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Direction of Climate Refugee Emergency Management

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Climate refugee began to appear due to climate change in the whole world. It seems that there will not be many countries that can offer more funds and places for protecting climate refugees, which occur owing to climate change. Under this background, this study examined a problem about climate refugee according to climate change. The task, which will need to be done preferentially to solve a problem about climate change, is what recognizes and accepts climate refugee by which each country of the world fixes up the domestic law. And, it is what makes the international convention system launched with a purport of sustainable progress by developing the Climate Change Convention in 1992. Finally, What is important given establishing policy for emergency management of climate change or climate refugee is how to respond to global warming, and to lack of resources according to it, to abnormal climate, and to a rise in disease. It is actually connected with social·political·economic factors that are buried in the base of climate change.

Key words: climate refugee, climate change, emergency management, global warming

Ⅰ. Introduction

Climate Change is one of the critical issues of the twenty-first century. Sir David King, the UK government's Chief Scientific Advisor, urged the Bush Administration to ratify the Kyoto Protocol, since climate change claims more lives than international terrorism, as he wrote in his paper in Science Journal published in January 2004. Climate change is defined as the gradual change of climate system as a result of Earth's revolution, volcanic and geological activities and other natural factors, as well as artificial factors such as growth of greenhouse gas and aerosol emissions. As the impacts of climate change have spread globally since the mid twentieth century, unusual climatic phenomena are cropping up throughout the whole world. Climate change is real:

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it is no longer seen as extraordinary phenomena, and it affects daily lives. In the end, climate change can deepen social polarization while bringing irrevocably environmental and economic disasters. According to the World Meteorological Organization, while advanced countries will pay more for the damage caused by natural disaster, it will be the poorest countries - the less responsible for the climate change - that will suffer greater economic loss. The poorest countries are losing about 13 percent of their nation GDP due to natural disasters. It is much more than that of the advanced countries that lose only about 2 percent of their GDP. Among different occupational categories, farmers, fishermen and others who engage in primary industry are heavily affected by climate change. On the other hand, secondary and service industry workers not only suffer less, but create new business opportunities by cutting greenhouse gas emission, like Emissions Trading System (Lee Sang-hun, 2006). In other words, since climate change has direct impacts on industrial competitiveness and people's life, enterprises and individuals who fail to adapt to the change are very likely to suffer damage, but those who make good use of the change can profit from it.

People will greatly suffer from the food and water shortages brought by climate change. Global warming accelerates desertification, and makes snow covers and glaciers disappear from the world's mountains, like Kilimanjaro, the Alps and Himalaya, which provide fresh water to billions.

The number of climate refugees can grow further throughout the world. This paper will discuss this issue in further detail.

There are many kinds of refugees in the world. In this context, refugees are those who need international protection from their unique situation. They are the people who are outside the borders of their home country and cannot or do not hope to receive help from it. Refugees flee their country for different reasons, such as civil war, natural disaster, ecological calamity or sever poverty. Lately, environmental degradation caused by global warming added a new reason to this list: collective migration. For instance, millions of residents of Central American countries that were hit by severe drought will move to Mexico or the USA. Tens of millions of African residents will leave for unwelcoming Europe. Fascist parties of the region will gain landslide victory in elections after pledging todrive those hungry Africans away from the country. A majority of climate refugees will need to travel on foot while taking care of children and old people. And many of them will die on the way. They are the climate nomads who have to live wandering around, searching for food, and will forget their own unique culture(Lee Han-jung, 2008 : 198).

Many people are already moving their residential area due to desertification and flood. Their

number is expected to continuously grow. Furthermore, some studies even say that there are more people moving their residential area due to environmental factors that those who migrate because of wars (http://www.ehs.unu.edu).

Norman Myers, professor of environmental ecology at Oxford University, stated that 25 million people were displaced over the last decade. IPCC estimated that situation will get worse and the number of climate refugees will sextuple by 2050, reaching 150 million(The JoongAng Ilbo, Mar. 4, 2009).

