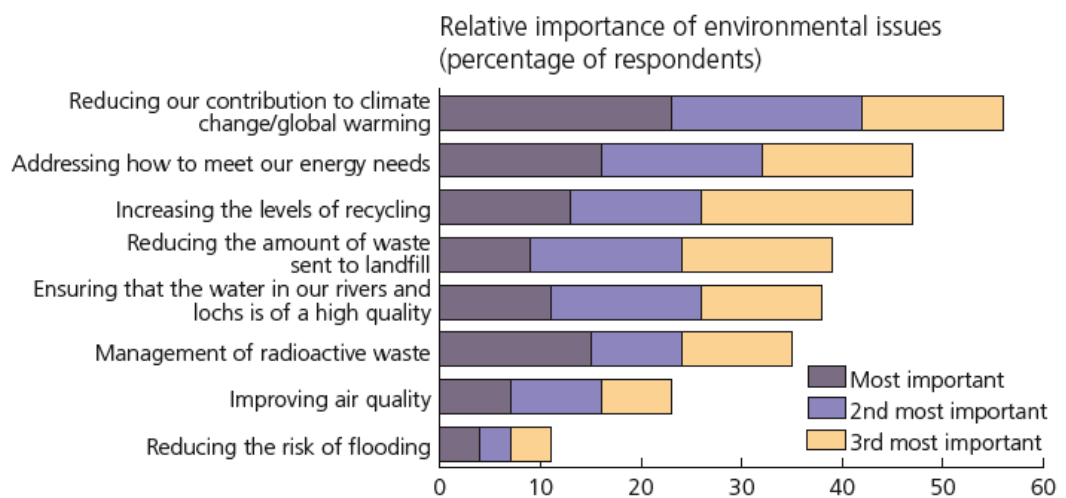


Figure 1: The degree of importance of environmental problems
Source: (Scottish Government, 2006).

To scrutinize the environmental issues, some categories of environmental problems and its outcomes that accompanied by drastic questions that must be answered are depicted in Figure 2. As mentioned above, the scale of environmental problems has been influenced over the time. In the past, the issues were exclusive to soil, air or water pollution in the country, but it has since expanded in an international scale. For instance, climate change is an international phenomenon that have global impacts.



Figure 2: Subcategories of environmental issues
Source: (Moslemi et al, 2009)

Natural disasters, overpopulation, extinction of fauna and flora, and the lack of resources become a worldwide concern that both directly and indirectly have been effected the environment. Apart from the negative results of human activities that significantly degrade the life of elements of the universal ecosystem, humanity had entered the equation of the environmental movement.

2.2 Importance of Environmental concerns

The main reason that environmental problems became critical and a part of contemporary issues is that the environment contains all elements of earth and if the balance between the components of this ecosystem are disturbed, disastrous events tend to occur. Because the environment is a series of interconnected systems, the interruption in one part would affect other parts of the ecosystem regardless of spatial and temporal scales.

Another factor is the type and source of energy as well as the food chain, which are not renewable and finding alternative sources demand a high level of technology and huge investments. The earth is the only thing that all creatures have and can live on. Hence, degradation of its elements leads to irreparable consequences for all species. The destruction of the ozone layer is an appropriate example that derived from human actions, which affects daily life by increasing the chances of skin cancer. Utilization of fertilizers and harmful chemical materials that are injected to the food chain will come sooner or later affect the body of all species (Pourfarzi, 2009). If we add the humanitarian perspective, the impacts of humans are not limited to mankind, but also other species including fauna, flora and even microorganisms. In other words, destructive tendencies of mankind are not compatible with ethical principles.

The National Geographic Society writes (2010):

"The fragile balance of plants and animals that share the Earth took millions of years to develop. Some life-forms have persisted in nearly their original state, surviving episodes of mass extinction. Some, like ourselves, are relative newcomers. The ones that have perished will not return. Neither will the thousands of species that are disappearing each year due in large part to such human influences as habitat destruction, introduction of invasive species, and overharvesting. If we continue reducing Earth's biodiversity at this rate, the consequences will be profound. The web of life connects the smallest bacterium to the giant redwood and the whale. When we put that web in peril, we become agents of calamity".

Source: <http://globalresearchgateway.wikispaces.com/Environment>

It is frequently mentioned that every country should care about the environment through land conservation and the protection of fauna and flora as well as adjusting their resource usage according to sustainable development principles (Kasperson, 2013). It would be a more selfish approach to consume resources, especially non-renewable sources to benefit the current generation regardless of the future generation. Mankind should control the influence through preparing a sustainable and a responsible approach in order to maintain the beauty of the nature.

2.3. Approach to environmental problem

2.3.1. International level

Most environmental issues need international coherence because the cause and effects of environmental problems are internationally connected and require internationally coordinated solutions. Hence, countries execute some policies from decision-making steps to practice through international agreements. All environmental aspects have their own significance. Various issues are assessed on the table of international conference that is provided in Table 2 (European Commission, 2013).

Table 2: List of approach to environmental concerns in international scale

No	Issue	Approach	Year
1	Air	Geneva Convention on Long-range Transboundary Air Pollution (CLRTAP)	1979
2	Biotechnology	Cartagena Biosafety Protocol to the Rio Convention on Biological Diversity (1992) and its Supplementary Protocol on Liability and Redress (2010)	2000
3	Chemicals	PIC Rotterdam Convention on Prior Informed Consent	1998
		POP Stockholm Convention on Persistent Organic Pollutants	2001
4	Civil Protection & Environmental Accidents	Helsinki Convention	1992
		Barcelona Convention	1976
		Helsinki Convention on the Baltic Sea	1992
		OSPAR Convention	1992
		Bonn Agreement	1983
		Lisbon Agreement	1990
5	Climate Change and Ozone Depletion	UNFCCC Framework Convention on Climate Change and Kyoto Protocol (1997)	1992
		Vienna Convention and Montreal Protocol	1985
		Aarhus Convention	1998
		Espoo Convention	1991
6	Industry	Helsinki Convention	1992
7	Land use	Alpine Convention	1991
8	Nature and Biodiversity	Rio CBD Convention on Biological Diversity	1992
		Bonn CMS Convention	1979
		Bern Convention	1979
		Conservation of Vertebrate Animals Convention	1986
		Alpine Convention	1991
		Protection of the marine fauna and flora of the Antarctic Convention	1980
9	Soil	UNCCD Convention to control desertification (Africa)	1994
10	Waste	Convention on hazardous wastes in Basel	1989
		Convention on Civil Liability for Damage Caused during Carriage of Dangerous Goods by Road, Rail, and Inland Navigation Vessels (CRTD) / (Geneva)	1989
		Convention on the ban of the Import into Africa and the Control of Transboundary Movements and Management of Hazardous Wastes within Africa (Bamako)	1991
		Convention on the Transboundary Effects of Industrial Accidents, (Helsinki)	1992
		Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, (Rotterdam)	1998
		European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways (AND) / (Geneva)	2000
		European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) / (Geneva)	1957
		FAO International Code of Conduct on the distribution and use of Pesticides, (Rome)	1985
		Stockholm Convention Stockholm Convention on Persistent Organic Pollutants Stockholm	2001
		Waigani Convention Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region, (Waigani)	1995

		Minamata Convention on Mercury, (Minamata)	2013
11	Water	Helsinki Convention on Watercourses and International Lakes	1992
		River basin conventions (Danube (1987), Elbe (1990), Oder (1996), Rhine (1999))	
		Barcelona Convention	1976
		OSPAR Convention	1992
		Bonn Agreement	1983
		Helsinki Convention on the Baltic Sea	1992
12	Nuclear Program	Comprehensive Test Ban Treaty	1996
		Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (Assistance Convention)/ (Vienna)	1986
		Notification Convention / (Vienna)	1986
		Convention on Nuclear Safety, (Vienna)	1994
		Vienna Convention on Civil Liability for Nuclear Damage, (Vienna)	1963

Source: (European Commission, 2013)

-Well-known multinational agreements

The most famous agreements are Protocol of Kyoto, Rio Declaration, and Vienna Convention. These international approaches, because of their importance, are briefly introduced below.

-Protocol of Kyoto

This Convention was held by the United Nations in Kyoto, in 1997. The countries gathered in Japan to come up with census about the Green House Gas (GHG) emissions. The responsibilities of industrialized countries that have more contribution towards GHG emissions are higher, thus increasing the effort that needs to be implemented to reduce Green House Gases. In 2000, Countries agreed to match the level of GHG emission to their level in 1990. The type of commitment and collaboration of the countries is demonstrated in Figure 3.

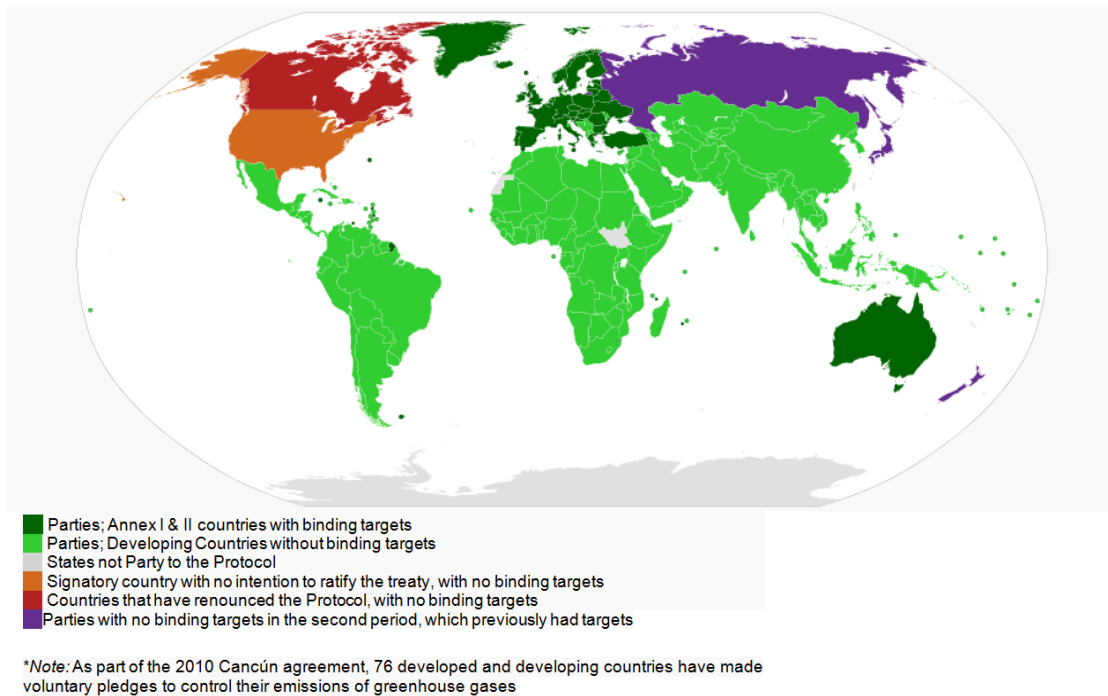


Figure 3: Kyoto Protocol Commitment map 2010
 Source: http://en.wikipedia.org/wiki/Kyoto_Protocol

Two periods were assigned for monitoring the performance of the responsible countries in terms of GHG emission reductions which between 2008 and 2012 as well as 2012 to 2020. However, the protocol was amended in 2012.

