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P A C E U N I V E R S I T Y

CLIMATE CHANGE: HUMAN RIGHTS
IN THE TIMES OF CLIMATE DISPLACEMENT

Doctor of Juridical Science (S.J.D.)
Degree in Environmental Law

S.J.D. DISSERTATION
Under the Supervision of
Professor Nicholas A. Robinson

April 2012

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DEDICATION

To all Climatees (climate displacees) especially all the men, women, and children, who spent so many days and nights in open sky without food and shelter after massive floods in Indus valley in 2010.

This work is also dedicated to my late parents, who strongly believed in giving and always taught me to stand up for those who are in need.

ACKNOWLEDGEMENTS

I would never have been able to finish my dissertation without the guidance and the help of several individuals and support from my family. First and foremost I offer my sincerest gratitude to Mark Shulman, Assistant Dean for providing me this opportunity. I thank Dean Shulman for his kind concern and consideration regarding my academic requirements and for his patience and steadfast encouragement to complete this dissertation. Deepest gratitude is also due to my committee members Professors, Ottinger and Ann Powers who generously provided me with information and valuable insight. I am deeply indebted to Prof. Ottinger for his vital encouragement and support. He always inspired me in my climate change journey from Copenhagen to Durban and Abu Dhabi (IRENA and Masdar) to Rio+.

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To Pace Law School special thanks goes to Deborah Zipf of the graduate program for her assistance throughout the time of my work. The library facilities have been indispensable. I extend my thanks to all the staff of the Pace Law Library especially Prof. Newman, Vicky Gannon, Sunny Hlewicki, Richard Castillo, Sharon Harcharan, and Michael Weston for their help and for accommodating my queries. I am most grateful to

Jack McNeill for reading the electronic version of this dissertation and for providing valuable suggestions. I would also like to thank my fellow S.J.D candidates, postgraduate students and visiting scholars for providing a stimulating and welcoming academic and social environment in the Pace Law School. My heartfelt thanks to my colleague John Reeves for his support and help to manage my law firm during the years I tried to juggle teaching, practicing law and completing my dissertation.

Finally, I owe special thanks to my family for their understanding and endless love, through the duration of my studies, especially my mother (who could not wait to see my graduation and left this world in August of 2010). I am guilty that I made several promises with her but could not travel to see her. My mother's prayers were a great source of inspiration and strength throughout. My research would not have been possible without her prayers. Thank you so much Ammy (mother).

THESIS ABSTRACT

The increasing numbers of climate migrants caution that the dilemma of climate refugees is a well-substantiated concern of today not tomorrow. In 2011 large-scale flooding and landslides affected more than one million people in the Philippines. More than twenty million people were displaced after massive floods in Pakistan in 2010. A significant number of future projections show that climate change will lead tens, and perhaps hundreds, of millions of people to leave their homes and in some cases their countries. The crisis of human displacement, which entails immediate actions, raised the questions of legal and moral obligations to protect the displaced. Persons suffering climate displacement face a loss of their rights and states must take actions to ensure that they do not violate human rights. Recently, states are more inclined towards sealing their borders to stop the migration influx. Walls are being built and shorelines are heavily guarded to ensure that no one can migrate. The magnitude of the coming crises of Climatees (climate change refugees and displacees) is huge. It eventually will call into question meaning of “Universal Declaration of Human Rights.” Climate change impacts pose a significant threat to many of broadly recognized rights contained in the Universal Declaration of Human Rights and other international instruments. This thesis concludes that current national and international laws are inadequate to cope with the dilemma of climatic displacement. Nations must work together to fill in all gaps in the international legal and policy frameworks to cope with the emerging dilemma of Climatees. “Sit and wait” approaches can be very costly in terms of human life and financial cost.

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Appendix “F” Cancun Agreements
Decision 1/CP.

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LIST OF ABBREVIATIONS

ADB -	Asia Development Bank
AR4 -	Fourth Assessment Report
AU -	African Union
CDM -	Clean Development Mechanism
CESCR -	Committee on Economic Social and Cultural Rights
CoE -	Council of Europe
CEDAW -	Convention on the Elimination of All Forms of Discrimination Against Women
CESCR -	Committee on Economic, Social and Cultural Rights
CO ₂ -	Carbon Dioxide
CIREFCA -	International Conference on Central American Refugees
ECHT -	European Convention on Human Rights (ECHR)
ECRE -	European Council on Refugees and Exiles
ECtHR -	European Court of Human Rights
ESCR -	Economic Social and Cultural Rights
EU -	European Union
ExCom -	Executive Committee of the High Commissioner's Programme
GRC -	Geneva Refugee Convention
GA -	General Assembly
GHG -	Greenhouse Gas Emissions
HRC -	Human Rights Council
HREOC -	Human Rights and Equal Opportunity Commission
HRComm -	Human Rights Committee
ICCPR -	International Covenant on Civil and Political Rights
ICEAFRD -	International Convention on the Elimination of All Forms of Racial Discrimination
ICESCR -	International Covenant on Economic, Social and Cultural Rights
ILO -	International Labor Organization
IOC -	Intergovernmental Oceanographic Commission
IPCC -	Intergovernmental Panel on Climate Change
IUCN -	International Union for Conservation of Nature
IEL -	International Environmental Law
ILC -	International Law Commission
IOM -	International Organization for Migration
IPCC -	Intergovernmental Panel on Climate Change
IASC -	Inter-Agency Standing Committee
IOM -	International Organization for Migration
IHDPGEC -	International Human Dimensions Programme on Global Environmental Change
IPCC -	Intergovernmental Panel on Climate Change

KP -	Kyoto Protocol
MDGs -	Millennium Development Goals
NRC -	Norwegian Refugee Council
NAPPHR -	National Action Plan for the Promotion and Protection of Human Rights
NGO -	Non-governmental Organization
OAU -	Organization of African Unity
OHCHR -	Office of the High Commissioner of Human Rights
OED -	Oxford English Dictionary
RSD -	Refugee Status Determination
UN -	United Nations
UNDHR -	Universal Declaration of Human Rights
UNFCCC -	UN Framework Convention on Climate Change
UNGA -	UN General Assembly
UNHCR -	UN High Commissioner for Refugees
UNSC -	UN Security Council (UNSC)
UNSG -	UN Secretary General
UNPF -	United Nations Population Fund
UNHCR -	United Nations High Commissioner for Refugees
UNDP -	United Nations Development Programme
UNEP -	United Nations Environment Programme
UNFCCC -	United Nations Framework Convention on Climate Change
UNISDR -	United Nations International Strategy for Disaster Reduction
UNTC -	United Nations Treaty Collection
UNTS -	United Nations Treaty Series
UNU-EHS -	United Nations University Institute for Environment and Human Security
WMO -	World Meteorological Organization
WB -	World Bank
WCED -	World Commission on Environment and Development
WHO -	World Health Organization

INTRODUCTION

Climate change induced human displacement is not a future phenomenon. It is taking place presently worldwide. Increasing numbers of climate migrants caution that the dilemma of climate refugees is a well-substantiated concern of today not tomorrow. The recent IPCC report on Managing the Risks of Extreme Events and Disasters To Advance Climate Adaptation, (IPCC, 2012), and United States National Academy of Science's recent report, America's Climate Choices and wide range of other sources warn about the present and future risks and vulnerabilities prompted by climate change.¹ In 2011 large-scale flooding and landslides affected more than one million people in the Philippines.² Rainy seasons impacted more than 2.8 million Colombians.³ Mudslides and floods left sixty-nine thousand people homeless in Colombia in its first rainy season of the year 2011.⁴ In Australia, thousands have been forced from their homes by the floodwaters or evacuated from their quarters not to mention drought.⁵ More than twenty

¹ SPECIAL REPORT ON MANAGING RISKS OF EXTREME EVENTS AND DISASTERS TO ADVANCE CLIMATE CHANGE MITIGATION, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (2012), http://ipcc-wg2.gov/SREX/images/uploads/SREX-SPM_FINAL.pdf/ (last visited Apr. 07, 2012). Also see: America's Climate Choices, National Academies Press, http://www.nap.edu/catalog.php?record_id=12781 (last visited Apr. 07, 2012).

² Shelter Key Issue for Survivors of Tropical Storm in Philippines, GUARDIAN DEVELOPMENT NETWORK (Jan. 20, 2012) <http://www.guardian.co.uk/global-development/2012/jan/20/philippines-tropical-storm-shelter-key-issue?INTCMP=SRCH> (last visited Feb. 02, 2012). National Disaster Risk Reduction and Management Council (NDRRMC) of Philippine reported on January 17, 2012 that more than 50,000 houses were damaged or destroyed. Twenty six thousand survivors are living in fifty-six overcrowded evacuation centers. According to the UN Office for the Co-ordination of Humanitarian Affairs (OCHA), another 200,000 are in makeshift shelters or staying with host families. Tropical storm Washi hit two major cities, Cagayan de Oro and Iligan in northern Mindanao, and 800 neighboring villages on 16-18 December, triggering large-scale flooding and landslides that affected more than 1 million people.

³ 93 Dead in Colombia Floods, UPI.COM (Apr. 25, 2011) http://www.upi.com/Top_News/World-News/2011/04/25/93-dead-in-Colombia-floods/UPI-25501303747867/#ixzz1IRIicWLL (last visited Feb. 04, 2012).

⁴ Id.

⁵ Lee Moran, Thousands Evacuated as Australia Suffers Highest Flood Water Levels for 35 Years and Residents Near 12 Rivers Are Put on High Alert, MAIL ONLINE NEWS (Feb. 06, 2012), <http://www.dailymail.co.uk/news/article-2097193/Australia-floods-Thousands-evacuated-residents-near-12-rivers-high-alert.html> (last visited Mar. 27, 2012).

million people were displaced after massive floods in Pakistan in 2010.⁶ These are only a few recent instances of climate induced forced displacement of large populations, which made big headlines. Displacement is also taking place more quietly on smaller scales. When livelihoods fail, people may experience forced migration or displacement. In particular when pastoral living becomes less viable, human movement is a norm.

The melting or collapse of ice sheets threatens the homes of one in every twenty out of the world's populace.⁷ Shoreline erosion, coastal flooding and hurricanes, droughts, famine, and agricultural production disruption will affect millions.⁸ Increased desertification and the alteration of ecosystems, by endangering communities' livelihoods, are also likely to trigger large population displacements.⁹ A significant number of future projections show that climate change will lead tens, and perhaps hundreds, of millions of people to leave their homes and their countries.¹⁰ The United

⁶ Niaz Murtaza, PAKISTAN FLOODS, 2010, THE REAL TIME EVALUATION REPORT, DISASTER EMERGENCY COMMITTEE (2010) <http://www.rarre.org/documents/reports/PF-RTE-Pak-Report-Finaldraft%205%20Jan%202010.pdf> (last visited Mar. 17, 2011). (Heavy rain and flash flooding in Pakistan in July 2010 left millions homeless and landless. Over 2000 people have been killed, over a million homes have been destroyed and more than 21 million people have been seriously affected.)

⁷ Kyung-wha Kang, Deputy High Commissioner for Human Rights Office of the United Nations High Commissioner for Human Rights (OHCHR) in her address in Conference on Climate Change and Migration: Addressing Vulnerabilities and Harnessing Opportunities, held on Feb. 19, 2008, Geneva, quoting STERN REVIEW REPORT ON THE ECONOMICS OF CLIMATE CHANGE, PART II: IMPACTS OF CLIMATE CHANGE ON GROWTH AND DEVELOPMENT, <http://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=9162&LangID=E> (last visited Mar. 19, 2011).

⁸ In 1995, Norman Myers observed that global warming could put large numbers of people at risk of displacement by the middle of next century if not before. Norman Myers and Jennifer Kent, ENVIRONMENTAL EXODUS, AN EMERGENT CRISIS IN GLOBAL ARENA (1995), <http://www.climate.org/PDF/Environmental%20Exodus.pdf> (last visited Mar. 16, 2011).

⁹ Kyung-wha Kang, OHCHR, citing HER MAJESTY'S TREASURY, STERN REVIEW REPORT ON THE ECONOMICS OF CLIMATE CHANGE 56 (2006).

¹⁰ Norman Myers, ENVIRONMENTAL REFUGEES, AN EMERGENT SECURITY ISSUE, 13TH ECONOMIC FORUM, PRAGUE (May 2005). While exact numbers of those who will cross borders in such situations is difficult to predict at present, the numbers will be substantial. Myers estimates that by 2050 as many as 200 million will be forced to leave their homes.