Tuvalu is a country from which its people left because its territory became smaller due to the rise in sea level as a result of global warming. It is the world's first climate refugee country. Its government asked neighboring Australia and Fiji to agree to accept its population, but they refused. Even New Zealand, which accepted Tuvalu's request, permits immigration of only those who are under 40 and have jobs in New Zealand. So far, around three thousand Tuvaluans have immigrated to New Zealand. The two governments have agreed to relocate seventy fivepeople every year(Mun, 2008 : 38).

Many countries are already regarding growing numbers of refugees onerously, and trying to gain the maximum out of the minimum. However, recently there are almost no in-depth or preceding researches on climate change. The issue of climate refugees should be re-illuminated; in this sense, this paper will provide suggestions for new policy directions to address the issue. This paper will analyze the history of climate refugees, different cases of climate refugee countries and will suggest recommend measures to respond to climate change.

II. Theoretical Framework

1. The Definition of Climate Refugee

A climate refugee is a person who is forced to relocate, either to a new country or to a new location within their home country, due to global warming related to environmental disasters. Climate refugee means "those who left a country of nationality because their lives are threatened due to environmental factors such as abnormal climate, large-scale natural disaster and man-made environmental destruction."

Climate refugees are often classified as environmental refugees. Some consider climate refugees as subcategory of environmental refugees. The United Nations recently agreed to use the term

"Environmentally Induced Migrants"(http://en.wikipedia.org).

Environmental refugee, a similar terminology, refers to "persons who no longer gain a secure livelihood in their traditional homelands because of what are primarily environmental factors of unusual scope"(Myers, 1995: 18). Professor Norman Myers of Oxford University predicted that climate change will increase the number of environmental refugees sixfold over the next fifty years to 150 million. These climate and environmental refugees are used interchangeably or the term climate refugee is used as sub-concept of environmental refugees.

2. Types in Occurrence of Global Crisis caused by Climate Change

The rise in temperature has been too rapid in the past one century to call it "natural warming" that has been occurring in a for of warm interglacial period since the Quaternary Period. In addition, since the last hundred years were the time when people started to use fossil fuel with full momentum. As a result, academic circles see the rise in CO2 concentration as the main culprit of global warming(Lee, & Sim, 2008 : 77).

In its fourth evaluation report of 2007, IPCC announced that warming of Earth's climate system is clearly manifested through observation materials of rise in global average temperature and sea water temperature, of melting snow and glacier, and of rise in average sea level.

Rise in sea level is happening consistently with global warming. Average sea level rose about 1.8 (1.3-2.3) mm/y since 1961 and to 3.1 (2.4-3.8) mm/y since 1993. Main causes were thermal expansion, melting glacier, ice cap and ice sheets of the Polar Regions. It is unclear yet whether the rapid increase between 1993 and 2003 is just a decade fluctuation or will be continued as a long-term tendency(IPCC, 2007: 2).

Melting of snow and ice is also consistent with warming. According to satellite materials since 1978, ice in the North Pole decreased in average by 2.7 (2.1-3.3) percent every ten years, and it decreased more in summer by 7.4 (5.0-9.8) percent. Average snow and ice coverage of mountains reduced both in the Northern Hemisphere and the Southern Hemisphere.

Seasonal wind is expected to get probably dry. On the other hand, Asia's seasonal wind is likely to become humid. However, rainfall will become more irregular, which might result as serious flood. Millions more people will suffer from flood in the next hundred years. In Asia and Africa, the damage will be the largest in regions located in lowland with high population density. Small islands will particularly be vulnerable. As for food, future food production will most likely increase. Agricultural productivity will drop particularly in tropical regions with even a slight

temperature rise. This is the region where most African and some Asian countries belong to. It is ironic that the countries experience the damage of global warming are the nations which are not very much responsible for it. Health condition of millions will be affected by nutritional inferiority, rise in death, diseases, injuries caused by climate change, increase of risk of diarrhea, rise in surface ozone concentration and change in spatial distribution of contagious diseases.

There will be more rainfall, and less snowfall and glaciers. High latitudes or humid tropical regions will receive much rainfall, while it will rain by 30 percent less in dry tropical regions. However, even the regions where precipitation decreases annually will see heavy rain and suffer flood. All these evidences show that deterioration of living conditions caused by environmental degradation is the main cause that produce climate refugees.