- Vienna Convention

This convention was aimed to protect of the Ozone layer in 1985, which was a successful multinational agreement, because more than 196 countries (and European Union) ratified the content of this agreement. Three years after the signing of the agreement, members were forced to follow the context of the Vienna convention.

-Rio Declaration

The UN in Brazil held Rio Declaration on Environment and Development, referred to simply as the Rio Declaration, in 1992. The contexts of 27 principles lead to the Rio declaration known as the Earth summit (Table 2).

Table 3: Principles of Earth Summit, 1992

Preamble	
Principle 1.	Human beings are at the center of concerns for sustainable development.
Principle 2.	The sovereign right of States to exploit their own resources and the responsibility to ensure that their activities do not cause damage to environment of other or of areas.
Principle 3.	The fulfilment of the right to development so as to equitably meet development and environmental needs of present and future generations.
Principle 4.	The inseparability of environmental protection from development.
Principle 5.	International cooperation for the eradication of poverty.
Principle 6.	The assignment of special priority to the special situation and needs of developing countries.
Principle 7.	Global partnership, and common but differentiated responsibilities.
Principle 8.	The reduction and elimination of unsustainable patterns of production and consumption, and the promotion of appropriate demographic policies.
Principle 9.	The elevation of endogenous capacity-building for sustainable development through transfer of technology etc.
Principle 10.	Appropriate access to information and effective access to judicial and administrative proceedings.
Principle 11.	The enactment of effective environmental legislation, the establishment of environmental standards reflecting the environmental and developmental context to which they apply.
Principle 12.	The avoidance of unilateral actions to deal with environmental challenges outside the jurisdiction of importing countries.
Principle 13.	States' liability and compensation for the victims of pollution and other environmental damage.
Principle 14.	The cooperation for the prevention of the relocation and transfer to other States of any activities and substances that cause severe environmental degradation.
Principle 16.	The promotion of the polluter pays principle (PPP), the internalization of environmental costs and the use of economic instruments.
Principle 17.	Environmental impact assessment.
Principle 18.	The notification to other States of any natural disaster or other emergencies likely to produce harmful effects on the environment of those States and efforts by the international community to help the States so affected.

Preamble	
Principle 19.	Prior and timely notification and relevant information to potentially affected States on activities that may have adverse transboundary environmental effect and consultation with those States.
Principle 20-22.	The vital roles of major groups (women, the youth and indigenous people, etc.) in environmental management and development.
Principle 23.	The protection of the environment and natural resources of people under oppression.
Principle 24.	The respect of international law providing protection for the environment in times of armed conflict.
Principle 25.	The interdependence of peace, development and environmental protection.
Principle 26.	The resolution of all environmental disputes by peaceful means.
Principle 27.	The cooperation of States and people in the fulfilment of the principles embodied in this declaration.

Source: <http://www.env.go.jp/en/wpaper/1993/eae220000000055.html>

Fortunately, there is a universal census regarding international environmental approaches both quantitatively (Figure 4) and qualitatively (Figure 5)

The growth of the ratification of most international agreements met about 200 parties in 2011. This proves that an international environmental awareness has emerged in an acceptable rate (Figure 4).

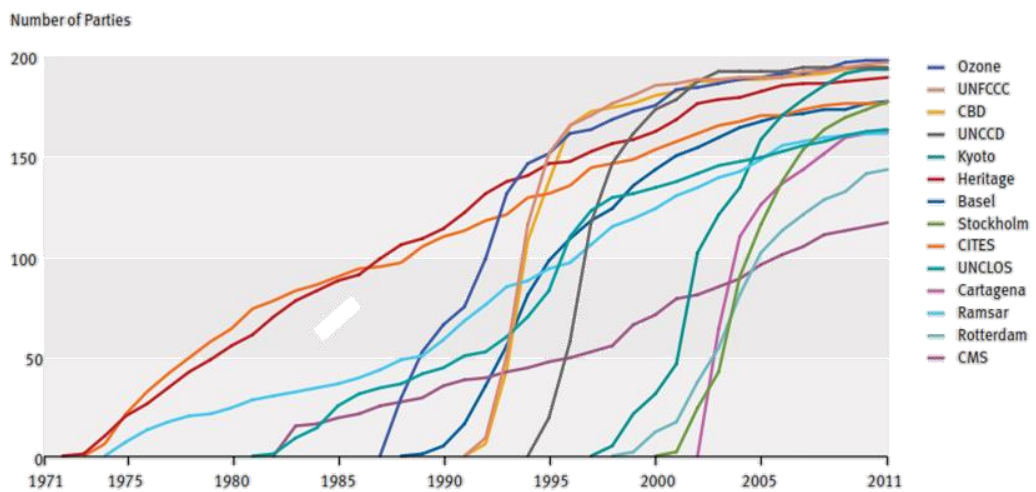


Figure 4: Trend of ratification of international agreement from 1972 to 2011

Note: Each line represents an international treaty

Source: Secretariats <http://geodata.grid.unep.ch>

According to Ivanova and Delina (2012), approximately US\$162 million was allocated to selected global multilateral environmental treaties. The distribution of financial resources by the type of issue is depicted in Figure 5.

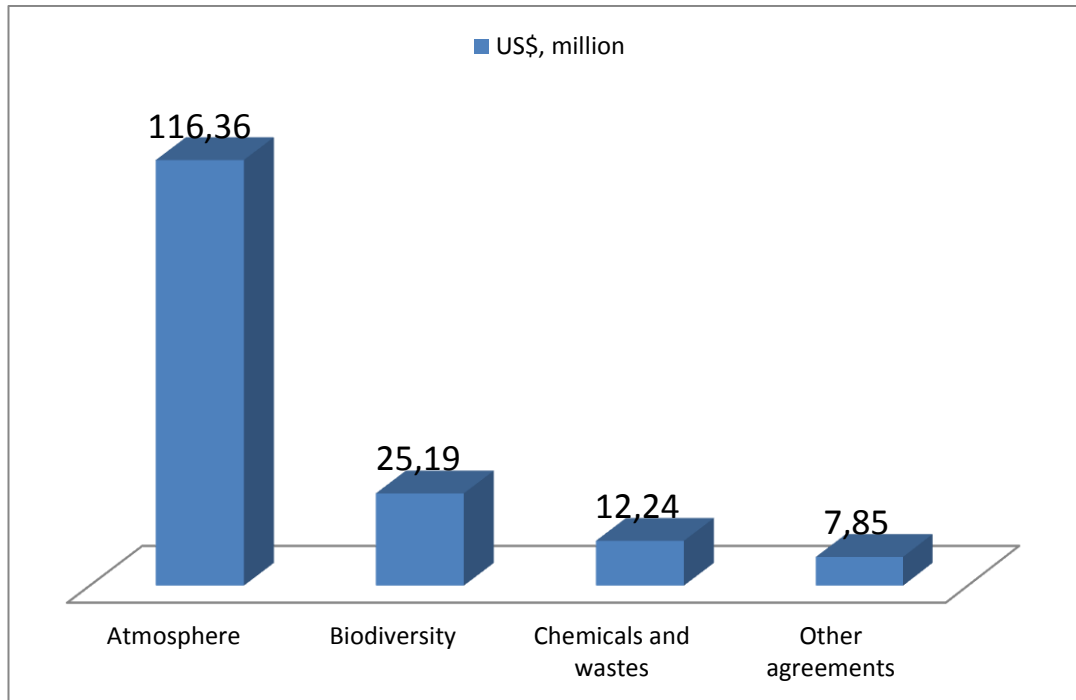


Figure 5: Allocated financial share to international agreements by type of environmental issues

Source: Ivanova and Delina ,2012

2.3.2. National level

Most countries follow international agreements through the implementation of the approaches in national scales. Solomon (2010) classified the national response to environmental issues in the following three approaches:

1. Education program
2. Environmental ethics
3. Environmental legislation

All of these factors have significant effects on the mitigation of environmental concerns, which should be exerted at the same time to be able to contribute to the decision-making based on the protection of the environment in a national level.

There are lots of scholars that have reported that the government has a key role in the protection of the environment through the selection of policy, agreement, education, and projects, and so on from a local level to international levels. In fact, if the governors of one country care about of environment, environmental observation is improved greatly across the country. The major function of the government is the social-economic system, which has been imposed on the management of the country. For example, countries where observed based on a Neo-Liberal perspective, rather than a structuralism approach, who suffered from the outbreak of environmental issues. In other words, the social-economical perspectives of each country determine the policy and regulation of the majority. If the governments arrange its policy based on profit, regardless of other considerations like social and environmental indicators, not only sustainable development will fail, but also cause irreparable environmental issues.