Nations Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report¹¹ concludes that accelerating climate system warming¹² will have serious consequences on human life.¹³

Experts have expressed concern about the seriousness of climate change refugees.¹⁴ Antonio Guterres, the UN High Commissioner for Refugees (UNHCR),¹⁵ in his statement made at the Copenhagen Climate Change Conference in December 2009 predicted that climate change would become the principal driver of population displacements in the near future. UNHCR prediction of fifty to two hundred million environmental refugees by 2050¹⁶ left many to ponder how the world will handle the millions of anticipated climate refugees. A number of countries are struggling with

¹¹ CLIMATE CHANGE 2007: THE PHYSICAL SCIENCE BASIS, CONTRIBUTION OF WORKING GROUP 1 TO THE FOURTH ASSESSMENT REPORT OF THE IPCC 702, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (2007) available at <https://www.ipcc-wg1.unibe.ch/> (last visited Mar. 25, 2011).

(The United Nations Environment Program and the World Meteorological Organization established the IPCC in 1998. The members of the IPCC meet and release reports on the potential effects of global warming. The IPCC's First Assessment Report was published in 1990 and IPCC Fourth Assessment Report was launched in February 2007. The IPCC's Fourth Assessment Report is based on the assessment carried out by the three Working Groups).

¹² R. K. Pachauri, YALE CLIMATE AND ENERGY INSTITUTE AT SUMMIT ON CLIMATE CHANGE (September 22, 2009). "If we take no action to stabilize the concentration of greenhouse gases in the atmosphere then average temperature by the end of this century would increase anywhere from 1.1 degrees to 6.4 degrees C, with a best estimate at the lower end of 1.8 degrees and at the upper end of 4 degrees C."

¹³ See id.

¹⁴ UN UNIVERSITY'S INSTITUTE FOR ENVIRONMENT AND HUMAN SECURITY, available at http://www.ehs.unu.edu/index.php?page=12_October_-_UN_Disaster_Day.

¹⁵ UNCHR, CLIMATE CHANGE, NATURAL DISASTERS AND HUMAN DISPLACEMENT: A UNHCR PERSPECTIVE, available at <http://www.unhcr.org/cgi-bin/texis/vtx/home/opendocPDFViewer.html?docid=4901e81a4&query=cop%2015%20copenhagen> (last visited Mar. 16, 2010). (UNHCR is a leading agency of the United Nations responsible for and possessing the expertise in the area of forced displacement. It is projected that climate change will over time trigger larger and more complex movements of population, both within and across borders, and has the potential to render some people stateless.)

¹⁶ Norman Myers and Jennifer Kent, ENVIRONMENTAL EXODUS, AN EMERGENT CRISIS IN GLOBAL ARENA (1995), <http://www.climate.org/PDF/Environmental%20Exodus.pdf> (last visited Mar. 16, 2011). (Norman Myers estimates that by 2050, as many as roughly 160 million people will be put at risk by sea level rise due to climate change. Another 50 million will be environmental refugees because of drought and other climate variations.)

climate related human movement. Pakistan,¹⁷ Bangladesh,¹⁸ China¹⁹ and even the U.S.²⁰ are facing the problem of climate change related internal displacement. In Sub-Saharan Africa climate change is causing transnational human movement.²¹ Small Island Developing States (SIDS) are seeking refuge in other countries. SIDS such as, the Maldives, Kiribati, Tuvalu, Nauru and the Marshall Islands will disappear before the end of the century.²²

The crisis of human displacement, which entails immediate actions, raised the questions of legal and moral obligations to protect the displaced. Persons suffering climate displacement face a loss of their rights and states must take actions to ensure that they do not violate human rights.

The protection of climate-induced displacement poses critical concerns: Do climate displacees warrant international protection? Are we legally obligated to or have a

¹⁷ Internal Displacement Monitoring Center, 42 MILLION DISPLACED BY SUDDEN NATURAL DISASTERS IN 2010 – REPORT (2011) [http://www.internaldisplacement.org/8025708F004BE3B1/\(httpInfoFiles\)/3D76B7DE0E98B377C12578A7002CB49D/\\$file/PR_IDMC_climate-change_2011.pdf](http://www.internaldisplacement.org/8025708F004BE3B1/(httpInfoFiles)/3D76B7DE0E98B377C12578A7002CB49D/$file/PR_IDMC_climate-change_2011.pdf) (last visited Mar. 27, 2012).

¹⁸ George Black, THE GATHERING STORM, WHAT HAPPENED WHEN GLOBAL WARMING TURNS MILLIONS OF DESTITUTE MUSLIMS INTO ENVIRONMENTAL REFUGEES? (2008) available at <http://www.onearth.org/article/the-gathering-storm>.

¹⁹ Supra note 16. Also see: Carol Werner, China Facing Climate Change Risks, CLIMATE CHANGE NEWS (Jan. 23, 2012) http://www.eesi.org/ccn_012312#5 (last visited Mar. 27, 2012).

²⁰ Hurricane Katrina, Which Lashed the Gulf Coast of the United States in August 2005 and Temporarily Displaced over a Million People, WASH. POST (Jan. 16, 2006) <http://www.Washingtonpost.com/wp-dyn/content/article/2006/01/12/AR2006011201912.html> (last visited Mar. 27, 2012).

²¹ Africa, home to around 900 million people has among the lowest per capita greenhouse gas emissions but is overall considered by many to be the continent most vulnerable to the impacts of climate change. See chapter 1.3 The Social Impacts of Climate Change

²² Nasheed, Mohammad, President of the Maldives, ADDRESS TO UN CLIMATE CHANGE SUMMIT IN NEW YORK (Sep. 22, 2009) <http://www.un.org/wcm/content/site/climatechange/lang/en/pages/2009summit/programme> (last visited Apr. 02, 2012).

moral compulsion to aid our drowning neighbors?²³ Are they protected under international (human rights and environmental) law? Do the prevailing instruments and institutions dealing with the refugees have the capability to address the problems effectively?

Prior to addressing the above queries, the answer to the question of how climatic displacement can be dealt with is requisite. The ideal solution is to avert displacement or at least moderate it in the first place. Only aggressive mitigation efforts may possibly achieve this goal. The international community's will and pace of the negotiation on a climate change treaty makes this unlikely. Besides, the damage has already been done and the effects of climate change, which induce the displacement, are not absolutely reversible. Craig Johnstone, (Deputy High Commissioner of UNHCR,) noted, "Our generation has failed to live up to its obligations to prevent climate change. We need urgently to prepare now for the human consequences of climate change."²⁴ The process of displacement cannot be stopped entirely, but appropriate adaptation measures might be able to decelerate climate change effects and stop the damage from getting much worse. Adaptation measures can also help to increase the resilience in communities to reduce the displacement. A majority of the displacement will take place in the poorest regions of the developing world. Needless to say their governments lack the financial and technical resources to adapt to the climate change.²⁵ At present there is no international refugee

²³ The founding concept is that climate change is a global problem and thus displacement due to climate change is a global responsibility. Above and beyond the national measures, enhancement of understanding, coordination, and cooperation is mandatory at regional and international levels with regard to climate change induced displacement, migration and planned relocation.

²⁴ Craig L. Johnstone, *The Future is Now*, 47 FORCED MIGRATION REV. (Oct. 31, 2008), available at <http://www.fmreview.org/FMRpdfs/FMR31/FMR31.pdf> (last retrieved Feb. 06, 2012).

²⁵ It is common understanding that developing nations may not have adequate capability or resources to manage or respond to substantial flows of internal migrants and migrants beyond the borders migrants.

fund exist to support those affected by the climatic displacement.

Where climatic displacement cannot be avoided resettlement will be needed. There are two foreseeable venues for the resettlement. First, resettlement will occur within the source country where that country's geography provides a safe location. The second scenario of displacement is where the whole country or at least a major part submerges or becomes uninhabitable or unable to support the people's livelihoods. In this case resettlement will only be possible beyond the borders in a different country or countries. Resettlement within a country's jurisdiction is not as simple as it may seem. Internal displacement based on the climate demands international help beyond the internally displaced persons (IDP's) guideline. But the real challenge is where climatic displacement will flow beyond the borders. International environmental law and human rights law fails to provide any protection to such persons.

The existing refugee law, Refugee Convention of 1951 has a very precise definition of refugee.²⁶ A majority of the scholars agree that environmental refugees do not fit in that definition. An overview of states' practices implies that states are currently not willing to interpret the sole instrument of refugee protection (Refugee Convention of 1951 and its protocol of 1967) generously.²⁷ Recently, states are more inclined towards sealing the borders to stop the migration influx. Walls are being built and shorelines are

International support is vital in order to plan their appropriate legal, institutional, and governance approaches. Adaptation policies and measures must include planned relocation where displacement is unavoidable and a plan to diminish vulnerability of displaced citizens.

²⁶ United Nations High Commission for Refugees, II.B.(2)(B) HANDBOOK ON PROCEDURES AND CRITERIA FOR DETERMINING REFUGEE STATUS UNDER THE 1951 CONVENTION AND THE 1967 PROTOCOL RELATING TO THE STATUS OF REFUGEES, (1979) (reedited Jan. 1992) available at <http://www.unhcr.org/publ/PUBL/3d58e13b4.pdf> (last visited Oct. 23, 2011). The popular definition of 'persecution,' involves an act or acts taken by governments against an individual or a group of individuals.

²⁷ See detailed discussion in chapter 4.

heavily guarded to prevent unauthorized migration. The United States constructed fences, walls, and vehicle barriers on its 1,952-mile long boundary with Mexico since the 1990s.²⁸ And this is not the end. There may soon be hundreds more miles of walls.²⁹ Unpredictable seasons and unreliable crop yields³⁰ are swelling the number of Mexicans risking their lives each year to try to reach the US.³¹ Many of those who escape from Mexico in search of new livelihoods end up losing their lives in the Arizona desert. According to a report, estimates of the death toll range from 3,861 to 5,607 in the last fifteen years.³² Like the U.S., with Mexico, India is constructing a huge (2,500-mile long and 8-foot-high) double-walled, barbed-wire fence on the borders between India and Bangladesh. The government of India claims that “the Great Wall of India” is meant to prevent terrorism and smuggling.³³ Bangladesh is one of the countries that is highly susceptible to climate change.³⁴ The number of Bangladeshis displaced by the climate change could be in the tens of millions.³⁵ Scientists predict rising sea levels may ultimately swallow more than twenty percent of Bangladesh's land.³⁶

²⁸ U.S.-Mexico Border, NAT'L GEO. (2007) available at <http://ngm.nationalgeographic.com/2007/05/us-mexican-border/bowden-text> (last visited Jan. 19, 2012). “In San Diego, nine miles (14 kilometers) of a double-layered fence have been erected. In Arizona, the state most over run with illegal crossings, 65 miles (105 kilometers) of barriers have been constructed already.”

²⁹ Id.

³⁰ Id. Climate change displacement is not restricted only to coastal environments. Extreme weathers cause loss of liveliness, which triggers the human displacement. See chapter 2 for detailed discussion.

³¹ See supra note 28.

³² Maria Jimenez, HUMANITARIAN CRISIS: MIGRANT DEATHS AT THE U.S. – MEXICO BORDER (October 1, 2009) available at, <http://www.aclu.org/pdfs/immigrants/humanitariancrisisreport.pdf> (last retrieved Jan. 20, 2012).

³³ Rizwana Shamshad, POLITICS AND ORIGIN OF THE INDIA -BANGLADESH BORDER FENCE, 17th Biennial Conference of the Asian Studies Association of Australia in Melbourne (July 2008) available at <http://arts.monash.edu.au/mai/asaa/rizwanashamshad.pdf> (last visited Jan. 20, 2012). “According to the Annual Report 2005-2006 of Indian Ministry of Home Affairs, fencing was necessary in order to prevent illegal infiltration and other anti-national activities from across the border.”

³⁴ See supra note 17.

³⁵ Bonnie Docherty and Tyler Giannini, Confronting a Rising Tide: A Proposal for a Convention on Climate Change Refugees, 33 HARV. ENVTL. L. REV. 349, 355(2009).

³⁶ See id.

Most nations are taking steps to seal their shores. A shocking report from United Nations High Commissioner for Refugees (UNCHR) noted that in 2011 alone fifteen hundred people lost their lives in their efforts to reach European shores.³⁷ On February 25, 2004, George W. Bush, then US president, made a declaration regarding Haitian refugees. He said, "I have made it abundantly clear to the Coast Guard that we will turn back any refugee that attempts to reach our shore."³⁸ Australia has long since adopted a hard line stance towards the swelling numbers of "Boat People" arriving on its shores.³⁹ Australia's prime minister said, "We simply cannot allow a situation to develop where Australia is seen ... as a country of easy destination."⁴⁰

This thesis argues that an individual's right to resettle is a human right. Article 13 of Universal Declaration of Human Rights of 1948 affords freedom of movement and a right to return, "Everyone has the right to freedom of movement and residence within the borders of each State. Everyone has the right to leave any country, including his own, and

³⁷ United Nations High Commissioner for Refugees, Mediterranean Takes Record as Most Deadly Stretch of Water for Refugees and Migrants in 2011, BRIEFING NOTES (Jan. 31, 2012) available at, <http://www.unhcr.org/4f27e01f9.html> (last visited Feb. 09, 2012). The United Nations refugee agency (UNHCR) said that record 1,500 migrants, mainly from Somalia and other parts of Africa, died trying to reach European shores in 2011.