Refugee-producing environmental crises are divided into three groups. First, gradual change in environment, such as global warming, rise in seal level, deforestation, soil erosion, salinization, flooding and desertification. Second, sudden natural disasters, such as earthquake, volcanic eruption, flood, hurricane, seasonal wind, tidal wave and tornado. The third group is environmental accidents such as industrial and chemical disasters. Reduction of forests as a result of global warming, acid rain caused by air pollution, resource depletion, lack of water, desertification and other kinds of natural degradation are accelerating the wave of environmental refugees. Toxic wastes and radioactive contamination are also the causes of climate refugees.

The UN report, submitted to the Global Summit held in Johannesburg in the end of September 2002, pointed out that there are signs of climate change related to global warming. For instance, drought in Asia and Africa is become more severe and frequent, and sea level is rising. In addition, as water will become more scarce with time, there will be a sudden outbreaks of conflict because of water rather than oil.

A report that was submitted to World Water Forum held in Stockholm, Sweden, in August 2002 with the support from the UN, warned that two thirds of the world's population will suffer from water shortages within 25 years and stressed the importance of the nations active response.

Desertification is taking place throughout the whole world. Desertification occurs because precipitation does not exceed evaporation rate. However, the problem is in that there are other causes of desertification in addition to drought and other weather changes. The UN Convention to Combat Desertification concluded that desertification is the result of "destruction of Earth's ability to recover due to reckless development such as lumbering and reclamation." The UN predicted that by 2020 60 million refugees will relocate from Sub-SaharanAfrica to coastal cities of North Africa or to Europe. In addition, many climate refugees leave their homeland as their living

conditions worsen due to different factors (Park Dong-kyun · Kim Hyeon-su, 2009).

<Table 1> Forecast for Global Disaster by Climate Change

Year	Forecast Contents	Data Source
2010	-A rise in days of exceeding the highest temperature 32°C in America and Europe, by over 1/3 compared to around 2003.	Schwartz and Randall(2003)
2020	-Collapse of Thermohaline circulation between 2010 and 2020 -Cooling of European climate, which had been maintained warmly due to warm current of Mexico -Weather·climate change in Northern Europe and eastern regions of North America because warm current flows less to the north	
2040	-At least 300,000 people are threatened by climate disease given a rise by 1°C in global temperature(malaria, heart disease, ozone damage)	Stern(2006)
2050	-Crisis of extinction by 20~30% in living things given a rise of global temperature by 1.5~2.5°C	IPCC(2007) Stern(2006)
2080	-Given a rise of global temperature by over 3°C ·Food: Famine in 30 million~120 million people ·Water resources: Lack of water in 1.1 billion~3.2 billion people ·Flood/inundation: Risk of flood in 15 million people, inundation in 30% of the seashore in the whole world ·Ecosystem: Collapse in tropical rain forest of Amazon	
2100	-A rise of global temperature by 6°C leads to a risk of disappearance in all the glaciers and of extinction in half of living things.	Stern(2006)

Source : STEPI(2008: 8)

III. The Advent of Climate Refugee

1. Impacts of Climate Change on National Security

Here, the aim is to examine the aspect of a change in world order, which is predicted according to climate change(Campbell, 2007).

1) Migration and Immigration Will Rise

About 10 percent of the world's population lives in lowland of coastal areas. Since their number

is expected to grow, rise in sea levels should be regarded as a serious impact of climate change. These regions might end up producing climate refugees.

An increased number of migrating people will cause greater tensions and even violent conflicts between and within countries over the issue of uncontrolled immigration. Large scale immigration happening in a short period of time poses serious problem to "host"countries. In the Western Hemisphere, Americans may find themselves struggling to resettle tens of millions of their own citizens, who are driven away from the Gulf of Mexico, South Florida and East Coast as well asNew England due to rising water. In the worst-case scenario, climate-induced migration will transform ethnic characters of world's major countries and regions, especially the European Union.

Throughout history, people reacted to natural disasters by expressing rage towards government's inability to handle the abrupt and unpredictable crises, increasing their religious fervor and being hostile and violent toward migrants and minority groups. Such reactions can worsen the already serious tension evolving around immigration(Campbell, 2007: 106).

2) Resource Conflicts Will Intensify

Over the next three decades, climate change-exacerbated water scarcity might contribute to instability in many regions of the world, which is a dire problem that can be detrimental to agriculture and basic subsistence.