In addition, different parties and groups have been involved with the decision-making process for the implementation of the policies. The government is responsible to coordinate all contributors including local communities, environmentalists, range of stakeholders, and entrepreneurs, who all seek to profit in all steps of the procedure. There are some evidences that proved some governments, especially, the ones from developed countries, are successful in the participation and the collaboration of all representatives in exerting the government's policy regarding environmental issues (Harding, 2006).

In this section of the research, policy, approach, and performance of countries from various continents have been scrutinized as followed:

Environmental issues and Government's approach
African case (Tanzania)

In this country, the environment division is in charge of the policy formulation, planning, research, surveillance and monitoring the environmental problems.

In 1983, after the introduction of the National Environment Management Act, the National Environment Management Council (NEMC) was established to provide technical suggestions and advices for the government and the international organizations in terms of the various ranges of environmental concerns. NEMC aims to meet the following objects that are demonstrated in Table 4.

Table 4: Objectives of NEMC

No	Object	No	Object
1	Provide technical advice	4	Assess, monitor and evaluate activities that impact the environment
2	Coordinate technical activities	5	Promote and assist environmental information and communication
3	Develop enforcement guidelines and procedures	6	And seek advancement of scientific knowledge

In 1997, Tanzania follows the National Environmental Policy as a guideline for environmental actions.

Tanzania has anxiously participated in the Earth summit in Rio (1992) as well as the Biological Diversity in 1996.

Over time, in 2004, the Environmental Management Act has been proposed as a legal and a well-structured guideline for the environmental managers of Tanzania.

Environment Management act provides a road map for decision-making, evaluation of environmental issues, implementation of policies like taxation, giving licenses and so on. However, formulating, planning, and announcing the environmental policy and their priorities have its difficulties as implementing, coordinating and exerting these policies is not an easy task. Tanzania has been faced with the enforcement of formulating regulations due to the lack of management skills and drastic systems for the protection of the environment (Pallangyo, 2007).

-China

China is one of the most industrialized countries in the world that has a significant contribution in the increase of pollution and other kinds of environmental issues. Hence, assessment of China's approach regarding environmental problems is both nationally and internationally important.

The first formal action of China House was inspired by the Conference on the Human Environment that was held in 1972. Afterward, the Chinese initiated agencies to protect the environment and implemented a waste management system. Hopefully, among the developing countries, they can become a pioneer in considering sustainable development principles. Since 1983, environmental protection was urged as one of basic national policies in China. In 1984, National Environmental Protection Agency (NEPA) was introduced. After the promotion from an agency to a ministry by Yangtze River in 1998, its name changed from NEPA to State Environmental Protection Agency (SEPA). The importance of environmental issues from the view of the Chinese government lead to the upgrade of the name from SEPA to MEP which stands for the Ministry of Environmental Protection that occurred in 2008 (Zhang Kun-min; Wen, peng 2008).

China experienced an economic loss due to pollution and land dilapidation, as much as 10.3 percent and 7.7 percent of GDP of China was lost in 2002 and 2005, respectively. Water and air pollution were the main causes of ecological degradation, which resulted in economic losses (Zhang Kun-min; Wen, Zong-guo, 2008).

In the recent decade, China has become one of the pioneer countries in GDP growth per year (about 9.64). To achieve such a progress in the economic sector means that there must be sacrifices in other parts, especially in catastrophic environmental destruction. This approach has destroyed the balance of nature, because concentrations on economic profits lead to irrecoverable challenges in the environment. For this reason, China was ranked 121 among 163 countries in terms of Environmental Performance Index in 2010. Chinese have gained remarkable success in the economy but in the meantime, environmental protections become one of the main concerns. They initiated to combat the sources of pollution and investment growth in renewable energy by 18 percent (US\$15.6 billion) in 2007. This amount accounts for about 10 percent of the universal investment in the renewable energy sector.

In this regard, in 2008, China spent approximately 1.5 percent of GDP to alleviate negative effects of economic growth on the environment, which was 3.4 times more than the GDP rate in 2000. Nevertheless, according to global statistics of carbon dioxide emission, China is one of the main contributors of global warming phenomena (Figure 6).

CO₂ emissions per capita from fossil fuel use and cement production in top 5 emitters

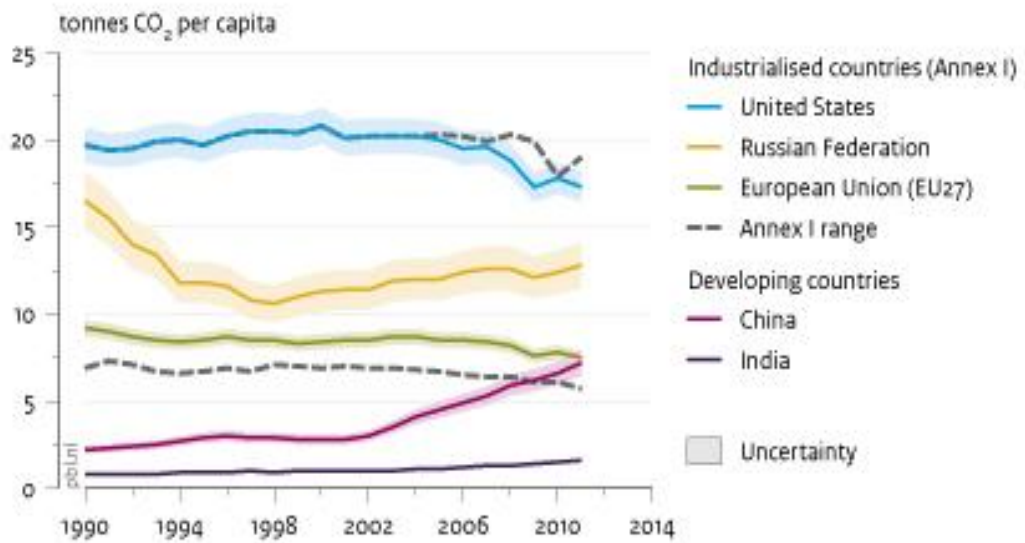


Figure 6: Share of the main polluting countries in terms of carbon dioxide emissions from 1990 to 2010

In three decades, the amount of protected areas increased from 34 to 2, 538, which covers more than 15 percent of the country, which is higher than the international average (Chunmei et al, 2010). Chinese rightly know that the sustainable development comes from successful natural resource conservation. Due to the high growth in economics, they are capable of investing in environmental protection projects. Thus, the economic and environment is fully integrated in China (Liu et al, 2008).

European Union

To investigate external and internal events, countries of the European region held a summit, entitled the Treaty on European Union (TEU) in Maastricht in 1992. TEU was ratified by all members of the union, and were enforced to follow environmental policies as well as care about natural resources. The member states show an acceptable level of effort in this regard.

Latin America

Six countries from Latin America including Mexico, Brazil, Ecuador, Venezuela, Peru, and Colombia show low levels of concern towards environmental protection. Ecological degradation such as land erosion, deforestation, biodiversity, air and water pollution and so on are frequently observed in these countries. As a result, the United Nations Environment Program (UNEP) has identified these countries.

-Brazil

More than 48 percent of Brazil is covered by tropical forests (4,105,401 km²). The Amazon forest a unique treasure of plant and animal species in the world. Since Brazil is the host of 1,500, 000 million (20 percent) species that are universally identified (Lewinsohn, 2004), environment issues have a special importance at a national and an international level. The correspondence organization of Brazil is Environment Ministry, which was established with a different name in 1973.

The Brazilian Environment Ministry has been assigned to track environmental policies, which are listed in Table 5.

Table 5: Policies and approached of Brazil regarding the environment

No	Object	No	Object
1	A national policy for the environment and for water resources	4	Policies for integrating production and the environment;
2	A policy for the preservation, conservation and sustainable use of ecosystems, biodiversity and forests	5	Environmental policies and programs in the Legal Amazon
3	Proposing strategies, mechanisms, economic and social instruments for improving environmental quality, and sustainable use of natural resources	6	Ecological and economic territorial zoning

Fortunately, 50.6 percent of the Amazon has been conserved in the context of protected areas like national parks in 2011. However, around half of the Amazon (2.2 million km²) is occupied by people indigenous to that area.

United States

As shown in Figure 6, United States is the most delinquent of ecological degradation in the world during the recent decades. They even failed to ratify some of the important international agreements like the Kyoto Protocol. However, they declared to follow environmental protection independently; the economic statistics prove that considering their shares in pollution and degradation, their efforts are not satisfactory.

The US has established the Environmental Protection Agency (EPA) for the purposes of environmental protection and health of humans in 1970. The divisions of EPA were initiated in all states of America, which were named the departments of environmental protection (State Environmental Agencies, 2010).

Australia

According to a decision taken in 2008, about 13 percent of Australia is isolated as protected areas, which is 98,487,116 ha. Australia is a country that is surrounded by water and inland areas are mostly dry. About 64,615,554 ha of the marine area were conserved in the context of protected marine regions (Sattler and Creighton, 2011).

In 1879, two national parks (Royal National Park and National Park) were initiated as Australia's first actions towards Environmental protection.

International approaches such as the United Nations Conference in 1972, the Environmental Committee of the OECD in 1970, and the United Nations Environment Program of 1972 have significant and positive effects on environmental protection procedures of Australians.

Before 1970, the environmental regulations had remarkable drawbacks. Aforementioned treaties resulted in the environmental awareness of both public and private sectors and the process of implementation of environmental policy became more unproblematic.

Along with this movement, the Australian Environment Council (AEC) was established in 1972 that was followed by the initiating Council of Nature Conservation Ministers (CONCOM) in 1974. Apart from national duties, these organizations work hard to boost collaboration of Australia with neighboring countries in terms of ecological conservation and protection policies.

Australia has a special geographical location, which enables it to be the home of various animal and plant species that are native to this country. These species can be considered as unique resources or a valuable natural heritage. Government efforts at a national level function in the context of environmental conservation policies in 1999, which figure out the importance of biodiversity (fauna and flora), natural and cultural sites, and ecological communities. Actions that guarantee the commonwealth have been considered in Australia's agenda and logic behind this is constructive consequences of commonwealth on conservation of environment.