³⁸ George W. Bush, President Bush Welcomes Georgian President Saakashvili to White House, WHITE HOUSE NEWS RELEASE/TRANSCRIPT (February 25, 2004), available at <http://www.whitehouse.gov/news/releases/2004/02/20040225-1.html>. (last visited Jan. 20, 2012). cited in, Cheryl Little and Charu Newhouse al-Sahli, HAITIAN REFUGEES: A PEOPLE IN SEARCH OF HOPE, 2004, also see, Trevisanut, Seline, The Principle of Non-Refoulement at Sea and the Effectiveness of Asylum Protection (2008). Max Planck Yearbook of United Nations Law, Vol. 12, pp. 205-246, 2008. Available at SSRN: <http://ssrn.com/abstract=1798756> also available at http://www.mpil.de/shared/data/pdf/pdfmpunyb/05_trevisanut_12.pdf (last visited Jan. 20, 2012)

³⁹ United States Committee for Refugees and Immigrants, Paying the Price: Australia, Indonesia Try to Stop Asylum Seekers, 22 REFUGEE REP. (Sept. 01 2001) available at: <http://www.unhcr.org/refworld/docid/3c58099a1.html> (last visited January 21, 2012).

⁴⁰ Kathy Marks, Australia Turns Away Rescue Ship Carrying Asylum Seekers, INDEP. (August, 28 2001) available at <http://www.independent.co.uk/news/world/australasia/australia-turns-away-rescue-ship-carrying-asylumseekers-667207.html> (last visited Jan. 21, 2012). President Bill Clinton commented on Australian government's decision in these words, "If you're worried about 400 people, you just let the world keep warming up like this for the next 50 years and your grandchildren will be worried about 400,000 people." Clinton Warns on Global Warming, CROSSWALK.COM, (Sep. 09, 2001), <http://www.crosswalk.com/818958/> (last visited Feb. 09, 2012).

to return to his country.”⁴¹ Article 12, of the International Covenant on Civil and Political Rights advances the argument “Everyone lawfully within the territory of a State shall, within that territory, have the right to liberty of movement and freedom to choose his residence.” The Article 12 further guarantees the right “to leave any country, including his own.”⁴² This thesis argues that international community has an obligation to protect and respect the right of human mobility and its related rights. Article 11 of the International Covenant on Economic, Social and Cultural Rights of 1966 makes it clear that the international community has a duty to provide such rights. Article 11 reads, “The States Parties to the present Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions. The States Parties will take appropriate steps to ensure the realization of this right, recognizing to this effect the essential importance of international co-operation based on free consent.”⁴³

In this era of climate displacement, even these expansive definitions of human rights are inadequate. New measures are needed for the progressive development of the human rights principles.

This thesis will examine the issue of resettlement from diverse angles; what are the legal and environmental aspects of the resettlement? Do the developed nations owe a duty to assist in resettlement to those in need? Can it be avoided? And do those who

⁴¹ Article 13, of Universal Declaration of Human Rights, 1948. See also: Bikram Jeet Batra and Shivani Chaudhry, INTERNATIONAL HUMAN RIGHTS, STANDARDS ON POST-DISASTER RESETTLEMENT AND REHABILITATION 78, 84 (August 2005) available at website, <http://www.pdhre.org/HIC-PDHRE.pdf> (last visited Jan.16, 2012).

⁴² See id.

⁴³ Article 11, International Covenant on Economic, Social and Cultural Rights, of 1966

resettle owe a duty to the receiving country's environment? Is there a human right to resettle? What does it include? Is it just a right to access to housing? Do we need to reevaluate the actions to build the resilience? What does sustainable development means in the term of human migration?

CHAPTER I

SCIENCE AND IMPACTS OF CLIMATE CHANGE

1.1 INTRODUCTION

This chapter provides the overview of global warming.⁴⁴ The aim of the chapter is to encapsulate the causes, projections and human displacement related impacts of the climate change. Global warming, or as John P. Holdren names it “global climatic disruption,”⁴⁵ is one of the most serious challenges confronting humanity. Climate change will have actual impacts on the natural environment as well as human-made infrastructure and it will distress human health, food production, water security, and migration patterns. The economic damage caused by climate change related natural disasters would cost many nations hundreds of billions of US dollars. Floods, heat waves, forest fires and landslides will claim thousands of lives. Sea level rise, increasing severe weather events and droughts and desertification are likely to have the greatest

⁴⁴ ABOUT SCIENCE AND IMPACTS, <http://www.pewclimate.org/science-impacts/about> (last visited May.15, 2010). (The scientific consensus is that global warming is largely the result of increased atmospheric concentrations of carbon dioxide emissions. The other key contributing greenhouse gases (GHG) are methane, nitrous oxide, hydro fluorocarbons, per fluorocarbons, and sulfhexa fluoride. Human activities found to be the cause for the growth in emissions. Primarily it is due to fossil fuel combustion and changes in land use, such as agriculture and deforestation.)

⁴⁵ John P. Holdren is Teresa & John Heinz Professor of Environmental Policy and Professor of Earth and Planetary Sciences, Harvard University, President and Director of The Woods Hole Research Center and Chair of the Board, American Association for the Advancement of Science (AAAS). He states, “I think we in the scientific community have made a mistake by allowing the term “global warming” to capture the podium, the platform, the title of this problem. Global warming is a misnomer, because it implies something that is gradual, something that is uniform, something that is quite possibly benign. What we are experiencing with climate change is none of those things. It is certainly not uniform. It is rapid compared to the pace at which social systems and environmental systems can adjust. It is certainly not benign. We should be calling it “global climatic disruption” rather than “global warming.” John Holdren 2008, Meeting the Climate Change Challenge. Eighth Annual John H. Chafee Memorial Lecture on Science and the Environment. Washington, DC: National Council for Science and the Environment, Jan. 17, 2008. Available at <http://ncseonline.org/sites/default/files/Chafee08final.pdf> (last visited Apr. 29, 2012)

consequences in terms of human consequences.⁴⁶ Food shortages, unemployment and poverty combined with deteriorating environmental conditions, will spark political unrest. Rapid growth in world's population demands more food, but food production will decrease due to change in climate. Predictions are that imbalance in food demand and supply (more food requirement because of population growth and reduction in food production due to climate change) will cause food prices to soar in the market causing chaos and political unrest leading to human harm and displacement.

1.2 THE SCIENCE OF CLIMATE CHANGE

According to the IPCC Fourth Assessment Report,⁴⁷ "Warming of the Climate⁴⁸ system is unequivocal."⁴⁹ It is now evident from observations of increases in global

⁴⁶ See supra note 35.

⁴⁷ IPCC FOURTH ASSESSMENT REPORT (2007) available at <http://www.ipcc.ch/#> (last visited May.16, 2010). IPCC's Fourth Assessment Report completed in Nov. 2007 was the collective effort of almost four thousand of the world's best specialists working tirelessly over five years. All the governments of the world approved the report.

⁴⁸ World Meteorologist Organization, http://www.wmo.int/pages/themes/climate/understanding_climate.php (last visited Mar. 19, 2011). World Meteorologist Organization explains climate and weather in these words; ("At the simplest level the weather is what is happening to the atmosphere at any given time. Climate in a narrow sense is usually defined as the "average weather," or more rigorously, as the statistical description in terms of the mean and variability of relevant quantities over a period of time. In a broader sense, climate is the status of the climate system, which comprises the atmosphere, the hydrosphere, the cry sphere, the surface lithosphere and the biosphere. These elements determine the state and dynamics of the earth's climate. The atmosphere is the envelope of gas surrounding the earth. The hydrosphere is the part of the climate system containing liquid water at earth's surface and underground. The cry sphere contains water in its frozen state. The surface lithosphere is the upper layer of solid Earth on land and oceans supporting volcanic activity, which influence climate. The biosphere contains all living organisms and ecosystems over land and oceans.")

⁴⁹ An Open Letter from Scientists in the United States on the Intergovernmental Panel on Climate Change and Errors Contained in the Fourth Assessment Report: Climate Change 2007 (2007) available at <http://www.openletterfromscientists.com/index.html> (last visited May.19, 2010).

("It is now well established, that atmospheric concentrations of greenhouse gases from human sources have increased rapidly since the Industrial Revolution. Increasing concentrations of greenhouse gases in the atmosphere reduce the heat going out of the climate system, i.e., the radiation balance of the Earth – and so first principles of physics tell us to expect, with a very high likelihood, that higher temperatures should have been observed.")

average air and ocean temperatures,⁵⁰ widespread melting of snow and ice⁵¹ and rising global sea levels.⁵² Most of the observed increase in temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic Green House Gases (GHG) concentrations”.⁵³ Since the beginning of the industrial revolution concentrations of carbon dioxide and other greenhouse gases have been increasing in the atmosphere. If current trends in fossil fuel use continue, concentrations of atmospheric carbon would reach 600-700 parts per million (ppm) by the end of the 21st century.⁵⁴ Concentrations of methane increased more than 150 percent from its 1750 level.⁵⁵ At the same time nitrous oxide and other greenhouse gases are rising as well.⁵⁶ In the twentieth century average global temperature increased by 0.740 C while sea level rise resulting from thermal expansion of the ocean and melting of ice across the globe amounted to 17 centimeters.⁵⁷ The rate of sea level rise in the last decade has been about twice the average for the 20th

⁵⁰ National Climate Data Center, <http://www.ncdc.noaa.gov/oa/ncdc.html> (last visited Mar. 19, 2011). Research has shown that ocean pH has dropped by about a tenth of a point in the last 150 years or so.

⁵¹ P. Lemke, et al, OBSERVATIONS: CHANGES IN SNOW, ICE, AND FROZEN GROUND, IN CLIMATE CHANGE 2007, THE PHYSICAL SCIENCE BASIS 376. (Most mountain glaciers are getting smaller. Snow cover is retreating earlier in the spring. Sea ice in the arctic is shrinking in all seasons, most dramatically in summer. Reductions are reported in permafrost, seasonally frozen ground and river and lake ice. Important coastal regions of the ice sheets on Greenland and West Antarctica, and glaciers of the West Antarctica, are thinning and contributing to sea level rise. The total contribution of glacier, ice cap and ice sheet melt to sea level rise is estimated as 1.2+- 0.4 mm yr for the period 1993 to 2003.)

⁵² See supra note 409. (There is strong evidence that global sea level gradually rose in the 20th century and is raising currently at an increased rate. Sea level is projected to rise at an even greater rate in this century. The two major causes of global sea level rise are thermal expansion of the oceans and the loss of land-based ice due to increased melting.)

⁵³ See supra note 47. IPCC FOURTH ASSESSMENT REPORT (2007)

⁵⁴ One part per million of CO₂ means there is one molecule of CO₂ to every million molecules of air. The concentration of carbon dioxide in the atmosphere has increased by 35 percent. In 2005 carbon concentration count was 381ppm compare to 281ppm in 1750. For details see IPCC website at <http://www.ipcc.ch/#>

⁵⁵ Id. Also see supra notes 47 & 53. IPCC FOURTH ASSESSMENT REPORT (2007)

⁵⁶ See Id.

⁵⁷ See id. IPCC’s Fourth Assessment Report (2007), also see statement by DR. R. K. Pachauri, Chairman, IPCC, Director General, The Energy and Resources Institute, Director, Yale Climate and Energy Institute, made at, Summit on Climate Change, 22 September 2009.

century.⁵⁸ Research confirms that the last part of the 20th century had much warmer temperatures than any other period in the past millennium.⁵⁹ Eleven of the last twelve years (1995-2006) rank among the 12 warmest years since 1850. The year 2005⁶⁰ is ranked as the warmest year in the past hundred years.⁶¹ The latest report from the experts at National Oceanic and Atmospheric Administration (NOAA), United States Department of Finance confirms that 2010 was as warm as 2005 and this was 34th consecutive year with global temperatures above the 20th century average.⁶² The NASA's Goddard Institute for Space Studies (GISS), the Japanese Meteorological Agency and the Met Office Hadley Centre in the United Kingdom have all made a similar announcement.⁶³ The World Meteorological Organization (WMO) further reports that 2010 was an exceptionally warm year over much of Africa and southern and western Asia, and in Greenland and Arctic Canada, with many parts of these regions having their hottest years on record.⁶⁴ The IPCC predicts the average temperature by the end of this century would increase anywhere from 1.1 degrees to 6.4 degrees, with a best estimate at the lower end

⁵⁸ Id. See IPCC Fourth Assessment Report (2007).