Tensions could intensify within and between states that experience shortages of water supply. On contrary, countries with rich water resources could seek ways to exploit their abundance Climate change could also affect international politics related to energy production and consumption. Oil and natural gas exporting countries, especially Russia, can gain geopolitical footing while fuel-importing countries, like European nations, cannot(Campbell, 2007: 106).

3) Nuclear Activity Will Increase

Climate change bring a global renaissance to nuclear energy sector; driven partly by the expectation that its increased production and consumption will reduce use of carbon-emitting fossil fuels. However,there are growing concerns over nuclear safety and proliferation.

Many developing countries will begin operating their own commercial nuclear reactors during the next decades. This will increase the total number of nuclear reactors around the world, and even the countries that do not have much experience conducting nuclear operations will eventual

run such facilities.

The threat of global climate change also provides governments interested in acquiring nuclear weapons with yet another chance to justify their pursuit of nuclear-related research and technologies(Campbell, 2007 : 107).

2. Coping with Climate Refugee

Refugees are product of different types of conflicts related to war, race, religion and ideology, and currently refugees around the world number 32.4 million(Chosun Ilbo; April 21, 2006). The international society has agreed that the issue of refugees is an urgent problem that needs global attention (Park,, 2007 : 169).

Since one third of the world's population resides within 60 km from coasts, rise in sea level will very likely produce millions of new climate refugees (Lee, 2008: 4). Rise in sea level caused by climate change may drive out hundreds of millions of population throughout the twenty-first century. There are concerns that climate change might chase out one billion people to streets between now and 2050.

Short-term cost required to fixconcentration of greenhouse gases in atmosphere is large, but it needs to be paid. Waiting too long to respond can result as a much higher cost: 20 percent of the world's GDP. It is important to note that all countries in the world can fight climate change together at the same time as achieving national economic growth. Countries can broaden the scope of emissions trading agreements, increase cooperation by developing and sharing low carbon technologies, restrain deforestation, increase support toward adaptation measures and respond to the issue multilaterally. In fact, the doomsday clock, which symbolizes the risk of upcoming global catastrophe, was moved to three minutes to midnight in 2007 because of climate change. However, people still do not understand that this catastrophe might be at the intersection of climate change and national security. Even the decades-long studies on the relationship of climate change and conflicts did not help people understand this possibility better; instead, people's recognition of this problem is very low(Campbell, 2007: 19).

Use of fossil fuel and deforestation emitted a large amount of carbon dioxide and other greenhouse gases in the air. Growing emissions caused serious changes in components of the atmosphere, and in turn significantly increased Earth's temperature. This is the effects of global warming and greenhouse gases. As sea level will rise with global warming, migration of people will explode.

According to the current International Refugee Law, those who became refugees due to political, religious and ethnic issues can be recognized and refugees and be protected. However, given that even political, religious and ethnic refugees are not protected, it will be difficult for international society to take environmental refugees into consideration. Nevertheless, excluding environmental refugees from those who are eligible for the status of refugees and not coming up with any legal measures is also a problem. Climate refugees – those who were forced to move due to climate disasters – are not included in the list of definitions for refugees of the UN Convention on the Status of Refugees 1951(Park & Kim, 2009). However, the number of climate refugees is growing globally due to environment quality degradation, and even advanced countries will be affected. The issue of climate refugees can no longer be abandoned, as efforts of independent countries to control climate refugees will not have positive effects. Nothing can substitute international cooperation to mitigate of the climate refugee risk.

IV. Case Studies of Climate Refugees

1. Tuvalu

Tuvalu, formerly known as the Ellice Islands, is a Polynesian island nation located in the Pacific Ocean, midway between Hawaii and Australia. Tuvalu consists of four reef islands and five true atolls. Tuvalu has almost no natural resources, and its main source of income is foreign aid. The country's population has more than doubled since 1980 and is estimated to reach 11,810 in July 2006. At its highest, Tuvalu is only 4.5 m above sea level, and officials have been concerned about the effects of rising sea levels for some years. At the Copenhagen Climate Change Conference in December 2009, Tuvalu's spokesman Ian Fry was one of the strongest critics of the final document stating "It looks like we are being offered 30 pieces of silverto betray our people and our future"(http://en.wikipedia.org/wiki/Tuvalu).