Australian Alps National Parks, Kakadu National Park and Christmas Island National Park are some examples of commonwealth-protected areas that have a high level of biodiversity and are managed with the association of local landlords.

Hierarchical structure of environmental policy and plan of Australia, consist of three levels, which are global, state, and regional. They have been demonstrated in Figure 7. This plan is inspired by the Environmental Protection Act of 1986, which is composed of the formulation of policy, implementation, monitoring and assessment of projects (Environmental Protection Regulations, 1987).

Like United States, Australia established a division of Environment Protection and Biodiversity Conservation Act in each state to take actions and surveillance on environmental issues.

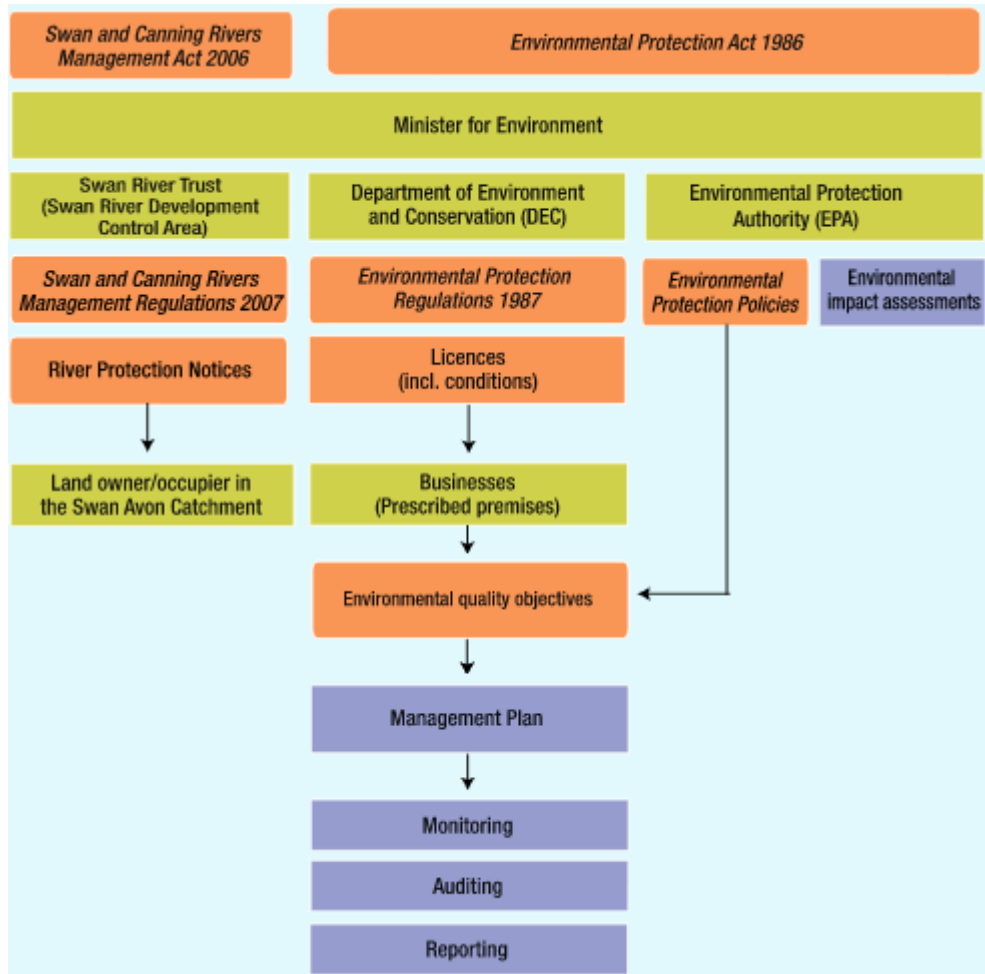


Figure 7: Environmental health management in Western Australia
 Source: <http://archive.nwc.gov.au>

Chapter 3

THE CASE OF EUROPE

Europe has been ranked as the second smallest continent in the world, which covers more than 10 million km². In spite of a relatively small area, it is considered as the third-most populated continent where it contains less than 750 million people (about 11 percent of the population of the world). It contains 50 countries that is shown in Figure 8.



Figure 8: Map of Europe with capitals

Source: <http://mapsof.net/map/map-of-europe-with-capitals#.Uq9-fD6Wbgk>

Europe is the origin place of western culture (especially Greece) that had flourished after the 15th century. In the 18th century, extreme changes in economy, social, and culture have occurred, which was caused by the industrial revolution. European countries have some fluctuations that were influenced by the world war as well as the cold war.

As depicted in Figure 8, Europe is surrounded by the Atlantic Ocean on the west side, the Arctic Ocean on the north side, and the Mediterranean, Black, and the Caspian Seas on the south side. Unlike other continents same latitude, the climate of the Europe is milder, which is influenced by the Gulfstream. The Alp Mountain is one of the main geological features of this continent.

This continent is called the Green continent, because it is the only continent that is not a host to any desert land and more than 80 percent of this continent is covered by forests. Dense forests ensure Europe has a rich biodiversity.

Europe is the richest continent in the world with more than \$32.7 trillion assets under management. Nevertheless, Europe's economy passed some changes that can be categorized in four main periods as noted in Table 6.

Table 6: Hierarchical fluctuation of economic condition of Europe

No	Period	Description
1	Pre–1945	Industrial growth
2	1945–1990	The Cold War
3	1991–2007	Integration and reunification
4	2008–2010	Recession

Source:

<http://web.archive.org/web/20101219193839/http://www.aolnews.com/2010/05/08/europe-tries-to-calm-fears-over-greek-debt-crisis/>

3.1 The case of Netherlands

Kingdom of Netherlands is surrounded by the North Sea to the North and West, by Germany to the East and from Belgium to the South is the West European country. With a population of 16 million people, it has one of the highest populations in Europe (Figure 9). According to its geographic position, thirty percent of this land is below the sea and sixty-five percent is devoted to agriculture, which is water boards in this land and occupies a special place in the Dutch system and its richness of water sources.



Figure 9: Political-administrative border of Netherlands
 Source: <http://www.eu.srars.org/awards/nlpa/netherlands-map.jpg>

Netherlands is located at the mouth of the Rhine River, which is one of the most polluted waters in Europe. Due to the intensive use of agricultural areas, traffic and heavy industry, the GDP of Netherlands is among the highest in the world (Hofman, P, 1998).

The Netherlands has three parts of administration, which includes:

- National government
- 12 provinces which divided into 6 original parts

North Netherlands (provinces Friesland, Groningen, Drenthe)

East Netherlands (provinces Gelderland, Overijssel)

Central Netherland (provinces Utrecht, Flevoland)

South Netherlands (provinces Limburg, Noord- Brabant)

Noord- Holland province Noord-Holland

Zuid-Holland province Zuid- Holland

- The municipalities (650)

Existing communities played an important role in this country which shows the policy of the Dutch environment and its long tradition (Chantal et al ,2012).

The increase in water pollution and the reliance on industry, Netherlands was one of the most polluted countries in the world. The Dutch government, towards the end of 1960s, strived to follow other industrialized countries such as the United States to begin examining environmental issues (Brulle, 2000). In 1980s, with a small group of environmental politics, sociology and social scientists developed an ecological modernization theory to practice unplanned social changes such as the National Environmental Policy Plan. Joseph Hurber, the father of ecological modernization theory proposed that “spirit of ecological modernization as a solution to environmental problems” (Hurber, J, 1985). Also, he argued that in the development of the industrial society, ecological modernization is an inevitable phase, which follows an industrial breakthrough and the construction of an industrial society.

3.2 Ecological Modernization Theory (EMT)

In recent decades, Ecological modernization has frequently been cited by scholars as well as environmental activists. According to Hajar, Ecological modernization is an analytical theory that refers to integration of economy and environment (1995).

In the 1980s, German researchers (Joseph Huber, Martin Jänicke and Udo E. Simonis) proposed the ecological modernization theory. At the same time, a census has emerged that lead to some authors like Donald Huisingh, Ernst Ulrich von Weizsäcker, Arthur H. Rosenfeld, René Kemp, and Amory Lovinsr to discuss this theory. Arthur P.J. Mol, David A Sonnenfeld and Gert Spaargaren can be considered as the key authors of this social theory (Mol 2001).

Ecological modernization theory emphasizes on the optimistic perspectives of resource utilization. The researchers of this approach hope provide economic benefits to the exploitation of the natural resources which concerns environmental conservation. Based on ecological modernization, humans can function as an active player in the protection of the environment through the application of innovative plans, which alleviate irreversible consequences of consumption and disturbing natural resources such as soil, air, water, fauna and flora in the ecosystem.

The ecological modernization theory has been translated into various fields, especially economy, politics, and industry. Furthermore, Ecological modernization can be formulated in ethical issues that influence the value, mind, attitude and behavior of humans. However, ecological modernization stresses innovative changes in different scopes. Modernization in the environment field has been expected and investigated by both researchers and decision-makers. From theory to practice,

process, political, economic, cultural, scientific, and institutional contributors should be involved in order to provide an implementable setting (Huber 2004).

Concepts of sustainable development, industrial metabolism, and industrial ecology are the three main approaches that have common principles with the ecological modernization theory (Ayres and Simonis, 1994; Socolow, 1994). Weak points and drawbacks of these three approaches, especially in execution phase, results in the advent of ecological modernization theory. In addition, According to the literature, civil movement and social actions have a significant impact on the demand of the change in the context of ecological modernization (Fisher and Freudenburg, 2001).

As aforementioned, ecological modernization theory can be employed in diverse issues such as:

- "Sustainable household" which refers to the restructuring of the lifestyle of the family based on environmental issues like the correct usage of resources, materials, and energy (Vergragt, 2000). In Figure 10. The visual mechanism of the consumption principle is shown.