⁵⁹ Mann et al., Northern Hemisphere Temperatures during the Past Millennium: Inferences, Uncertainties, and Limitations, 26 GEOPHYSICAL RES. LETTERS 759 (1999). (A study published in 1999 concluded that the Northern Hemisphere was warmer during the late 20th century than at any other time during the past millennium. The "hockey stick" chart in this study shows a steady increase in temperature over centuries with a sharp spike in temperatures in recent years.)

⁶⁰ New data from some of the world's leading climate researchers and institutions suggest that 2010 is shaping up to be one of the warmest years ever recorded. The NASA research backs up findings by the US National Oceanic and Atmospheric Association (NOAA), the US national climate monitoring service that measures global temperatures by satellite. This has recorded the hottest ever first four months of a year.

⁶¹ It's now clear that 2007 is in a tie for the second hottest year with 1998. 2005 was the hottest. The 14 hottest years in the record, all occurred since 1990, and 24 out of the 25 hottest since 1980. See generally Intergovernmental Panel on Climate Change, IPCC REPORTS, available at <http://www.ipcc.ch/ipccreports/index.htm> (last visited Jan. 16, 2011).

⁶² National Oceanic and Atmospheric Administration, 2010 TIED FOR WARMEST YEAR ON RECORD (Jan. 12, 2011) available at http://www.noaanews.noaa.gov/stories2011/20110112_globalstats.html (last visited Mar. 06, 2011).

⁶³ Goddard Institute for Space Studies (GISS), <http://www.giss.nasa.gov/research/news/20110113/> (last visited Mar. 06, 2011).

⁶⁴ World Meteorological Organization, Press Release No. 906, available at http://www.wmo.int/pages/mediacentre/press_releases/pr_906_en.html (last visited Mar. 06, 2011).

of 1.8 degrees and at the upper end of 4 degrees.⁶⁵ Professor Tim Flannery holds that temperatures could rise much more than the IPCC 4th Report prediction of three degrees.⁶⁶ Working Group 1 of the IPCC reports, “Emissions of greenhouse gases and aerosols due to human activities, continue to alter the atmosphere in ways that are expected to affect the climate.”⁶⁷ Worldwide CO₂ emissions from fossil fuels use are growing at a rate of 1.9 per cent per year. The record for the period 1970 to 2004 shows that the largest growth in greenhouse gas emissions has come from electricity supply and consumption, and transportation.⁶⁸ The emerging science of climate change⁶⁹ is complex and some critics disagree for various reasons. A number of scientists expressed skepticism about the details of IPCC reports. Is the climate science debate over? There are no convincing scientific cynics challenging the core scientific theory and projections of climate change. And even if we cannot say that scientific debate about the basic issue of climate change is absolutely over at this stage, a rational scientific consensus that the climate is changed due to continuing increases in greenhouse gas concentrations and will get warmer if business as usual continues, suggest that minor uncertainties in the science

⁶⁵ Id. Also see, An Open Letter from Scientists in the United States on the Intergovernmental Panel on Climate Change and Errors Contained in the Fourth Assessment Report: Climate Change 2007, available at, <http://www.openletterfromscientists.com/index.html> (last visited May. 19, 2010).

“ While we cannot predict the details of our climate future with a high degree of certainty, the majority of studies from a large number of research groups in the US and elsewhere project that unabated emissions could produce between 1 and 6 degrees C more warming through the year 2100.”

⁶⁶ According to Professor Tim Flannery it could be worse than this as we're looking at six degrees or so. He believes that it would be a disaster for all life on earth”. (Professor Tim Flannery, is author of the book THE WEATHER MAKERS. He also won the Australian of the year award) Global Greenhouse Warming.com, <http://www.global-greenhouse-warming.com/IPCC-4th-Report.html> (last visited May.15, 2010).

⁶⁷ SUMMARY FOR POLICYMAKERS, A REPORT OF WORKING GROUP 1 OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (2007).

⁶⁸ SUMMARY, THE FOURTH ASSESSMENT REPORT (AR4), UNITED NATIONS INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC), www.ipcc.ch (last visited Apr. 29, 2012).

⁶⁹ National Academy of Sciences (NAS), UNDERSTANDING AND RESPONDING TO CLIMATE CHANGE: HIGHLIGHTS OF NATIONAL ACADEMIES REPORT 2 (2008), available at http://dels.nas.edu/dels/rpt_briefs/climate_change_2008_final.pdf

of climate change should not be the barrier to climate actions. The debate over the prospects of disruptive changes in earth's climate now also encompasses important political, economic, and social issues.

1.3 THE SOCIAL IMPACTS CLIMATE CHANGE

Rapid and unpredictable change in the climate poses unique challenges to all life.⁷⁰ It eliminates the opportunity for creating a world of enriched lives, human amity, and a healthy ecosphere. This section examines the various roles that environmental damage may play in causing migration and environmentally induced population movements. The impacts of climate change already are being felt across the entire world. The IPCC fourth assessment report lists the impacts of climate change.⁷¹ The forecast of the potential future effects of global climate change by National Aeronautics and Space Administration (NASA) includes more frequent wildfires,⁷² longer periods of drought in some regions and an increase in the number, duration and intensity of tropical storms.⁷³

⁷⁰ What Is Global Warming? The Planet is Heating Up—and Fast, Nat'l Geo. <http://environment.nationalgeographic.com/environment/global-warming/gw-overview.html> (last visited May, 16, 2010). The rapid rise in greenhouse gases is a problem because it is changing the climate faster than some living things may be able to adapt.

⁷¹ See generally, Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007. M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson (eds) Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

⁷² Wildfires in the western United States have seen a fourfold increase in the last 30 years. The Amazon is drying and burning. Part of Indonesia and Malaysia, that were previously too wet to burn are now periodically burning.

⁷³ National Aeronautics and Space Administration (NASA), GLOBAL CLIMATE CHANGE, THE CURRENT AND FUTURE CONSEQUENCES OF GLOBAL CHANGE, available at <http://climate.nasa.gov/effects/> (last visited May, 16, 2010). Global climate change has already had observable effects on the environment. Glaciers have shrunk, ice on rivers and lakes is breaking up earlier, plant and animal ranges have shifted and trees are flowering sooner.

An average increase in the frequency, intensity and duration of floods,⁷⁴ droughts⁷⁵ and heat waves⁷⁶ has been observed. In the eastern parts of North and South America, Northern and Central Asia and Northern Europe precipitation has increased significantly whereas a visible decline in precipitation has been noted in the Sahel, the Mediterranean, Southern Africa and parts of South Asia.⁷⁷ In most parts of the world droughts have increased while in other areas at the same time heavy precipitation events and total rainfall have increased as well.⁷⁸ A 2007 study by International Federation of Red Cross and Red Crescent Societies, reveal that number of disasters rose in every years from 2000 to 2006 and this trend is likely to continue and it may even accelerate, in particular due to the effects of climate change.⁷⁹

The pivot of this chapter's analysis will be the physical impacts of the global warming. Physical effects, which are directly related to the topic, comprise health, water resources, food security and human displacement.

1.3.1 WATER RESOURCES

The climate change's foremost impact is on security and quality of the fresh

⁷⁴ See *id.* Data show that major floods have consistently increased in all regions except Oceania from the 1950s up through the 1990s.

⁷⁵ Data and projections show that droughts are getting more severe and will get far worse by the latter part of the century. See IPCC Fourth Assessment Report, Climate Change 2007: Synthesis Report, Projected climate change and its impacts, available at http://www.ipcc.ch/publications_and_data/ar4/syr/en/spms3.html (last visited Apr. 28, 2012).

⁷⁶ *Id.*

⁷⁷ See IPCC Fourth Assessment Report, Climate Change 2007: Synthesis Report, Projected climate change and its impacts, 3.3.3 Especially affected systems, sectors and regions, http://www.ipcc.ch/publications_and_data/ar4/syr/en/mains3-3-3.html (last visited Apr. 28, 2012).

⁷⁸ *Id.*

⁷⁹ David Fisher, LAW AND LEGAL ISSUES IN INTERNATIONAL DISASTER RESPONSE: A DESK STUDY – SUMMARY VERSION (2007) available at <http://www.ifrc.org/idrl>. “In the decade of the 1970s, there were 1231 reported disasters. That number rose in every subsequent decade and, for the six years from 2000 to 2006 alone, it had reached 5287. This trend is likely to continue and maybe even accelerate, in particular due to the effects of climate change, according to the Intergovernmental Panel on Climate Change.”

water.⁸⁰ Taking into account its vitality, access to fresh water is now regarded as a universal human right.⁸¹ Fresh water is a scarce resource. Only 2.5 per cent of the 1.4 billion km of water on Earth is fit for human consumption, and most of this is inaccessible. The growing human population already stretches water resources in many parts of the world. The fresh water is depleting due to increasing demand from agriculture to meet the food demand, economic and industrial development, and urbanization.⁸² Climate change will further constrain water resources. Global water availability will be changed in the years to come due to climate change's major impact on the water cycle.⁸³ Chris Milly suggests that changes in global water distribution will create serious dilemmas by the middle of this century.⁸⁴ He further observes, "The global warming part of global climate change has been pretty well understood but the implications for the water cycle remain hazy."⁸⁵ Increase in threats to the freshwater

⁸⁰ Climate change has altered the pattern of ocean and atmospheric currents, pushing weather systems, such as monsoons, off their predictable paths. Warmer air can hold more water and hence produce more rain. Global warming is likely to bring more floods because of wetter weather. Moreover Glaciers melt add more water in the oceans. At the same time when oceans get warm they expand, pushing up sea level. In future the water availability will remain in question. Ocean expansion and floods potentially contaminate coastal freshwater supplies and glacier melts are reducing the stable year-round reservoirs.

⁸¹ United Nations Human Rights, Office of the High Commissioner for Refugees, A landmark decision to make the right to water and sanitation legally binding, available at <http://www.ohchr.org/EN/NewsEvents/Pages/RightToWaterAndSanitation.aspx> (last visited Apr. 28, 2012).

⁸² Fresh water demand exceeds supply. The IPCC warns that reduced rainfall coupled with accelerated sea level rise will increase the threat to clean water resources. It predicts that the Tarawa Atoll of Kiribati will lose 20% of its underground freshwater by 2050 due to a 10% reduction in average rainfall. IPCC, 16.4 CLIMATE CHANGE 2007: WORKING GROUP II: IMPACTS, ADAPTION AND VULNERABILITY (2007).

⁸³ Climate change has altered the pattern of ocean and atmospheric currents, pushing weather systems, such as monsoons, off their predictable paths. Warmer air can hold more water and hence produce more rain. Global warming is likely to bring more floods because of wetter weather. Moreover as glaciers melt they add more water in the oceans. At the same time when oceans get warm they expand, pushing up sea level. In future the water availability will remain in question. Ocean expansion and floods potentially contaminate coastal freshwater supplies and glacier melts are reducing the stable year-round reservoirs.

⁸⁴ Chris Milly is a hydrologist working for the US Geological Survey based at the National Oceanic and Atmospheric Administration's (NOAA) Geophysical Fluid Dynamics Laboratory at Princeton University.

⁸⁵ P. C. D. Milly, et al., Climate Change, Stationary Is Dead: Whither Water Management? *Science*, Vol. 319 no. 5863 pp 573-574 (Feb. 01, 2008). available at <http://www.sciencemag.org/content/319/5863/573.summary#aff-7> (last accessed Apr. 28, 2012). Quoted in WSW, Congressional Update/Water Quality, Infrastructure Needs/Clean Water Trust Fund/SRFs, Issue1759, Feb. 1, 2008. Available at,

quality and security will impact United States and rest of the world.⁸⁶ By 2020, as a result of climate change, seventy-five to two hundred and fifty million people are projected to be exposed to increased water stress in Africa.⁸⁷ More than one sixth of the world's population lives in glacier or snowmelt fed river basins.⁸⁸ At the same time more than one billion people lack access to safe drinking water.⁸⁹ Over ninety percent of the population in South Asia is under some level of water shortage.⁹⁰ By 2025, 1.8 billion people are expected to be living in the regions experiencing water insecurity and two thirds of the world's population could be living under water stressed conditions. By 2050, one billion people in Asia alone could have inadequate access to the drinking water.⁹¹

In recent decades more precipitation has been observed in the eastern parts of North and South America, Northern Europe and Northern and Central Asia.⁹² Since the 1970s drying and intense and longer droughts are reported in the Sahel, the Mediterranean,

<http://www.westgov.org/wswc/1759.html> (last visited Apr. 28, 2012).