A Pacific island country Tuvalu will no longer exist after 2050. It is predicted to sink to the bottom of the sea. Iftikar Ayaz, honorary ambassador of Tuvalu, warned in an interview that "Tuvalu could be underwater as soon as 2040 or 2050 and the country will not exist in the world by the next century"(Mun, 2008 : 38). Tuvalu, a country represented as the main sufferer of climate change, is planning to relocate the nation into another country(Kim, 2005 : 20). Tuvalu is the first climate refugee nation in the world. IPCC sees this country as the most vulnerable, and

it might disappear from the map as soon as within 50 years. In February, when the rainy season reached its peak, Tuvalu's sea level went up as much as 3.48 meters. Its annual average seal level rise is already 5.5 meters. If unchecked, this island nation will possibly cease to exist in 50 or 60 years. Sea level rise and frequent cyclones are eroding broad area of its coastline. Its people are about to lose its mother country not because of war or violence, but because of climate change(Park, & Kim, 2009).

2. Bangladesh

The People's Republic of Bangladesh, which is also called Bangladesh, is a country in South Asia. It is bordered by India on all sides except for a small border with Burma (Myanmar) to the far southeast and by the Bay of Bengal to the south.

In 1995, half of Bhola Island, Bangladesh′s biggest island, was swallowed by rising sea levels, leaving 500,000 people homeless. Country with the highest population density in the world, Bangladesh produced 12 to 17 million climate refugees as results of decades-long flood damages (http://article.joins.com/article/article.asp?Total_ID=3515874. searched: 2009. 3. 20).

Bangladesh is one of the sacrifices of climate change. Many people have lost their homes and land property due to flood and sea level rise, causing chronic social problem (Park & Kim, 2009).

Annually, 1 percent of Bangladesh's arable land is going underwater while sea level of its southern region is rising by 7 mm per year. According to IPCC's report released in 1998, with sea level rise of 1 meter, 3 million hectares of the nation's landwill sink, producing 15 to 20 million refugees(The Hankyoreh 21, March 22, 2007).

With rise of sea level, sea water is filling agricultural lands, so farmers have given up their original job and raising sea shrimp instead. Paradoxically, Bangladesh became one of the twenty largest shrimp exporters in the world. However, since shrimp raising does not require much labor, tenant farmers are losing workplaces and becoming climate refugees(The Segye Times, March 3, 2008).

3. Maldives

The Maldives or MaldivesIslands, officially the Republic of Maldives, is an island country in the Indian Ocean formed by a double chain of twenty-six atolls stretching in a north-south direction off India′s Lakshadweep islands, between Minicoy Island and Chagos Archipelago

(http://en.wikipedia.org/wiki/Climate_change_in_Maldives).

The Maldives consists of approximately 1,190 coral islands grouped in a double chain of 26 atolls, along the north-south direction, spread over roughly 90,000 square kilometers, making it one of the most disparate countries in the world. The Maldives has a population of 380 thousand, featuring 1,192 islets.

Over the last century, sea levels of this country have risen by about 20 centimeters (Bruce, 1997: 279-292). IPCC warned that sea level of the Maldives will rise by maximum 58 centimeters by 2100, when the country will disappear. In order to not turn its entire population into climate refugees, the Maldives needs to find another country to which its people can move. President of the Maldives Nasheed created sovereign wealth fund to plan the nation's migration. It is considering Sri Lanka, India and Australia as its destination. India and Sri Lanka are chosen for their similar culture, food and climate, while Australia is chosen for its big territory.

President Nasheed is establishing sovereign wealth fund based on tourism profit, as a means to prepare resources to relocate the people. His plan is to invest in land just as oil exporting Kuwait is investing in businesses with their oil dollars. The president is collecting resources by selling national property: he has reduced the government cabinet and plans to turn the presidential palace into its very first university. (http://article.joins.com/article/article.asp?xTotal_ID=3515874).