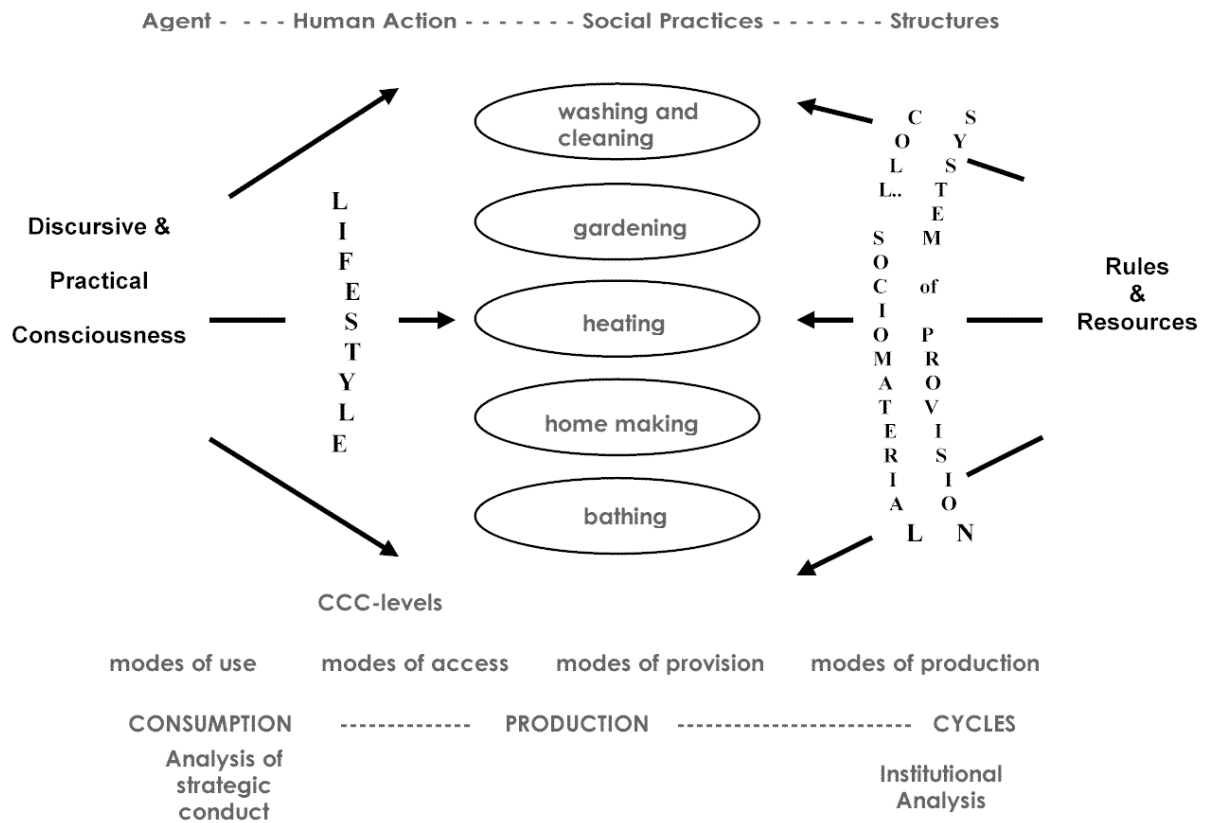


Figure 10: Consumption practices and the duality of structure
 Source: <http://www.lancaster.ac.uk/fass/projects/esf/spaargaren.htm>

- "Industrial symbiosis" that stresses the need to recycle materials that assist in the mitigation of consumption processes that enhance efficiency levels. In other words, the waste of some goods that is considered as unusable materials can be used as raw materials (input) of the produce of another commodity (Braungart and McDonough, 2002). Replacement of old cars with new ones is one of the examples of Industrial symbiosis.
- "Environmental governance" includes environmental transformation through the steering function of stakeholders such as environmental activists, market-oriented groups, and other relevant communities. Environmental governance that named political modernization needs to be advocated by the press,

human right organization, etc. Beck (1999) believes that the internet has a striking contribution in the success of this vision.

To complement the above items, five clusters of institutional and social transformations that are derived from the ecological modernization view are listed in Table 7.

Table 7: Five clusters of institutional and social transformations pertaining to ecological modernization theory (EMT).

No.	Cluster
1	Changing role of science and technology
2	Increasing importance of market dynamics and economic agents
3	Transformations in the role of the nation-state
4	Modifications in the position, role and ideology of social movements
5	Changing discursive practices and emerging new ideologies

Source: Mol (2000).

Ecological modernization is the counterpart of capitalism that is a dominant perspective in the economic mode of production. In fact, economic profit is the first priority for capitalism followers and they do not care about the environment and the natural resources. As a result of the mastery of capitalism, Ecological modernization is not implemented in a constant way. In addition, utilization of resources without environmental degradation is an inevitable action (Mol, 2002).

Across the world, Jokinen (2000) examines the impact of Europeanization on agri-environmental policies and practices in Finland, paying special attention to changes in institutional arrangements, discourses and practices. Although it has suggested that the processes of globalization facilitate ecological modernization, Jokinen

(2000) finds mixed results in the Finnish case: discourses have changed, but institutional arrangements have been transformed only marginally. Prior to joining the European Union (EU), the Finnish state devoted considerable resources to supporting progressive Agri-environmental practices of Finnish farmers. Under the terms of membership in the EU, this was considered as an unfair subsidy and had to be discontinued.

Gouldson and Murphy (1996) examined the implementation of ecological modernization in Europe and determined four themes for ecological modernization including

1. Incorporation of economy and government should be regulated by the surveillance of the government;
2. It is the expected aims of environmental policy integrated into other policy parts;
3. Exploration of alternative and novel approaches are needed; and
4. Diffusion, modernization, upgrading, and improvement of clean technology should be prioritized.

At the end, the Ecological Modernization Theory (EMT) is aiming to achieve the following:

1. Protecting the environment, reducing resource use, and reducing pollution are good for business and for the planet.
2. Businesses and the society are increasingly accepting the fact that it is possible to “de-link” economic growth and resource flows.

Ecological modernization theory seeks to counter three major arguments about the relationship between the economy and the environment:

1. Economic growth and the environment are fundamentally incompatible. When in conflict, the needs of businesses should triumph over the needs of the environment.
2. Economic growth and the environment are fundamentally incompatible and the needs of business will always win under capitalism. However, this will eventually lead to capitalism's and/or modern society's self-destruction.
3. We need to focus on economic growth in order to be able to worry about environmental protection somewhere down the line
(<http://www.docstoc.com/docs/114640008/Ecological-Moderniza---icucscedu>).

Ecological modernization theory has been instrumental to overcome some of the environmental challenges that remained unsolved. In fact, the theory offers a practical approach to environmental issues where sustainable development paradigm could not offer a practical solution (Giddens and Sutton). Nevertheless, ecological modernization theory is not trying to curtail economic growth; however, it aims to reduce the environmental impacts of economic activities by applying a new behavior to the process of production and consumption. As Murphy (2000, p. 2) stated:

'... ecological modernization seeks structural change at the macro-economic level. It looks for industrial sectors, which combine higher levels of economic development with lower levels of environmental impact. In particular, it seeks to shift the emphasis of the macro-economy away from energy and resource intensive industries towards service and knowledge intensive industries'.

Chapter 4

METHODOLOGY AND DATA ANALYSIS

This study has applied a qualitative research method as an appropriate research strategy for this type of study where the respondents are highly aware of the topic and are involved in the process of defining and structuring an institutional program that targets a social issue. 'Qualitative research aims to provide an in-depth understanding of the world as seen through the eyes of the people being studied. It aims not to impose preordained concepts; hypotheses and theory generated during the course of conducting the research as the meaning emerges from the data. Statistical inference is not the objective, although within government, results are used to inform policy and therefore some form of generalization or transferability is implicit' (Wilmot, 2005: 1).

The general approach of the research involved a sampling process based on the informants' knowledge and relation to the environmental institution known as NEPP in the case of Netherlands. 'Such sample is essentially strategic and entails an attempt to establish a good correspondence between research questions and sampling. In other words, the researcher sample on the basis of wanting to interview people who are relevant to the research questions' (Bryman, 2004, p. 333-34). The research objective, as clarified beforehand, is to evaluate the structure of NEPP and explore its workings as it is structured. This will allow understanding the strength and the productivity of NEPP, as well as, exploring the dimensions that contributed

to the successful outcome of NEPP. Sampling process adhered to qualitative research norms as it utilizes the non-probability sampling where it is not aiming to produce a statistically representative samples, neither has it aimed to come up with statistical inferences. Therefore, a purposive non-random sampling is determined to be appropriate and logical for the application in the case. Two issues are important to establish the rational for such a sampling procedure. The first one is that in this type of study, the number of respondents is less significant; secondly, a clarified criterion is used to select the respondents to be interviewed. Here a criterion means that paying attention to the diversity of sample population who will shed light on various aspects of the issue under investigation (Ritchie and Lewis, 2003). Overall, '[qualitative research is] research using methods such as participant observation or case studies which result in a narrative, descriptive account of a setting or practice. Sociologists using these methods typically reject positivism and adopt a form of interpretive sociology' (Parkinson and Drislane, 2011). In this study, 20 respondents were interviewed, which were highly knowledgeable about the NEPP. Respondents were connected to the environmental programs and involved with NEPP; they were associated with universities and public sector institutions. Most of them have had extensive research in the topic of environment and were involved in policy advices to revise or recommend changes within the NEPP. In total, 30 interview questions were administered towards probing the participant's views. This is also known as inductive probing which is an essential method in qualitative research and data analysis. The data collection period took one month in the city of Amsterdam between August and September 2013.