⁸⁶ Richard G. Hildreth, David R. Hodas, Nicholas A. Robinson, James Gustave Speth, *Climate Change Law Mitigation and Adaptation* 8 (2009).

⁸⁷ M. Boko et al., 2007: Africa Climate Change 2007: Impacts, Adaptation and Vulnerability, in M.L. Parry, et al., Eds., *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* 435 (2007). Quoted in William Onzivu, *Tackling The Public Health Impact of Climate Change: The Role of Domestic Environmental Health Governance in Developing Countries*, *International Lawyer*, 43 Int'l. L. 1311 (Fall 2009).

⁸⁸ 2007: Freshwater Resources and Their Management, in *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* 175 (2007) available at <http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-chapter3.pdf> (last visited April 29, 2012)

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ J.H. Christensen, et al, *REGIONAL CLIMATE PROJECTIONS IN CLIMATE CHANGE 2007: THE PHYSICAL SCIENCE BASIS; CONTRIBUTION OF WORKING GROUP I TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE* (2007). Quoted by, Anil Markandya and Aline Chiabai, *Valuing Climate Change Impacts on Human Health: Empirical Evidence from the Literature* INT. 6, *J. ENVIRON. RES. PUBLIC HEALTH*, 759-786 (2009) available at, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2672348/pdf/ijerph-06-00759.pdf> (last visited Jul. 21, 2010).

⁹² See *id.*

southern Africa and parts of southern Asia over wider areas.⁹³ Researchers calculate future increases in both rainfall variability and extreme weather events. In disaster-prone areas, the coastal zone cyclones, and flash flood areas, water security is at risk due to salinity intrusion.⁹⁴ Floods contaminate the fresh water on and under the ground. Sea level rises increase the salinity of estuaries and aquifers and otherwise impair water quality causing shortages of water for household and agriculture use.

Unfortunately, water crises will be exacerbated by climate change in the poorest parts of the world. Not only does water scarcity undermine the most needed development goals in poverty stricken developing countries it also threatens mass movements of climate change refugees. The Hadley Centre for Climate Prediction and Research predicts that extreme drought, which currently affects about 2% of the planet, will affect over 10% within 50 years. The deserts are growing in China and in most parts of Africa every year, and periodic droughts are forcing farmers to move to the cities in search of water and food.

1.3.2 FOOD SECURITY

Like water the right to have adequate food is a fundamental human right.⁹⁵ The

⁹³ Id.

⁹⁴ Id.

⁹⁵ The right to adequate food and housing are part of the right to an adequate standard of living in Art. 11 of the International Covenant on Economic, Social and Cultural Rights (ICESCR). It is enshrined in the Universal Declaration of Human Rights, adopted in 1948 by the UN General Assembly (UN 1948). See ICESCR, (adopted by the UN General Assembly in 1966 and entered into force in 1976) available at <http://www2.ohchr.org/english/law/cescr.htm> and also see General Comment No. 12 of the United Nations Committee on Economic, Social and Cultural Rights, High-Commissioner for Human Rights OHCHR available at <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/G99/420/12/PDF/G9942012.pdf?>

world has historically low food stocks and a constant increase in food demand is intensifying the food insecurity. Studies indicate that the food demand will increase due to a boost in population from seventy to one hundred percent by 2050.⁹⁶ Many countries worldwide are already facing food crises because of conflicts and disasters. Recently along with trade and fiscal crises and unprecedented hikes in oil prices drastically increased food prices causing political unrest in many jurisdictions. Climate change will adversely affect food availability (access to food, stability of food supplies, and food utilization).

The intricate impacts of climate change on agriculture⁹⁷ are increasing food security concerns. Average temperature increase, change in rainfall amount and rainfall patterns, rising atmospheric concentrations of CO₂, pollution levels such as troposphere ozone, change in climatic variability and extreme events have effects on agriculture productivity.⁹⁸ Global warming is particularly likely to alter production of rice, wheat, corn, soybeans, and potatoes.⁹⁹ Increased heat, pests, water stress, diseases, and weather extremes pose adaptation challenges for crops and livestock production.¹⁰⁰ According to the hunger report issued by United Nations Food and Agriculture Organization (FAO) in December 2008, the overall number of undernourished people in the world reached to

OpenElement (last visited Apr. 28, 2012).

⁹⁶ H. Charles, et. al., Food Security: The Challenge of Feeding 9 Billion People SCI. MAG. VOL 327, 813 (Feb. 12, 2010) <http://www.sciencemag.org/content/327/5967/812.full.pdf> (last visited Apr. 27, 2012). Cited , Royal Society of London, REAPING THE BENEFITS: SCIENCE AND THE SUSTAINABLE INTENSIFICATION OF GLOBAL AGRICULTURE (2009).

⁹⁷ "Of all human economic activities, agriculture is by far the most vulnerable to climate change," Gerald Nelson, an agricultural economist with IFPRI, a Washington-based group focused on global hunger and poverty issues. Stephan Leahy, Climate Change: Food Supply Hangs in the Balance, IPS NEWS <http://ipsnews.net/news.asp?idnews=48689> (last visited Jul. 26, 2010).

⁹⁸ United States Environmental Protection Agency, <http://www.epa.gov/climatechange/effects/agriculture.html>

⁹⁹ Id.

¹⁰⁰ Id.

nine hundred and sixty three million.¹⁰¹ The report reveals vividly that the ongoing financial and economic crisis could tip even more people into hunger and poverty.¹⁰² A study by International Food Policy Research Institute (IFPRI) concluded that twenty-five million more children will be malnourished in 2050 due to the effects of climate change, such as decreased crop yields, crop failures and higher food prices.¹⁰³ Samuel Myers, instructor in medicine at Harvard Medical School, has stated flatly that, “Global food supply system is already showing cracks.”¹⁰⁴ Various factors including climate change are increasing food crises worldwide.¹⁰⁵ Climate change threatens to make the already difficult situation¹⁰⁶ of food security¹⁰⁷ in the world even worse.¹⁰⁸ Climate change will

¹⁰¹ Number of Hungry People Rises to 963 Million, available at, <http://www.fao.org/news/story/en/item/8836/icode/> (last visited Jul. 26, 2010).

¹⁰² “For millions of people in developing countries, eating the minimum amount of food every day to live an active and healthy life is a distant dream. The structural problems of hunger, like the lack of access to land, credit and employment, combined with high food prices remain a dire reality,” statement by, FAO Assistant Director-General Hafez Ghanem, presenting the new edition of FAO's hunger report, Number of Hungry People Rises to 963 Million, available at, <http://www.fao.org/news/story/en/item/8836/icode/> (last visited Jul. 26, 2010).

¹⁰³ Stephen Leahy, Climate Change, Food Supply Hangs in the Balance, IPS NEWS (Oct. 2, 2009), <http://ipsnews.net/news.asp?idnews=48689> (last visited Jul. 26, 2010).

¹⁰⁴ Alvin Powell, Harvard Staff Writer, Time to Change the Menu, Food Supply Showing Cracks Due to Population, Climate Change, HARV. GAZETTE, Harvard Science, Feb. 24, 2010 available at <http://news.harvard.edu/gazette/story/2010/02/time-to-change-the-menu/> (last visited Jul. 26, 2010).

¹⁰⁵ CLIMATE CHANGE ADAPTATION AND MITIGATION IN THE FOOD AND AGRICULTURAL SECTOR, MAINTAINING FOOD SECURITY IN A CHANGING CLIMATE, TECHNICAL BACKGROUND DOCUMENT FROM THE EXPERT CONSULTATION HELD ON (MARCH 05 TO 07, 2008 1 available at <ftp://ftp.fao.org/docrep/fao/meeting/013/ai782e.pdf> (last visited Mar. 26, 2011). Many countries worldwide are facing food crises due to conflict and disasters, while food security is being adversely affected by unprecedented price hikes for basic food, driven by historically low food stocks, high oil prices and growing demand for agro-fuels, and droughts and floods linked to climate change.

¹⁰⁶ The world population is expected to increase 2.3 billion people by 2050. A 70 per cent increase in food production will be required by 2050.

¹⁰⁷ Food security means different things to different people. Human food needs can vary broadly depending on diet preferences. United Nations Food and Agricultural Organization (FAO) defines food security: “Food security exists when all people at all times have physical or economic access to sufficient safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. To achieve food security, all four of its components, availability, stability, accessibility and utilization must be adequate.” Cited in, Christoph Bals, Sven Harmeling, Michael Windfuhr, Climate Change, Food Security and the Right to Adequate Food, 18, (2008) available at <http://www.brot-fuer-die-welt.de/downloads/fachinformationen/climfood.pdf> (last visited Apr. 28, 2012). IPCC defines food security in these words, “A situation that exists when people have secure access to sufficient amounts of safe and nutritious food for normal growth, development and an active and healthy life. Food insecurity may be caused by the unavailability of food, insufficient purchasing power, inappropriate distribution, or

have an impact on our food systems¹⁰⁹ on a local, regional and global level.¹¹⁰ Climate change will affect agricultural and food systems in all countries, including exporters and importers as well as those at subsistence level.¹¹¹ Developing countries will get hard hit on their food supply due to global warming, and they have very limited coping capacities. The poorest regions with the highest levels of chronic hunger are likely to be among the worst affected by climate change. The tragedy is that the most poor and vulnerable will face dual challenges of the climate change impacts as well as resulting food security. The projection is that in many African countries agricultural production will decrease, and access to food will be severely affected by extreme climatic variations.¹¹² An FAO study reports the predictions that suggest that by 2100 significant negative impacts will be felt across twenty five percent of Africa's inland aquatic ecosystems.¹¹³ Sea level rise over the next decades will increase upstream salinity, affecting fish farms.¹¹⁴ Extreme events stemming from climate change in the coastal regions including flooding, and typhoons increase mounting constraints on aquatic stocks and have threatened the food security and livelihoods of the small-scale fishing communities. Most developing countries have

inadequate use of food at the household level.” Cited in, Food and Agriculture Organization of the United Nations, Climate Change, Energy And Food, Climate Change Adaptation And Mitigation in Technical Background Document From The Expert Consultation held on March 05 to 07, 2008, Available at, <ftp://ftp.fao.org/docrep/fao/meeting/013/ai782e.pdf> (last visited Jul.26, 2010).

¹⁰⁸ Id. at 15. Christoph Bals, Sven Harmeling, Michael Windfuhr, Climate Change, Food Security and the Right to Adequate Food

¹⁰⁹ See, Jennifer Ellis, ed., Climate Change and Food Security, Backgrounder for Communities Adapting to Climate Change, Rossland, Castlegar and Kaslo Area D, Phase II Communities (May 13, 2010). The FAO (2008) describes food systems as a holistic set of interacting processes including: food production, food processing and packaging, food distribution and retailing, and food consumption.

¹¹⁰ Id.

¹¹¹ Id.

¹¹² M. Boko et al., AFRICA CLIMATE CHANGE 2007: IMPACTS, ADAPTATION AND VULNERABILITY, CONTRIBUTION OF WORKING GROUP II TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 435 (2007).

¹¹³ K. Cochrane, et al., CLIMATE CHANGE IMPLICATIONS FOR FISHERIES AND AQUACULTURE, OVERVIEW OF CURRENT SCIENTIFIC KNOWLEDGE (2009).

Available at, <ftp://ftp.fao.org/docrep/fao/012/i0994e/i0994e.pdf> (last visited Jul. 26, 2010).

¹¹⁴ Id.

limited response capacities to control the food crises. Changing weather patterns, sea level rise, and the increase in frequency and intensity of extreme events will affect farming patterns. Changes in mean rainfall and temperate as well as the increase in extreme events will affect agriculture, livestock, forestry as well as fisheries.¹¹⁵

There also may be positive biophysical impacts of climate change on food security. CO₂ fertilization more likely will lead to slight increases in crop productivity. Similarly higher temperatures will likely result in longer growing seasons and increased crop productivity in high latitude regions. Nonetheless negative climate impacts will outweigh benefits for most sectors. Moreover even those farms and regions that temporarily benefit from environmental conditions caused by changed climate (e .g. carbon fertilization and extended growing season) risk economic losses if temperatures exceed those preferred by the crops they currently produce.¹¹⁶

Many non-climate change events and factors including increased input costs, global population increases and loss of arable land will have implications for global and regional food security but the impact of climate change on food security will be much more substantive. Climate change will affect food systems directly through its biophysical impacts on plant and animal growth, and indirectly through its effects on human capital, economic and political structures.¹¹⁷

¹¹⁵ See supra note 88.