4. Africa

Africa is the world's second-largest and second most-populous continent, after Asia. At about 30.2 million km^2(11.7 million sq mi) including adjacent islands, it covers 6% of the Earth's total surface area and 20.4% of the total land area. The climate of Africa ranges from tropical to subarctic on its highest peaks. Its northern half is primarily desert or arid, while its central and southern areas contain both savanna plains and very dense jungle(rainforest) regions. In between, there is a convergence where vegetation patterns such as sahel, and steppe dominate (http://en.wikipedia.org/wiki/Africa).

Fringe land of Sahara Desert - from Mauritania to Somalia - is an semi-arid region, and this region is experiencing a rapid desertification. It is home to the 50 percent of the world's population threatened by serious desertification. Due to the continued population growth, residents of the region mad to abuse their land: excessive cultivation and pasturage chronically worsened function of the land, which lost its ability to sustain humidity its self. Rainfall in this region is typically short but heavy, while the earth cannot absorb the rain. With worsening environmental

degradation, the region suffered severe droughts in periods between 1968 and 1973 as well as from 1982 to 1984. During this time nomads of the region left desert for the South. Combination of land's quality degradation and drought have caused rapid desertification of the region around Sahara Desert. Its residents have to leave their homeland in search for the place where they can survive. About ten million people of Sudan, Nigeria, Chad and other Sub-Saharan countries have become climate refugees who moved their residence in search for food (Park & Kim, 2009).

Ⅴ. Conclusions and Policy Agenda

Climate change is a real and global issue. Climate change will continue to affect different aspects of human life, like forestry, natural disasters and health, and will lead to more frequent floods and droughts, increased death caused by heat wave(Ahn, 2007: 8). South Korea, the eighth largest emitter of greenhouse gases in the world, has the world's twenty-third accumulated emission. It will no longer be free from the responsibility of global warming just because it is a developing country(Baumert & Pershing, 2004: 11). Climate change brings permanent change to relationship between humanity and nature. Since the humanity knows how to exercise its influence upon the nature, it is responsible to control the degree of influence. In order to diligently carry out this responsibility, people must enhance their ability to control different complex phenomena. Climate refugees are being produced in different parts of the world, while only a few countries are willing to provide more capital and place for the protection of refugees. Against such backdrop, this paper shed light on the issue of climate refugees.

It is true that the results of observations of the changes that occurred in the world order and outlooks of Earth's disasters caused by climate change are controversial. However, even the USA no longer challenges scientific authority of the IPCC report(Mun, 2008: 23).

National policies dealing with the risks of climate change are long-term and need much effort, time and talents. However, some might think that the establishing policy measures regarding the issue of climate change is not very urgent, since the climate is not changing seemingly fast and because it is difficult to predict the future. Policymakers must remember that slow response to climate change may lead to a bigger loss. In addition, analysis of social impact of climate change and information accumulation have high economic value, thus it is important to do basic research and comprehensive policy assessment. Governments must predict future disasters caused by accelerated climate change and overhaul national risk management system.

South Korea needs to implement short and long term measures in response to climate change. This requires prediction of the future, budget, and organizations in both central and regional governments.

In South Korea the Ministry o Justice is dealing with the issue of climate refugees. However, a system which can establish policies for refugees only through help of outside experts, human rights organizations or International Refugee Organization, seems too careless. Although there is Refugee Recognition Council, it has started to hold meetings just recently, and there were not even regular meetings before. Most importantly, this organization is not a professional group that produces refugee policies and handles practical affairs related to refugees. In addition, there is an urgent need to create a department dedicated to climate refugees. There is also a need for systematic tool to realize diverse protection responsibilities that the refugee agreement requires. Moreover, if deportation of people without refugee status is seen as human rights abuse, the government should actively recognize their humanitarian status and grant them special treatment for a set period(Park, 2005: 73).

In order to solve the problem of climate refugees, priority should be given to fixing national laws of all countries around the world to recognize and accept climate refugees. In case of Korea, it is not enough to just revise the current Immigration Control Law or amend enforcement decree or administrative regulation to enhance refugee system, but go beyond to reform the law on recognition and treatment of refugees.

Second priority should be given to launching of international agreement system that will enhance the Climate Change Convention of 1992 in order to achieve sustained development. Growing population of climate change will bring despair to the world. Therefore it is important to prepare a new agreement to recognize and accept them. Recognition of refugees by the international law was the result of moral responsibility for the vulnerable.