4.1 Data analysis

Although, there are various methods for data analysis in qualitative research, this study applied a narrative analysis, which is recommended for situations where a particular program and its structural investigation is the main objective of the research (Grbich, 2013). Narratives of the interview scripts are reorganized as they are recorded on a tape recorder and supplemented by note taking while listening to the interview responses. After repeated reviews, the patterns that emerged from the data are categorized and main themes are identified. Respondents are sampled in a manner to ensure that they are knowledgeable in the related topic (i.e., purposive sampling).

Data analysis process is followed by the main principles of qualitative data analysis which is demonstrated in figure 11 (Taylor-Powell, 2003).



Figure 11: Qualitative Data Analysis model

The collected data transcribed and examined line by line to reveal the patterns. This stage followed by inductive thematic analysis (i.e., involves identifying and coding emergent themes) within data that collected. Coding method in a qualitative research is designed to overcome a limitation that is associated with voluminous amounts of interview transcripts. With the application of coding, the researcher can discover patterns that are not obvious in the massive amounts of text. Finally, the theory that was going to be generated will be based on the patterns and themes, which is a routine process in a qualitative research (Auerbach and Silverstein, 2003). See table 9 for the coding process. As demonstrated in figure 9, narratives have been translated

to codes where the main themes and patterns will be the result. As shown in table 10, the themes and patterns have generated a condition for the application of scales to the final findings. There are three scales that gauge the value/weight of each theme. Scale 'HIGH' indicates the majority of respondents' attitudes towards certain issues in the questions are positive. For example, the respondents have clear knowledge about the issue and are aware of the issue. 'Low' is a scale that indicates respondents' lack of clear view of the issue. In a way, it is considered a drawback and might even be negative. The 'Minor' scale is an indication of respondents' total lack of awareness and as result, apathy towards the issue. '0' scale indicates an absolute absence of knowledge or total apathy towards the issue. See table 10.

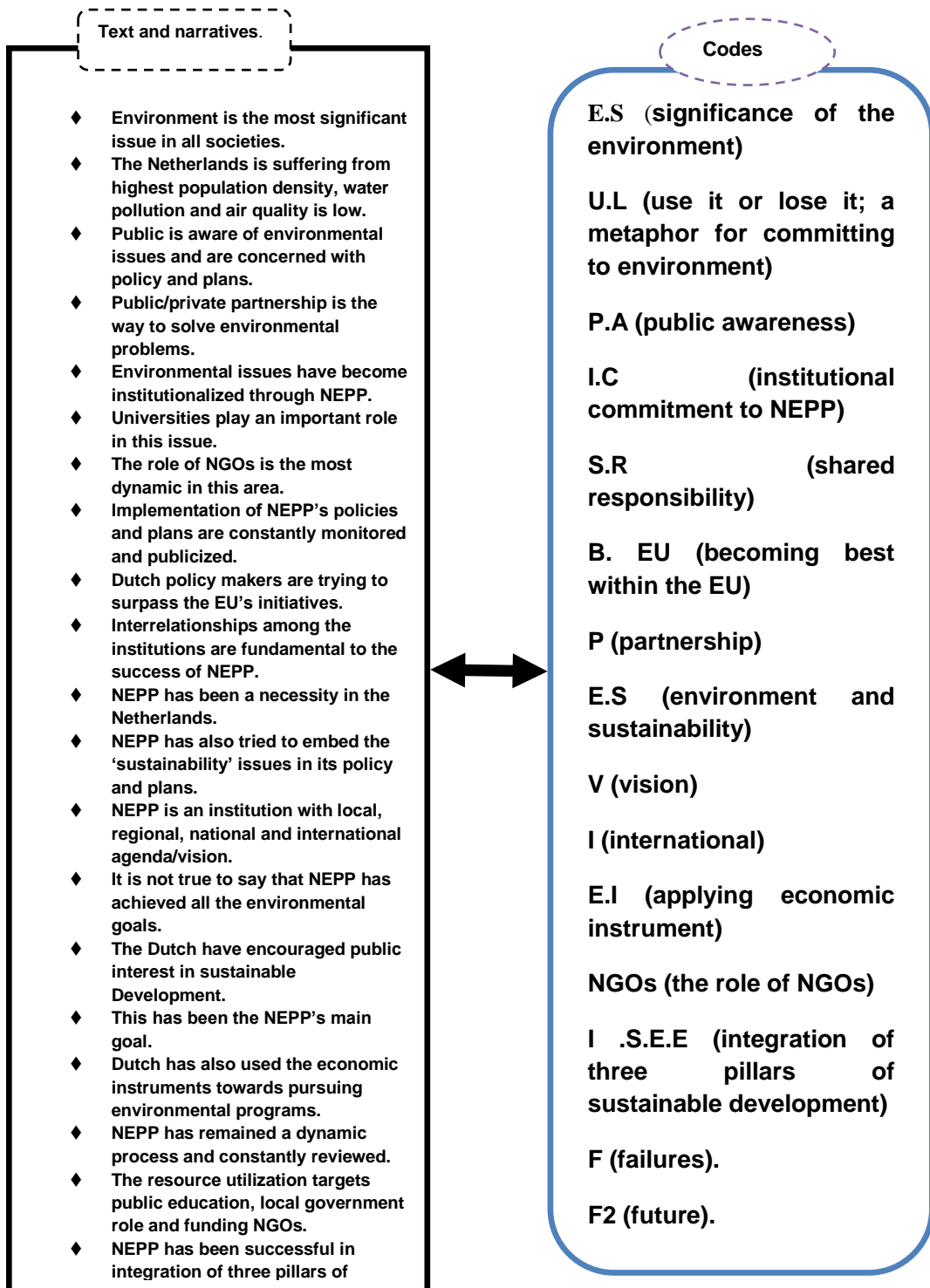


Figure 12: Qualitative data analysis process

Table 8: Data analysis and scales of interpretation
 High: majority responded positively. Low: minority responded negatively.
 '0': no clear response. Minor: very few responded as 'no idea'.

Themes/patterns (extracted from answers).	% YES/positive response	% NO/negative response	% Neutral/no response.	clear
1. Environment as a priority (choose it or lose it).	1.High	low	0	
2. Environmental awareness and knowledge	2. high	Low	0	
3. Partnership between government and public at large.	3. High	Low	minor	
4. EMT has been instrumental in Dutch's env. Planning.	4. Low	High	0	
5. Collaboration among the institutions.	5.High	Low	minor	
6. Constant revision of env. Plans/policies.	6. High	minor	0	
7. The role of NGOs.	7.High	0	0	
8. Adherence to the principles of EMT.	8.High	0	0	
9. Public's commitment to env. Quality and protection.	9.High	0	0	
10. NEPP'S strength and weaknesses.	10. Medium	0	0	
11. Measuring/auditing the outcomes.	11.High	0	minor	
12. The concept of sustainability.	12. High	0	minor	
13. Is NEPP a success story?	13. Medium	medium	minor	
14. Pollution.	14. Low	High	0	
15. Networking.	15. High	0	minor	
16. International cooperation.	16. Low	High	0	
17. Env. Governance,	17. High	minor	0	
18. Research,	18. High	0	0	
19. EU and environment.	19. Low	High	0	

4.2 Findings

As demonstrated in table 10, the data analysis process achieved the production and development of ‘themes’ and ‘patterns’, which are the two significant constructs of qualitative research and data analysis (Ryan and Bernard, 2000). Four items of scales were developed to identify and interpret the responses to the interview questions. These items are in reference to ‘themes’ and ‘patterns’ that eventually became the outcome of the data analysis process. For instance, the response to the first theme (environment as a priority) is given the scale of ‘high’ with ‘low’ negative response and ‘0’ neutral response. This means that the majority of respondents are agreeing that the issue of environment has priority over many other issues including economic growth. The prioritization of environmental issues and concerns are manifested in the slogan “choose it or lose it”. In support of this aspect, when the respondents ‘X’ was asked why this issue has become so embedded in Dutch psychology, the answer was: ‘Our country is not located in a geographical position where all can be safe and blessed. Our topographic position is a constant struggle against water and wasted material that flows from industrial Europe. We are called the ‘dust bin’ of Europe. We have no other choice but to choose’.

Therefore, the response of ‘high’ is highly relevant to what the Dutch people think about the environment. This is also in line with the literature (Stanhope, 2000; Fisher and Freudenburg, 2001).

Overall, the weight of the ‘high’ scale is dominant and it is highly in line with the assumption that the Netherlands and Dutch people have been able to overcome partial challenges they face in terms of ecological hardships. Nevertheless, there is

still much work that remains to be accomplished regarding the issue of 'pollution'. This is also revealed through the research findings, which is also in line with literature on Netherlands (Bruchem et al, 1999).

The answers show that all respondents indicated the environment and its significance are crucial and a major issue for societies. As it's indicated by most respondents, the Netherlands is suffering from overpopulation, water quality and air pollution which needs to be controlled by policy makers, but due to an economic crisis, they cannot pay a noticeable attention to these kinds of problems. Although the issue of environment is important for the Dutch people, after the 90s, the attention to the topic is being reduced day by day. The answers demonstrate that most people think that the Netherlands in comparison to other countries is better and have concerns for natural resources. Ten years ago, environment policy was a hot issue but nowadays, because of the economic crisis, public perception is reduced. This issue originated from the 1980s with small groups of public organizations then was spread to other groups accordingly. Problems occurred such as air pollution and poor water quality and people grew concerned where they had to demand that the government and private ministries would tackle it. Most interviewers did not know the exact history of environmental issues in Netherlands or when it started. Others claimed that in 1984 onwards, it was a very hot issue with a lot of environmental and policy plans, but the importance of the issues have declined starting about 10 years ago. Government, national level, provincial level and municipality level, also institute for public health help protect the environment as well as Universities, which are highly involved this concept. Most respondents claim that the policy process is the same as any other issue that requires attention. All interviewers said that NGO is mainly

dealing with environmental policies but there are no official roles. NGO tries to communicate and solve people's problems but nowadays, NGO is not as active as before.