¹¹⁶ THE US ECONOMIC IMPACTS OF CLIMATE CHANGE AND THE COSTS OF INACTION: A REVIEW AND ASSESSMENT BY THE CENTER FOR INTEGRATIVE ENVIRONMENTAL RESEARCH (CIER) AT THE UNIVERSITY OF MARYLAND 5 (2007) available at, <http://www.cier.umd.edu/documents/US%20Economic%20Impacts%20of%20Climate%20Change%20and%20the%20Costs%20of%20Inaction.pdf> (last visited, Sept. 01, 2010).

¹¹⁷ Jennifer Ellis, Ed., CLIMATE CHANGE AND FOOD SECURITY, BACKGROUNDER FOR COMMUNITIES ADAPTING TO CLIMATE CHANGE, ROSSLAND, CASTLEGAR AND KASLO AREA D, PHASE II COMMUNITIES

1.3.3 HEALTH

The environment has a direct nexus and close link with human health. A sick or unhealthy environment translates in to bad human health. The well being of mankind is intertwined with a healthy environment.¹¹⁸ Although the world is already feeling the consequences of climate change especially related to human health, more severe impacts are projected for the coming years.

Climate change¹¹⁹ and infectious diseases threaten wildlife, livestock, agriculture, forests and marine life, which provide us with essential resources and constitute our life-support systems.¹²⁰ The World Health Organization (WHO) reports that health effects of changing climate are likely to be overwhelmingly negative.¹²¹ The global warming has direct and indirect impacts on human health.¹²² The direct impacts include, aero-allergens, air quality and respiratory disease,¹²³ extreme weather events,¹²⁴ heat waves,¹²⁵

(2010). For more detailed discussion see, Schmidhuber, Josef and Francesco N Tubiello, Global Food Security under Climate Change, 104 PROC. NAT'L ACAD. SCI. U.S.A.19703-19708 (2007).

¹¹⁸ "The health of all individuals is influenced by the health of people, animals, and the environment around us." Julie L. Gerberding M.D., M.P.H., Director on Climate Change and Public Health, Statement before Committee on Environment and Public Works United States Senate, Oct. 23, 2007, U.S. Department of Health and Human Services, <http://www.hhs.gov/asl/testify/2007/10/t20071023c.html> (last visited Jul. 23, 2010).

¹¹⁹ Climate Change and Health, World Health Organization, <http://www.who.int/mediacentre/factsheets/fs266/en/index.html> (last visited Jul. 23, 2010).

¹²⁰ Paul R. Epstein and Evan Mills, Eds., Climate Change Futures, Health, Ecological and Economic Dimensions (2006) available at, http://chge.med.harvard.edu/programs/ccf/documents/ccf_report_oct_06.pdf (last visited Jul. 22, 2010).

¹²¹ World Health Organization, Climate Change and Health, Fact Sheet 266 (January 2010). <http://www.who.int/mediacentre/factsheets/fs266/en/index.html> (last visited Jul. 21, 2010).

¹²² Id. at 6.

¹²³ World Health Organization, AIR QUALITY AND HEALTH, <http://www.who.int/mediacentre/factsheets/fs313/en/> (last visited Jul. 23, 2010). (Respiratory diseases range from acute infections, such as pneumonia and bronchitis, to chronic conditions such as asthma and chronic obstructive pulmonary disease. Air pollution is a major environmental risk to health and is estimated to cause approximately 2 million premature deaths worldwide per year.)

¹²⁴ See supra note 105. See also, WHO website, Climate Change and Health, <http://www.who.int/mediacentre/factsheets/fs266/en/index.html> (last visited Mar. 25, 2011). "Globally, the number of reported weather-related natural disasters has more than tripled since the 1960s. Every year,

mental health problems,¹²⁶ water-borne diseases (e.g. diarrhea,¹²⁷ cholera,¹²⁸ typhoid¹²⁹), food-borne, (e.g. Salmonella¹³⁰) and vector-borne diseases (e.g. malaria,¹³¹ dengue¹³²)

these disasters result in over 60 000 deaths, mainly in developing countries. Rising sea levels and increasingly extreme weather events will destroy homes, medical facilities and other essential services.

¹²⁵ Kristie L. Ebi, Gerald A. Meehl, HEAT WAVES & GLOBAL CLIMATE CHANGE, THE HEAT IS ON: CLIMATE CHANGE & HEAT WAVES IN THE MIDWEST (Dec. 2007).

<http://www.pewclimate.org/docUploads/Regional-Impacts-Midwest.pdf> (last visited Jul. 23, 2010).

¹²⁶ After Hurricane Katrina, rates of severe mental illness - including depression, PTSD, anxiety disorder, panic disorder, and a variety of phobias - doubled, from 6.1 percent to 11.3 percent, among those who lived in affected regions. Emily Anthes, Climate Change Takes a Mental Toll, BOSTON.COM (Feb. 9, 2009). http://www.boston.com/lifestyle/green/articles/2009/02/09/climate_change_takes_a_mental_toll/ (last visited Apr. 28, 2012). Citing a 2006 study by the Hurricane Katrina Community Advisory Group.

¹²⁷ Each year, an estimated 4 billion episodes of diarrhea result in an estimated 2 million deaths, mostly among children. Waterborne bacterial infections may account for as many as half of these episodes and deaths. See for more details. Center for Disease Control and Prevention (CDC), WATERBORNE DISEASE, <http://www.cdc.gov/nczved/divisions/dfbmd/diseases/waterborne/technical.html> (last visited Jul. 22, 2010).

¹²⁸ World Health Organization, CHOLERA, http://www.who.int/vaccine_research/diseases/diarrhoeal/en/index3.html (last visited Jul. 22, 2010). (Cholera is an acutely dehydrating, watery diarrheal disease with vomiting, caused by intestinal infection with *Vibrio cholerae*. Cholera is transmitted via the faecal-oral route, with epidemic outbreaks often occurring after wars or civil unrests or after natural disasters including flooding when water and/or food supplies become contaminated in crowded population settings with limited sanitation. The disease is now endemic in many parts of Africa and Asia. Explosive outbreaks usually occur in areas with inadequate sanitation, poor hygiene, and lack of safe water supplies, whereas in some countries, a seasonal rhythm for cholera epidemics has been observed. Recent outbreaks of cholera in several countries including Iraq, India, and Sudan illustrate the fact that cholera today remains an important threat in almost every developing country in the world.)

¹²⁹ World Health Organization, TYPHOID FEVER, Introduction, http://www.who.int/vaccine_research/diseases/diarrhoeal/en/index7.html (last visited Jul. 22, 2010). (Typhoid (TF) is spread by the faecal-oral route and closely associated with poor hygiene, lack of clean drinking water and inadequate sanitation. The disease is almost exclusively transmitted by food and water contaminated by the feces and urine of patients and carriers. Polluted water is the most common source of typhoid transmission. In addition, shellfish taken from sewage-contaminated beds, vegetables fertilized with night soil and eaten raw, contaminated milk and milk products have been shown to be a source of infection. Although TF has practically disappeared from industrialized countries, it remains a serious public health problem in several Asian regions of the former USSR and in parts of South and South-East Asia, Africa and South America.)

¹³⁰ Center for Disease Control and Prevention, SALMONELLAS, <http://www.cdc.gov/nczved/divisions/dfbmd/diseases/salmonellosis/> (last visited Jul. 22, 2010).

(Salmonella is actually a group of bacteria that can cause diarrheal illness in humans. Salmonella is usually transmitted to humans by eating foods contaminated with animal feces. Contaminated foods are often of animal origin, such as beef, poultry, milk, or eggs, but any food, including vegetables, may become contaminated.)

¹³¹ Id. at 9. (Malaria is the deadliest, most disabling and most economically damaging mosquito-borne disease worldwide. Warming affects its range, and extreme weather events can precipitate large outbreaks.)

¹³² See World Health Organization (WHO) at <http://www.who.int/csr/disease/dengue/en/index.html>

¹³² World Health Organization, DENGUE, <http://www.who.int/csr/disease/dengue/en/index.html> (Dengue is the most common mosquito-borne viral disease of humans that in recent years has become a major international public health concern. Globally, 2.5 billion people live in areas where dengue viruses

and malnutrition.¹³³ Clean air, safe drinking water, sufficient nutritious food and secure shelter are considered vital for human health and climate change is affecting all these essentials.¹³⁴ Air temperatures are increasing due to the global warming.¹³⁵ Extremely high air temperatures contribute directly to deaths from cardiovascular and respiratory disease, particularly among elderly people.¹³⁶ Heat waves are becoming more common and more intense throughout the world.¹³⁷ In 2003, more than seventy thousand extra deaths were recorded in Europe due to the summer heat waves. High temperatures also raise the levels of ozone and other pollutants in the air that exacerbate cardiovascular and respiratory disease.¹³⁸ Urban air pollution causes about 1.2 million deaths every year.¹³⁹ High levels of pollen and other aeroallergen in extreme heat can trigger asthma,¹⁴⁰ which affects around 300 million people.¹⁴¹ Sea level rise in coastal areas¹⁴² destroys the critical water delivery infrastructure, and increases the risk for health. Flooding can lead to water contamination with toxic chemicals and microbes. Salt-water from sea level rise destroys freshwater drinking supplies in the regions, and salinity in the soil can reduce agricultural production.¹⁴³ Some of potential indirect effects of extreme weather are, aggravation of

can be transmitted. Transmitted by the main vector, the *Aedes aegypti* mosquito, there are four distinct, but closely related, viruses that cause dengue.) <http://www.who.int/csr/disease/dengue/en/index.html>

¹³³ Center for Disease Control and Prevention, CLIMATE CHANGE AND PUBLIC HEALTH, <http://www.cdc.gov/climatechange/effects/default.htm> (last visited Jul. 21, 2010).

¹³⁴ *Id.*

¹³⁵ See supra note 3. IPCC FOURTH ASSESSMENT REPORT.

¹³⁶ Supra note 11.

¹³⁷ See supra note 3 IPCC FOURTH ASSESSMENT REPORT.

¹³⁸ *Id.*

¹³⁹ *Id.*

¹⁴⁰ See supra note 106. Asthma prevalence has quadrupled in the U.S. since 1980, and this condition is increasing in developed and underdeveloped nations. New drivers include rising CO₂, which increases the allergenic plant pollens and some soil fungi, and dust clouds containing particles and microbes coming from expanding deserts, compounding the effects of air pollutants and smog from the burning of fossil fuels.

¹⁴¹ *Id.*

¹⁴² See supra note 10. Coastal human communities, coral reefs and forests are particularly vulnerable to warming and disease, especially as the return time between extremes shortens.

¹⁴³ *Id.*

chronic diseases due to interruptions in health care services, significant mental health concerns both from interrupted care and geographic displacement, and socioeconomic disruption resulting from population displacement and infrastructure loss.¹⁴⁴ Climate change could also have a real impact on our psyches.¹⁴⁵ There is evidence that extreme weather events, such as droughts, floods, cyclones, and hurricanes, can lead to emotional distress, which can trigger such things as depression or post-traumatic stress disorder,¹⁴⁶ in which the body's fear and stimulation system kicks into overdrive. Other indirect health effects include higher pollen production and allergic and respiratory disease.¹⁴⁷ Climate change is likely to produce other indirect health effects, some of which include wildfires resulting from more frequent and prolonged droughts.¹⁴⁸

People living in small island developing states and other coastal regions, megacities, and mountainous and polar regions are particularly vulnerable.¹⁴⁹ Besides food and water shortages and other negative impacts, health consequences are predicted to be the worst for the developing nations. Evidence proposes that developing countries,

¹⁴⁴ Center for Disease Control and Prevention, CLIMATE CHANGE AND PUBLIC HEALTH <http://www.cdc.gov/climatechange/effects/default.htm> (last visited Jul. 21, 2010).

¹⁴⁵ Emily Anthes, Climate Change Takes a Mental Toll, BOSTON.COM (Feb. 9, 2009) quoting Paul Epstein, Associate Director for the Center for Health and the Global Environment at Harvard Medical School http://www.boston.com/lifestyle/green/articles/2009/02/09/climate_change_takes_a_mental_toll/ (last visited Apr. 27, 2012).

¹⁴⁶ See *id.*

¹⁴⁷ See *supra* footnotes 118 and 119.