In establishing risk management policies related to climate change or climate refugees, it is important to consider how the change and refugees are related to global warming, lack of resources and increase in diseases. In fact, they are related to social, political and economic factors. Governments, in particular those of the wealthy countries that have needed tools and resources, must start planning how they will prevent, mitigate and manage impacts of climate change. Although climate change is unavoidable and uncomfortable truthnow, it will become the truth of hope and opportunity, if we all prepare for it.

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朴炯均: 동국대학교에서 "지방정부의 위기관리행정에 관한 연구 - 서울시 인적 재난의 사전대비를 중심으로"로 행정학박사 학위를 취득하였으며(1996. 2), 현재는 대구한의대학교 경찰행정학과 부교수로 재직 중이다. 주요 연구 분야는 경찰행정, 위기관리, 민간경비 분야이며, 현재 한국치안행정학회장, 한국자치경찰학회 부회장, 한국테러학회 부회장으로 활동 중이다. 최근에 발표한 논문으로는 "한국 위기관리 시스템의 효율화 방안(2008)", "CCTV에 대한 대학생들의 인식분석과 캠퍼스에서의 활용방안(2006)", "대규모 시민참여 혼잡경비의 사례분석과 함의"(2006) 등이 있고, 저서로는 지방자치단체의 재난대응론(공저, 대영문화사), 경찰학개론(2007 공저, 대영문화사), 경찰수사론(2005 공저, 백산출판사) 등이 있다(police@dhu.ac.kr).

趙成濟: 경북대학교에서 '수사절차에 있어서 적법절차원리의 구체화' 논문으로 법학박사학위를 취득하였고, 한국경찰학회 이사, 한국치안행정학회 총무위원장, 국가위기관리학회 연구이사 등으로 활동하고 있으며, 현재 대구한의대학교 경찰행정학과 교수로 재직 중이다. 주요논문으로는 '수사기관의 피의자신문시 변호인 참여권(2008)', '국민의 기본권보장과 국가안보를 위한 방안으로써 테러방지법 제정에 관한 연구(2009)', '제3세계 국가의 테러방지법 제정과 우리나라에 있어서 시사점(2009)' 등이 있으며, 관심분야로는 테러방지법, 위기관리법제, 형사피해자의 법적지위 등이 있다(csj127@hanmail.net).

昇宰賢: 한국외국어대학교에서 "양형의 규범적 판단근거와 합리적인 양형기준방안에 관한 연구"로 법학박사학위를 취득하였으며(2009. 8), 현재 한국외국어대학교 법학전문대학원에서 겸임교수로 재직 중이다. 주요연구 분야는

양형, 테러, 위기관리 분야이다. 현재 국가위기관리학회, 위기관리 이론과 실천, 한국경찰학회, 한국치안행정학회, 한국형사법학회, 한국비교형사법학회, 교정학회 등에서 활동 중이다. 최근의 논문으로는 “합리적인 양형을 위한 양형조사 방안”(2010. 법조), “합리적인 양형기준을 위한 공통된 양형인자 도출의 필요성”(2010. 외법논집), “현 양형위원회의 양형기준모델의 타당성 평가”(2010. 법조), “우리나라 양형위원회 양형인자 도출의 문제점 및 개선방향”(2010. 충북대학교 법학연구소), “사형제도에 대한 비판적 고찰”(2010. 한국치안행정학회) 등이 있다 (june3651@hufs.ac.kr).

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Direction of Climate Refugee Emergency Management

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Climate refugee began to appear due to climate change in the whole world. It seems that there will not be many countries that can offer more funds and places for protecting climate refugees, which occur owing to climate change. Under this background, this study examined a problem about climate refugee according to climate change. The task, which will need to be done preferentially to solve a problem about climate change, is what recognizes and accepts climate refugee by which each country of the world fixes up the domestic law. And, it is what makes the international convention system launched with a purport of sustainable progress by developing the Climate Change Convention in 1992. Finally, What is important given establishing policy for emergency management of climate change or climate refugee is how to respond to global warming, and to lack of resources according to it, to abnormal climate, and to a rise in disease. It is actually connected with social·political·economic factors that are buried in the base of climate change.

Key words: climate refugee, climate change, emergency management, global warming