There are institutes that want rules and regulations there, and they need the government to enforce it. Some participants' claim that Netherlands, compared to other countries is better and most problems that are of general concern are addressed. But some of the interviewers argued that due to the economic situation, the issues of climate change awareness are lower than before. Half of the respondents claim that NGO is responsible for convincing people to become involved. A lot of campaigns that are planned and they present their reports to educated people in order for them to implement them. Also there are a lot of groups within the society who work to tackle local issues by themselves, and NGOs provides them with the tools to achieve the goals. The Remaining participants said that there are local groups like neighborhoods or villages that improve the situations around their environments. It is obvious that the roles of the educational system is very important, although in some studies, it is still not common to learn about the environment. There are a lot of environmental studies but is not even close to the number of other technical studies available. In general, universities still need to emphasize the importance of environmental effects, the crisis problems and inform policy makers about such problems. Interviewers claim that the government is in charge of almost everything, at least in regards to the regulations, which are introduced to the EU and are translated to Dutch and implemented in their policy. European commission is also in charge of environmental rules. The findings have also revealed that by adopting EMT, Dutch people have been able to achieve positive outcomes when it comes to environmental

protection and reconciliation between ecosystems and economics. As described by Mol and Sonnenfeld (2000, P. 6) noted:

‘According to these latter scholars, from the mid-1990s onwards, a process of decoupling or delinking of material from economic flows emerged in ecological front-runner⁵ nations such as Germany, Japan, the Netherlands, Sweden and Denmark. In a number of cases (countries, industrial sectors, issues), environmental reforms arguably even resulted in an absolute decline of natural resources used and emissions produced, regardless of economic growth in monetary or material terms (amount of products)’.

These roles are variable in Netherland as most of the interviewers said, and the role of research is substantial because people have a huge belief in research. More problems are alleviated with research than they are through politics. Research and science communicate and work together not only within other scientific areas but also help the public and the policies. Unfortunately, a lot of people are not aware of some research institutes, which achieve important work, but no one hears about it. Furthermore, the role of NGO is also vital as they try to disseminate scientific issues among the public in an understandable language. For example, respondent ‘Y’, who happened to be a faculty member acknowledged that:

‘One of the important aspects of environmental concern is the establishment of university level departments in the Netherlands. Educational institutions are in constant communication with concerned environmental institutions for exchange of ideas and information. Many of our students are actively involved in this area’.

The National Environmental Policy Plan turned back 1988 to develop environmental planning problems with the focus on sustainable development. There are several ministries, which help control environmental issues such as agriculture, economic and transportation; these organizations try to give specific goals to reduce pollution. According to the majority of respondents, one of the most important characteristics

of NEPP is to attain a clean environment and pollution -free-living conditions; and its vital that access to natural resources such as energy, biodiversity and physical space are available for the present and the future of Netherlands. According to the interviewees, the most important thing is that, everything is there with combination of each other. In addition, the Dutch environmental policy prepared report entitled “concern for tomorrow” to increase the awareness of social and scientific concerns. They work with many papers and there is no interaction between them. People can reflect everything related to each other such as economic, environment, transportation and health and this plan only related to the environment. In addition, NEPP tried to reduce pollutants up to 70% at the end of 2010 but the results showed that the reduction was a mere 30%. NEPP has different target levels, which include local levels such as outdoor planning, regional, fluvial, continental and global level where each of the levels have specific goals to reduce emissions. The NEPP affects national strategies on sustainable development and is also aimed to achieve a state of sustainable development in twenty-five years. NEPP has both short term and long-term goals and strategies, which they use to measure success after a certain period. In general, the best way to check if something is successful is not to check if personal goals are reached, but looking at the environment as a whole to see if it has improved.

Chapter 5

CONCLUSION AND DISCUSSION

5.1 Conclusion

As it mentioned earlier, this study aimed to explore the organizational, institutional structures and processes of NEPP to understand the variables and factors that made this policy a success story. This might pave the way for application and implementation of such projects in similar cases. However, the case of Netherlands is unique as she is faced with different kinds of environmental problems such as water pollution, air pollution, land constraints and various geographical limitations. In the meantime, with the environmental awareness of Dutch people and the state, an environmental policy and planning system became a necessity to combat the challenges that the nation faced. In a way, NEPP was born out of necessity and based on a slogan ‘choose it or lose it’ metaphor, which was guided by relying on the theory of EMT (Mol and Sonnenfled, 2000; Mol, 2003; Mol and Spaargaren, 2004).

The Environmental Impact Assessment (EIA) is applied as a law for any kind of project in a systematic way. NGOs are also involved in the implementation of EIA through various self-regulated processes. In fact, EIA has been designed in a way to target the environmental practices to be in line with strategic statements embedded in the NEPP. There have been different schemes to achieve environmental goals and there are a lot of guidelines on how it can be performed. There are chapters, which give information about the comparisons of what occurs if you build a better relationship to the environment and they have obligations to do so for projects of a

certain site. EIA have agencies to check projects are correct or incorrect. By using technology, environmental performance can be improved such as solar energy but depends on the technology that is used. Most people don't quiet know how to utilize new technology such as Nano technology and its impacts on the environment. Most of the interviewees are not aware of any external organizations that monitor the performance of NEPP. It is apparent from the interviews that some private organizations collaborate with the government such as Shell. An evaluation must be performed and put to practice to see results. First, the plan should be evaluated and then implemented to see if it was successful or not. The government needs to be more involved with other groups within the society in the planning phase although the interviewees believe that the real success comes from individual people that tackle environmental issues. Overall, the findings are reasonably in line with EMT and the case of Netherlands is another indication of state's adherence with the principles of the theory. As Mol (2000) elaborated before, Netherlands has been able to benefit from the theory as an environmental policy guideline. As Mol and Sonnenfled (2000, p. 8) stated: 'Using the Netherlands as a case study,[he] then suggests the usefulness of national studies of' environmental knowledge orientations' to predict the likelihood of success of ecological modernization in different countries'. Finally, NEPP, as the study revealed, is a program that can be utilized and adapted to different environments, as it is a strategic process. Perhaps, the success of NEPP lies with what Verheem (1992, p. 156) stated:

'However, the fact that a strategic EIS (environmental impact statement) must be able to be prepared relatively quickly must not cause too little time and creativity to be given to considering and developing more environment- friendly alternatives. It is the development and discussion of these alternatives that makes environmental assessment so valuable (and necessary) in the strategic decision-making process'.

5.2 Limitations of the study

The main limitation of the study has been the time constraints. With more time spent on such studies; one can achieve exploring various other dimensions and consequently the results. Another limitation is the lack of targeting different groups of interviewees/ respondents; with increasing the pool of respondents and the incorporation of different clusters of people in the interview, the results can be enhanced. Overall, I should acknowledge that conducting research in a strange environment has its own drawbacks.

5.3 Implications and contribution

The main implication of this study is another evidence to support the EMT and its utility. This study can be a guideline to convince the institutions to embark upon EMT as a practical framework for policy changes in line with the principles of the models that EMT offers. Nevertheless, further studies, especially in newly industrialized countries (NICs), are essential to explore the extent of the theory in achieving ecological protection and efficiency. The final word by Mol and Sonnenfeld is worth quoting:

‘Much work remains to be done developing, testing and analyzing this school of thought, both in general, including its theoretical premises, and more particularly in its applicability to different social systems, political configurations and traditions, and geographical regions around the world. We hope that this volume contributes to such efforts as much as it is the beginning of them’ (Mol and Sonnenfeld, 2000, p. 12).

Although the theory has been highly useful in the case of developed nations, especially in Western Europe; however, it is becoming popular in developing countries as well. The further implication of this study is for decision makers and institutions to initiate the processes of environmental compatibility of the economic activities. Especially, in the island states as north Cyprus, the condition and geographical location is highly conducive to application of such perspectives.

REFERENCES

- Auerbach, C. F., & Silverstein, L. B. (2003). *Qualitative data: An introduction to coding and analysis*. New York, NY: New York University Press
- Ayres, R. U., & Simonis, U. E. (1994). *Industrial metabolism: Restructuring for sustainable development*. Tokyo: United Nations University Press.
- Beck, U. (1999). *World risk society*. Malden, MA: Polity Press.
- Bruchem, J. V., Schiere, H., & Keulen, H. V. (1999). Dairy farming in the Netherlands in transition towards more efficient nutrient use. *Livestock Production Science*, 61(2-3), 145-153. doi:10.1016/S0301-6226(99)00064-0
- Brulle, R. J. (2000). *Agency, democracy, and nature: The U.S. environmental movement from a critical theory perspective*. Cambridge, Mass: MIT Press.
- Brulle, R. J. (2008). Twenty lessons in environmental sociology. *The US environmental movement*, 211-227.
- Buttel, F. H., & Flinn, W. L. (1974). *The Structure of Support for the Environmental Movement, 1968-1970*. Rural Sociology.
- Bryman, A. (2004). *Social research methods*. Oxford: Oxford University Press.

- Chunmei, W., & Zhaolan, L. (2010). Environmental Policies in China over the Past 10 Years: Progress, Problems and Prospects. *International Society for Environmental Information Sciences 2010 Annual Conference (ISEIS)*, 2, 1701-1712. doi:10.1016/j.proenv.2010.10.181
- Dalton, R. J. (1994). *The green rainbow: Environmental groups in Western Europe*. New Haven: Yale University Press.
- Fisher, D. R., & Freudenburg, W. R. (2001). Ecological Modernization and Its Critics: Assessing the Past and Looking Toward the Future. *Society & Natural Resources*, 14(8), 701-709. doi:10.1080/08941920152524891
- Foster, J. B. (2002). *Ecology against capitalism*. New York: Monthly Review Press.
- Giddens, A., and Sutton, P. W. (2014). *Essential Concepts in Sociology*. Cambridge: Polity Press.
- Gottlieb, R. (2005). *Forcing the spring: The transformation of the American environmental movement*. Washington, DC: Island Press.
- Grbich, C. (2013). *Qualitative data analysis: An introduction*. London: SAGE Publications., London.
- Hajer, M. A. (1995). *The politics of environmental discourse: Ecological modernization and the policy process*. Oxford: Clarendon Press.