¹⁴⁸ *Id.*

¹⁴⁹ World Health Organization, CLIMATE CHANGE AND HEALTH, WHO IS AT RISK? “People living in small island developing states and other coastal regions, megacities, and mountainous and polar regions are particularly vulnerable. Children – in particular, children living in poor countries – are among the most vulnerable to the resulting health risks and will be exposed longer to the health consequences. The health effects are also expected to be more severe for elderly people and people with infirmities or pre-existing medical conditions.” For more details visit WHO’s website, <http://www.who.int/mediacentre/factsheets/fs266/en/index.html> (last visited Jul. 23, 2010).

including those of Sub-Saharan Africa¹⁵⁰ are expected to suffer major health impacts from climate change.¹⁵¹ On May 24, 2008, The World Health Assembly of WHO passed a resolution to endorse the findings of the IPCC, which found that temperature increases affect human health and that the net global effect of projected climate change on human health is expected to negatively affect developing countries.¹⁵² WHO Regions have also adopted similar resolutions. Member states of the WHO African Region adopted a Framework of Action to increase awareness, and place public health concerns and health protection from climate variability and climate change at the center of regional, national, and international action on climate change.¹⁵³

Although global warming may bring some localized benefits, such as fewer winter deaths in temperate climates and increased food production in certain areas, but the overall health effects of a changing climate are likely to be overwhelmingly negative.

¹⁵⁰ Although Africa has the lowest emissions of greenhouse gases it could suffer the greatest burden of climate-sensitive diseases increasing inequalities in health.

¹⁵¹ Anil Markandya, Aline Chiabai, Valuing Climate Change Impacts on Human Health: Empirical Evidence from the Literature, *INT'L J. ENVTL. RES. PUB. HEALTH* 760 (2009). available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2672348/pdf/ijerph-06-00759.pdf> (last visited Jul. 21, 2010).

¹⁵² On May 24, 2008, 193 countries represented at the 2008 World Health Assembly of WHO passed a resolution on health and climate change and gave unanimous and outspoken support for the new resolution, calling for greater engagement on the issue of climate change and health. For more details visit World Health Organization, *CLIMATE CHANGE AND HEALTH, FACT SHEET 266*, Jan. 2010, <http://www.who.int/mediacentre/factsheets/fs266/en/index.html> (last visited Jul. 21, 2010).

¹⁵³ *Id.*

1.3.4 SEA LEVEL RISE

Potential sea level rise impacts to coastal areas are anticipated. Rising sea levels submerge wetlands¹⁵⁴ and other low-lying lands, wear down coastlines, increase and intensify flooding, and add to the salinity of rivers, bays, and groundwater tables.¹⁵⁵

In the last decade the rate of sea level rising from thermal expansion of heated seawater as well as increasing melting of glaciers has been about twice the average for the 20th century.¹⁵⁶ IPCC's Fourth Assessment Report (AR4) estimates that the global average sea level will rise by 7.2 to 23.6 inches by 2100.¹⁵⁷ It is anticipated that the extent of climate change effects on individual regions will vary over time.¹⁵⁸ Coastal areas in

¹⁵⁴ "Wetlands provide values that no other ecosystem can, including natural water quality improvement, flood protection, shoreline erosion control, opportunities for recreation and aesthetic appreciation, and natural products". United States Environmental Protection Agency, WETLANDS AND PEOPLE, <http://water.epa.gov/type/wetlands/people.cfm> (last visited Mar.24. 2011).

¹⁵⁵ U.S. Environmental Protection Agency, CLIMATE CHANGE - HEALTH AND ENVIRONMENTAL EFFECTS, COASTAL ZONES AND SEA LEVEL RISE, available at <http://www.epa.gov/climatechange/effects/coastal/index.html> (last visited Mar. 24, 2011)

¹⁵⁶ "Snow cover is decreasing in most regions, particularly in spring. The maximum extent of frozen ground in the winter/spring season has decreased by about 7 percent in the Northern Hemisphere since 1900. Mountain glaciers and snow cover have declined, on average, in both hemispheres, and have contributed to sea level rise by 0.77 millimeters a year from 1993 to 2003. Shrinkage of the ice sheets of Greenland and Antarctica has contributed to a sea level rise of 0.4 millimeters a year between 1993 and 2003." See United Nations Intergovernmental Panel on Climate Change, (IPCC) FOURTH ASSESSMENT REPORT, SUMMARY FOR POLICYMAKERS 2-4 (2007), available at http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf

¹⁵⁷ Id.

¹⁵⁸ IPCC 2007 Summary for Policymakers, in CLIMATE CHANGE 2007, SYNTHESIS REPORT 11 (2007). "North America: Decreasing snowpack in the western mountains; 5-20 percent increase in yields of rain-fed agriculture in some regions; increased frequency, intensity and duration of heat waves in cities that currently experience them. Latin America: Gradual replacement of tropical forest by savannah in eastern Amazonia; risk of significant biodiversity loss through species extinction in many tropical areas; significant changes in water availability for human consumption, agriculture and energy generation. Europe: Increased risk of inland flash floods; more frequent coastal flooding and increased erosion from storms and sea level rise; glacial retreat in mountainous areas; reduced snow cover and winter tourism; extensive species losses; reductions of crop productivity in southern Europe. Africa: By 2020, between 75 and 250 million people are projected to be exposed to increased water stress; yields from rain-fed agriculture could be reduced by up to 50 percent in some regions by 2020; agricultural production, including access to food, may be severely compromised. Asia: Freshwater availability projected to decrease in Central, South, East and Southeast Asia by the 2050s; coastal areas will be at risk due to increased flooding; death rate from disease associated with floods and droughts expected to rise in some regions."

nearly all regions are at jeopardy from sea-level rise and mounting storm surges. Sea-level rise and storm surge place many U.S. coastal areas¹⁵⁹ especially along the Atlantic and Gulf Coasts, Pacific Islands,¹⁶⁰ and parts of Alaska, at an escalating risk of erosion and flooding.¹⁶¹ The flooding and erosion caused by rising sea level would effect human population living in coastal areas worldwide.¹⁶² Energy and transportation infrastructure and other properties in coastal areas are very likely to be adversely effected.¹⁶³

Groundwater sources in close proximity to coastal areas may well be subject to salt water intrusion. Salt water could contaminate the fresh water supplies. Experts believe that when salt water mixes with the fresh water and this salty water solution moves throughout the aquifer, contaminates all the fresh water for the area, destroying agricultural lands and posing a threat to the plant, animal and even human life around the estuary. Inhabitants will be forced to migrate if their livelihoods fail due to lack of natural resources.

¹⁵⁹ U.S. Environmental Protection Agency (EPA), CLIMATE CHANGE, AND ENVIRONMENTAL EFFECTS, COASTAL ZONES AND SEA LEVEL RISE available at <http://www.epa.gov/climatechange/effects/coastal/index.html> (last visited Apr. 29, 2012). “sea level is rising along most of the U.S. coast and around the world.”

¹⁶⁰ U.S. affiliated Pacific Islands are home to approximately 1.7 million people in the Hawaiian Islands; Palau; the Samoan Islands of Tutuila, Manua, Rose, and Swains; and islands in the Micronesian archipelago, the Carolines, Marshalls, and Marianas. United States Global Change Research Program, Island Region, <http://www.globalchange.gov/publications/reports/scientific-assessments/us-impacts/regional-climate-change-impacts/islands> (last visited Apr. 29, 2012).

¹⁶¹ See Environmental Protection Agency, COASTAL ZONES AND SEA LEVEL RISE, *supra* note 159. Rising sea levels inundate wetlands and other low-lying lands, erode beaches, intensify flooding, and increase the salinity of rivers, bays, and groundwater tables.

¹⁶³ GLOBAL CLIMATE CHANGE IMPACTS IN THE UNITED STATES, Executive Summary, available at <http://downloads.globalchange.gov/usimpacts/pdfs/executive-summary.pdf> also available at White House website, <http://www.whitehouse.gov/blog/Streaming-Now-Climate-Change-Impacts-Across-America-Renewed-Focus-for-Decisions/> (last visited Mar. 24, 2011). According to the White House report, Global Climate Change Impacts in the United States, climate changes are underway in the United States and are projected to grow. Climate-related changes are already observed in the United States and its coastal waters. These include increases in heavy downpours, rising temperature and sea level, rapidly retreating glaciers, thawing permafrost, lengthening growing seasons, lengthening ice-free seasons in the ocean and on lakes and rivers, earlier snowmelt, and alterations in river flows. These changes are projected to grow.

Projections show that millions of people are expected to have to flee their homes as a result of environmental factors.¹⁶⁴ The numbers of ecological refugees rise as increases in sea levels inundate communities on small islands or erode low lying river deltas.¹⁶⁵ Maldives in the Indian Ocean, Tuvalu, Kiribati, Fiji, Tonga, and the Marshall Islands in the Pacific are a few among the small island states, which could become uninhabitable.¹⁶⁶ Large island nations such as the Philippines and Indonesia also face severe risk. Vast populations living in coastal areas such as deltas in low-lying coastal regions of Bangladesh, Vietnam, India, and China are at risk. A considerable number of scientists warn that global warming will cause sea levels to rise dramatically and it might destroy whole nations and their cultures that have existed for thousands of years.¹⁶⁷

1.3.5 SEVERE WEATHER EVEVTS

Global warming is affecting the frequency and intensity of many kinds of extreme weather events and if unchecked global warming will likely fuel even more severe weather.¹⁶⁸ Studies illustrate that global warming could lead to more often and fiercer hurricanes, wildfires, droughts, downpour floods and deadly heat waves in various parts

¹⁶⁴ Nicholas A. Robinson, *Befogged Vision: International Environmental Governness, a Decade after Rio*, 27 WM. & MARY ENVTL. L. & POL'Y REV. 299 (Winter 2002).

¹⁶⁵ UN University, Institute for Environment and Human Security, http://www.ehs.unu.edu/index.php?page=12_October_-_UN_Disaster_Day

¹⁶⁶ Id.

¹⁶⁷ Jonathan Overpeck, Director of the Institute for the Study of Planet Earth at the University of Arizona in Tucson noted, "Even with a small sea level rise, we're going to destroy whole nations and their cultures that have existed for thousands of years." Stefan Lovgren, *Warming to Cause Catastrophic Rise in Sea Level?* NAT'L GEO. NEWS (Apr. 26, 2004) available at http://news.nationalgeographic.com/news/2004/04/0420_040420_earthday.html (Last visited Mar. 27, 2012).

¹⁶⁸ See supra note 49

of the world.¹⁶⁹ Sir John Holmes in his opening remarks in a conference in Dubai reveals, “The number of recorded natural disasters¹⁷⁰ has doubled from some 200 to over 400 per year over the last two decades.¹⁷¹ Nine out of every 10 natural disasters are today climate related”.¹⁷² This intensification of weather and climate extremes will be the most visible impact of global warming in our everyday lives. According to the IPCC report climate change may increase the risk of river and coastal flooding.¹⁷³ The new reports in USA noted the latest science linking global warming to hurricanes, coastal storms, extreme precipitation, wildfires and heat waves.¹⁷⁴ The Intergovernmental Panel on Climate Change (IPCC) in its Fourth Assessment Report, notes migration and displacement as being likely key impacts of climate change due to changing patterns of extreme weather and climate events, which may be gradual or sudden.¹⁷⁵ Most climatic impacts arise from extreme weather events or from climatic variables exceeding some critical level and thereby affecting the performance or behavior of a biological or physical system.¹⁷⁶ The past decade was the hottest decade in the historical record.¹⁷⁷ The first half of 2010 was the warmest such six-month period in the planet’s history. A new report by the National

¹⁶⁹ Id.

¹⁷⁰ Natural disaster is defined as, “A disaster is a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources.” See, Brookings-Bern Project on Internal Displacement, IASC OPERATIONAL GUIDELINES ON THE PROTECTION OF PERSONS IN SITUATIONS OF NATURAL DISASTERS 55, 58 (January 2011).

¹⁷¹ Sir John Holmes, Under Secretary-General for Humanitarian Affairs and Emergency Relief Coordinator, Opening Remarks at the Dubai International Humanitarian Aid and Development Conference and Exhibition “DIHAD 2008 Conference”, <http://www.reliefweb.int/rw/rwb.nsf/db900sid/YSAR-7DHL88?OpenDocument>

¹⁷² Id.

¹⁷³ IPCC WORKING GROUP II: IMPACTS, ADAPTATION AND VULNERABILITY, <http://www.ipcc.ch/ipccreports/tar/wg2/index.php?idp=354>(last visited Sep. 11, 2010).

¹⁷⁴ Tony Dutzik, et al., GLOBAL WARMING AND EXTREME WEATHER: THE SCIENCE, THE FORECAST, AND THE IMPACTS ON AMERICA (Sep. 2010).

¹⁷⁵ See supra 3. IPCC FOURTH ASSESSMENT REPORT.