- Harding, R. (2006). Ecologically sustainable development: origins, implementation and challenges. *Desalination*, 229-239. doi:10.1016/j.desal.2005.04.082
- Hofman, P. S. (1998). Public participation in Environmental Policy in the Netherlands. *TDRI Quarterly Review*, 13(1), 25-30.
- Huber, J. (2004). *New Technologies and Environmental Innovation*. Cheltenham, UK: Edward Elgar Publishing.
- Ivanova, M., & Delina, L. (forthcoming in 2012). *Financing Environmental Governance: Survey of the Financial Landscape. Governance and Sustainability Issue Brief Series: Brief 5*. Center for Governance and Sustainability. University of Massachusetts Boston, Boston, MA.
- International Issues - Environment - European Commission*. (n.d.). Retrieved December 22, 2013, from ec.europa.eu/environment/international_issues/agreements_en.html
- Jackson, L. P. (2010). *Seven Priorities for EPA's Future*. Retrieved from United States Environmental Protection Agency website: <http://blog.epa.gov/administrator/2010/01/12/seven-priorities-for-epas-future/>
- Jokinen, P. (2000). Advanced industrial countries: Europeanization and ecological modernization: Agri-environmental policy and practices in Finland. *Environmental Politics*, 9(1), 138-167.

- Julian, B. L. (2013, April 22). *Top 10 Environmental Issues and Concerns/ TheCelebrityCafe.com*. Retrieved December 23, 2013, from <http://thecelebritycafe.com/feature/2013/04/top-10-environmental-issues-and-concerns>.
- Kasperson, J. X., & Kasperson, R. E. (2013). *Global environmental risk*. Routledge.
- Lewinsohn, T. M.; Prado, P. I. (2004) ' *Biodiversidade Brasileira: Síntese do Estado Atual do Conhecimento* ', Contexto Academico
- Liu, J., & Diamond, J. (2008, January 4). Revolutionizing China's Environmental Protection. *Science*, 319(5859), 37-38.
- McDonough, W., & Braungart, M. (2002). *Cradle to cradle: Remaking the way we make things*. New York: North Point Press.
- Mol, A. P. (2002). Ecological Modernization and the Global Economy. *Global Environmental Politics*, 2(2), 92-115. doi:10.1162/15263800260047844
- Mol, A. P., & Sonnenfeld, D. A. (2000). Ecological modernisation around the world: An introduction. *Environmental Politics*, 9(1), 1-14.
doi:10.1080/09644010008414510
- Mol, A. P., & Spaargaren, G. (2004). Ecological Modernization and Consumption: A Reply. *Society & Natural Resources*, 17(3), 261-265.
doi:10.1080/08941920490270302

- Moslemi, J. M., Capps, K. A., Johnson, M. S., Maul, J., McIntyre, P. B., Melvin, A. M., Weiss, M. (2009). Training Tomorrow's Environmental Problem Solvers: An Integrative Approach to Graduate Education. *Bioscience*, 59(6), 514-521. doi:10.1525/bio.2009.59.6.10
- National Geographic Society. n.d.. Millennium in maps, biodiversity [Map]. *GlobalResearchGateway - Environment*. (n.d.). Retrieved from <http://globalresearchgateway.wikispaces.com/Environment>
- Pallangyo, D. M. (2007). Environmental Law in Tanzania; How far have we gone? *LEAD: Law, Environment & Development Journal*, 3(1).
- Parkinson, G., & Drislane, R. (2011). Qualitative research. In *Online dictionary of social sciences*. Retrieved from <http://bitbucket.icaap.org/dict.pl>.
- Pourfarzi, F., Whelan, A., Kaldor, J., & Malekzadeh, R. (2009). The role of diet and other environmental factors in the causation of gastric cancer in Iran-A population based study. *International Journal of Cancer*, 125(8), 1953-1960
- Reynolds, A. (2013). A brief history of environmentalism. Retrieved from <http://www.scribd.com/doc/132211604/History-of-Environmentalism>
- Ritchie, J., & Lewis, J. (2003). *Qualitative Research Practice: A Guide for Social Science Students and Researchers*. London: Sage Publications.

Sattler, P and Creighton C, (2011). "Australian Terrestrial Biodiversity Assessment 2002". *National Land and Water Resources Audit. Department of Sustainability, Environment, Water, Population and Communities.*

Scottish Government (2008, August 19). *Key Scottish Environment Statistics 2008.*
Retrieved December 22, 2013, from
<http://www.scotland.gov.uk/Publications/2008/08/19084547/7>

Solomon, U. (2010). A detailed look at the three disciplines, environmental ethics, law and education to determine which plays the most critical role in environmental enhancement and protection. *Environment, Development and Sustainability*, 12(6), 1069-1080. doi:10.1007/s10668-010-9242-z

Stanhope, R. (2000). Environmental policy; Sustainable development. *New Zealand Journal of Environmental Law*, 4, 147-180.

State Environmental Agencies. United States Environmental Protection Agency.
Accessed May 2010

Tanzania Government. "Environment Tanzania". Tanzania Government.

Taylor-Powell, E. (2003). *Analyzing Qualitative Data. Program Development and Evaluation*, Madison.

- Verheem, R. (1992). Environmental assessment at the strategic level in the Netherlands. *Project Appraisal*, 7(3), 150-156.
doi:10.1080/02688867.1992.9726856
- Wilmot, A. (2005). Designing sampling strategies for qualitative social research: with particular reference to the Office for National Statistics' Qualitative Respondent Register.
- Zhang, K., Wen, Z., & Peng, L. (2008). Review on environmental policies in China: Evolvement, features, and evaluation. *Frontiers of Environmental Science & Engineering in China*, 2(2), 129-141. doi:10.1007/s11783-008-0044-6
- Zhang, K., & Wen, Z. (2008). Review and challenges of policies of environmental protection and sustainable development in China. *Journal of Environmental Management*, 88(4), 1249-1261. doi:10.1016/j.jenvman.2007.06.019

APPENDICES

Appendix A: Dutch EIA towards EIS

Box 1. The Dutch EIA procedure

The EIA procedure begins with the publication of a 'notification of intent', compiled by the proponent of a specific activity. In this document he describes, *inter alia*, what he plans to do, the aim of his activity, and which impacts the activity is generally expected to have on the environment. The notification of intent is published by the competent authority.

After advice has been obtained and the public has had its say (everybody has the right to do so) on what the EIS must contain, the competent authority establishes the 'guidelines'. These guidelines indicate what information the proponent must include in the EIS. They are not binding, but the proponent must state his reasons if he wants to depart from them.

A special role in this part of the procedure is played by the Commission for EIA. This is an independent group of experts, which is asked to contribute to the guidelines by the competent authority. This involvement is obligatory by law and the Commission's opinions are made public.

The proponent draws up the EIS on the basis of the guidelines. Some specific elements are mandatory by law (such as a description of the most environment-friendly

alternative). Once the EIS has been completed, the proponent forwards it to the competent authority. At this stage he also applies for the competent authority's decision on his project.

The competent authority examines the EIS and the application for the decision to see if they are admissible and, if so, organises a further round of public consultation and advice on the quality of both documents. One of the important steps during this phase is the appraisal or review of the EIS made by the Commission for EIA to ensure that the EIS is of the required quality and contains all the necessary information. As part of this review, the Commission takes account of comments made during public participation.

After the public has had its say and other advice has been obtained, the competent authority takes its decision according to current statutory procedures. The competent authority must state in its decision the role which the EIA has played in decision-making; in particular the information provided on impacts and alternatives and the comments made through public participation. The decision also states how the obligatory post- decision evaluation is to be carried out.

Source: Verheem (1992, p. 149).

Appendix B: Interview questions

1. What is your perception about environment and its significance?
2. Why this issue has become so pressing in the Netherlands?
3. What is the general public perception and knowledge of environmental issues in the Netherlands?
4. Who did initiated the issue in order to become a national task?
5. Can you give me a brief history of environmentalism in the Netherlands?
6. Are there different public and private organization that are involved in environmental affairs?
7. Who is in charge of environmental policy and planning?
8. How does the policy process for environmental affairs start and eventually shaped?
9. What is the role of NGOs in environmental policy and planning?
10. How the laws and regulations designed and passed towards environmental quality enhancement?
11. What is the degree of awareness among the public/people?
12. How do you come about convincing people to involve and to commit to environmental quality?
13. What is the role of universities and educational institutions in this regard?
14. Please tell me the main institutions/organizations in charge of environment?
15. What is the role of research and science in this regard?
16. What is the history of NEPP? Briefly please?

17. Would you please briefly describe to me the specific characteristics of NEPP?
18. What are the strengths of NEPP?
19. What are the weaknesses of NEPP?
20. How does NEPP function?
21. How do you measure the NEPP's success or failure?
22. What is the role of Environmental Impact Assessment (EIA)?
23. How do you apply EIA?
24. What is the role of technology and technological innovation in relation to environment?
25. Who does monitor the performance of NEPP?
26. How do you come about to apply the laws and regulations?
27. Are there certain ways to achieve the implementation of laws and plans?
28. What should I attribute to the success of NEPP?
29. You have been praised for your environmentalism. What are the reasons and factors behind such success and praise?
30. Do you have any recommendation to improve NEPP'S performance?

Appendix C: List of respondents

NAME OF INTERVIEWEES	JOB OF INTERVIEWEES
Ron Janssen	Environmental economic, policy analysis in VU University
Stijn Reinhard	Work as researcher of environmental policy in Netherlands in Wageningen University
Iwana van der Wusten	Environmental economic
Narasha Bakker	Policy advisor in municipally of Amsterdam
Bas Amelung	Work in Environmental system analysis group in Wageningen University
Nicolien vander grijp	Researcher of Environmental study in VU university
Ana Neknon	Work in air pollution science in Netherlands
Shun Thee	Work in sustainable energy
Rob Wejen	General manager of Golden Tulip in Amersfoort