¹⁷⁶ IPCC WORKING GROUP II: IMPACTS, ADAPTATION AND VULNERABILITY, <http://www.ipcc.ch/ipccreports/tar/wg2/index.php?idp=680>(last visited Sep. 11, 2010).

¹⁷⁷ See supra note 66.

Climatic Data Centre (NCDC) has reported that “the combined global land and ocean average surface temperature for June 2010 was the warmest on record at 16.2°C (61.1°F), which is 0.68°C (1.22°F) above the 20th century average of 15.5°C (59.9°F).” The previous record for June was set in 2005.¹⁷⁸ In 2010, the five warmest months in the history of the tropical Atlantic led to more frequent and severe Atlantic hurricanes.¹⁷⁹ IPCC report warns, “there is observational evidence for an increase of intense tropical cyclone activity in the North Atlantic since about 1970, correlated with increases of tropical sea surface temperatures... it is likely that future tropical cyclones (typhoons and hurricanes) will become more intense, with larger peak wind speeds and more heavier precipitation associated with ongoing increases of tropical SSTs (sea surface temperatures)”¹⁸⁰ The IPCC report predicts that extra-tropical storm tracks are projected to move pole ward with consequent changes in wind, precipitation, and temperature patterns.¹⁸¹ Extreme weather events have caused the death of thousands and the displacement of millions. As this trend of extreme weather continues to increase in the coming decades, we will start seeing more and more events that cause tremendous death and destruction. Wildfires in Russia have blanketed the country with smoke, exacerbating the hottest summer there in a thousand years.¹⁸² In early 2011 floods in eastern Australia

¹⁷⁸ National Climatic Data Centre (NCDC) State of the Climate Global Analysis June 2010 National Oceanic and Atmospheric Administration, National Climatic Data Center, Global Highlights, available at, <http://www.ncdc.noaa.gov/sotc/global/2010/6> (last visited Apr. 28, 2012).

¹⁷⁹ Id.

¹⁸⁰ Key passages from the report by the IPCC's Working Group I, <http://ipccinfo.com/extreme.php> (last visited Sep. 11, 2010).

¹⁸¹ Id.

¹⁸² World Meteorological Organization, CURRENT EXTREME WEATHER EVENTS, http://www.wmo.int/pages/mediacentre/news/extremeweathersequence_en.html#ipcc (last accessed Apr. 02, 2012). “According to Roshydromet, the Russian Federal Service for Hydrometeorology and Environmental Monitoring, July 2010 is the warmest month ever in Moscow since the beginning of modern meteorological records, 130 years ago. Temperature has exceeded the long-term average by 7.8° C (compared to the previous record in July 1938 with 5.3° C above average). Record high temperatures

captured world attention. These floods left many towns stranded for several weeks and inundated areas the size of France and Germany combined. Torrential rains in Asia have caused massive flooding and deadly landslides in Pakistan, Kashmir, Afghanistan, Thailand, and China.¹⁸³ In Pakistan alone floods caused by monsoon rains displaced more than twenty million.¹⁸⁴ The China Meteorological Administration reports, “China has witnessed sudden, extreme and concurrent meteorological disasters in 2010, causing widespread damage. Since May 14, 2010, successive torrential rains hit South China and broad areas to the south of the Yangtze River, leading to flooding. Since June, high temperature events have frequently occurred, breaking historical extremes. In July, torrential rains in North China caused severe floods. In August, frequent heavy rains led to floods, landslides, mud-rock flows causing serious damage to economic and social activities. In August of 2008, Zhouqu County, Gansu Province, in Northwest China, was hit by a devastating flood and mud-rock flow.”¹⁸⁵ The recent death toll due to the mudslide in the Zhouqu county of Gansu province exceeded seven hundred, with more than thousand people missing. In addition, twelve million people are reported to have lost

varying between 35° C and 38.2° C were registered for more than 7 consecutive days end July, with the heat wave continuing into August. The daily temperature of 38.2° C on 29 July was the highest ever in Moscow (compared to a long-term average of approximately 23° C). The minimum temperature of nearly 25°C (recorded during the night before sunrise) also scored a significant increase compared to the historical average of about 14° C. Those temperatures are characteristic for a heat wave of a rare intensity and duration.”

¹⁸³ World Meteorological Organization, CURRENT EXTREME WEATHER EVENTS, http://www.wmo.int/pages/mediacentre/news/extremeweathersequence_en.html#ipcc

¹⁸⁴ See id. The strong monsoon rains led to the highest water levels in 110 years in the Indus River in the northern part of the country, based on past records available from 1929. The monsoon activity in Pakistan and other countries in Southeast Asia are aggravated by the La Nina phenomenon, now well established in the Pacific Ocean.

¹⁸⁵ World Meteorological Organization, CMA ENHANCES METEOROLOGICAL SERVICE IN SUPPORT OF DISASTER PREVENTION AND REDUCTION, CHINA METEOROLOGICAL ADMINISTRATION (Aug. 31, 2010) http://www.wmo.int/pages/mediacentre/news_members/CMA_news_aug_2010.html (last visited SEP. 11, 2010).

their homes owing to the recent floods.¹⁸⁶ An ice shelf in Greenland has broken off, sending an ice island four times the size of Manhattan into the ocean.¹⁸⁷ Above-average sea-surface temperatures in the southwest Atlantic promote low atmospheric pressure and an increased tendency for heavy rainfall.¹⁸⁸

Both El Niño and La Niña impact global climate patterns. Some scientists believe that the increased intensity and frequency of El Niño and La Niña events in recent decades is due to warmer ocean temperatures resulting from global warming.¹⁸⁹ La Niña produces the opposite climate variations. For instance, parts of Australia and Indonesia are prone to drought during El Niño, but are typically wetter than normal during La Niña.¹⁹⁰ La Niña is responsible for widespread floods in Pakistan in 2010, flooding in West Africa, South Africa, and most recently in Queensland, Australia. Due to La Nina Indonesia and northern South America have also been receiving above-normal rainfall and drought in Argentina, Brazil and Uruguay. Scientists now believe climate change is likely enhancing the impacts of the famous El Niño-Southern Oscillation (ENSO), a cyclical climate phenomenon that affects weather patterns around the world. United Nations Food and Agriculture Organization (FAO) reports, “There have been changes in

¹⁸⁶ Extreme Weather Events Signal Global Warming to World's Meteorologists, ENVTL NEWS SERVICE (Aug. 17, 2010). <http://www.ens-newswire.com/ens/aug2010/2010-08-17-01.html> (last visited Sep. 11, 2010).

¹⁸⁷ On August 5, 2010, the MODIS sensor on NASA's Aqua satellite detected calving from the Petermann Glacier in northern Greenland. The largest chunk of ice to calve from the glacier in the past 50 years of observations and data (since 1962) measures more than 200 sq. km. Extreme Weather Events Signal Global Warming to World's Meteorologists, Environment News Service (Aug. 17, 2010). <http://www.ens-newswire.com/ens/aug2010/2010-08-17-01.html> (last visited Sep. 11, 2010).

¹⁸⁸ See supra 158. IPCC 2007, Summary for Policymakers, in CLIMATE CHANGE 2007. Also see supra note 161, U.S. Environmental Protection Agency (EPA) COASTAL ZONES AND SEA LEVEL RISE.

¹⁸⁹ The International Research Institute of Climate and Society, http://portal.iri.columbia.edu/Production/Home/common/featureframer.html?http://iriportal3.ldeo.columbia.edu:7087/publishedcontent/publish/development/home/new_home/homebody/2009_spotlight_features/top_misconceptions_about_el_nino_2.html (last visited Mar. 16, 2011).

¹⁹⁰ Id.

the El Niño-La Niña cycle since the 1970s. It's a complex cycle but the associated droughts, flooding and other manifestations have been stronger over the last 30 to 40 years." Mostly after natural disasters state's socio-economic structure like loss of livelihood collapse and people are forced to move. In 2008, twenty million persons have been displaced by extreme weather events, compared to 4.6 million internally displaced by conflict and violence over the same period.¹⁹¹ And the chances are that the numbers of those affected by climate change is going to be somewhere between 10 and 50 times higher within the next 35 years.¹⁹²

The Deputy High Commissioner for Refugees L. Craig Johnstone warned that climate change could cause large-scale human displacement.¹⁹³ The deputy head of the UN refugee agency added that even by the most conservative predictions up to 250 million people will be displaced by the middle of this century as a result of extreme weather conditions, dwindling water reserves and a degradation of agricultural land. Many people will also be forced to flee their homes to escape fighting over meager resources.¹⁹⁴

1.3.6 DROUGHT AND DESERTIFICATION

Climate changes will potentially cause extremely dry periods in certain regions.

¹⁹¹ UNCHR, <http://www.unhcr.org/493e9bd94.html>

¹⁹² Id. The Deputy High Commissioner for Refugees L. Craig Johnstone, speaking in a UNHCR-organized panel discussion, said that in real terms this meant that the number of displaced would rise by a minimum of six million each year due to climate change.

¹⁹³ Id.

¹⁹⁴ Id.

The combination of a decrease in summer rainfall and increased evaporation will lead to more severe and longer-lasting droughts in a number of localities.¹⁹⁵ Changes in sea surface temperatures (SST), wind patterns, and decreased snowpack and snow cover have also been linked to droughts.¹⁹⁶ Working Group I of the IPCC observed, "At continental, regional, and ocean basin scales, numerous long-term changes in climate have been observed. More intense and longer droughts have been observed over wider areas since the 1970s, particularly in the tropics and subtropics. Increased drying linked with higher temperatures and decreased precipitation has contributed to changes in drought." World Meteorologist Organization (WMO), an organization of meteorologists from one hundred and eighty nine countries around the world, reported more droughts and fires in Australia.¹⁹⁷ Droughts also threatened the Mediterranean region, southern Africa, parts of southern Asia, Niger¹⁹⁸ and the Sahel.¹⁹⁹ The high temperatures because of change in climate triggered massive forest and peat fires in the European part of Russia. Some villages were burned completely, with smoke and smog adversely and greatly affecting the health and wellbeing of tens of millions of people.

A study funded by the British government and carried out by climate scientists at the Met Office Hadley Centre for Climate Prediction and Research warns drought could

¹⁹⁵ Drought caused by warming reduces the land's ability to take up carbon and as a result more carbon dioxide could be left in the atmosphere, causing more warming.

¹⁹⁶ See supra note 136, Key passages from the report by the IPCC's Working Group I, <http://ipccinfo.com/extreme.php> (last visited Sep. 11, 2010).

¹⁹⁷ World Meteorological Organization, CURRENT EXTREME WEATHER EVENTS, http://www.wmo.int/pages/mediacentre/news/extremeweathersequence_en.html#ipcc

¹⁹⁸ Niger Profile, BBC NEWS AFRICA (Aug. 05, 2011, 11.13 ET). (last visited Apr. 29, 2012). Niger is a vast arid state on the edge of the Sahara desert and is rated by the United Nations as one of the world's least-developed nations.

¹⁹⁹ Kerry H. Cook, World Climate News: Drought and Desertification in the Sahel. http://www.geo.cornell.edu/geology/faculty/Cook/Sahel_Drought.pdf (last accessed Apr. 29, 2012). (Sahel is a long thin region stretching across northern Africa between about 12-18°N latitude. In the future, under global warming, the Sahel may experience more frequent drought episodes, making such planning even more imperative.)

be doubled by the end of the century due to global warming, threatening the survival of millions of people around the world.²⁰⁰ A British climate scientists' research has revealed that extreme drought could affect thirty percent of the world's land surface, up from the current span of three percent.²⁰¹ Severe droughts will affect forty percent of the earth's land, up from eight percent, and moderate drought, which currently affects about twenty-five percent of the world's surface, will rise to fifty percent.²⁰² The World Health Organization estimates that droughts and their effects cause half the deaths worldwide due to all natural disasters.²⁰³ Drought is one of the most important climate-related disasters in Africa.²⁰⁴ Droughts combined with desertification force millions of people to leave their homes and in some case their countries.²⁰⁵ The majority of people in Africa are agriculturalists, dependent on rain-fed crops or pastoralists, earning a living through livestock. Droughts cause crops to fail and farmers can no longer make a living from farming. Only a few choose to stay and struggle to maintain livelihoods in risk-prone surroundings but a majority of inhabitants sell their livestock and leave their homes.

²⁰⁰ Eleanor J. Burke, Simon J. Brown, and Nikolas Christidis, Modeling the Recent Evolution of Global Drought and Projections for the Twenty-First Century with the Hadley Centre Climate Model, *Hydrometeorology* (Oct. 2006). Available at <http://journals.ametsoc.org/doi/pdf/10.1175/JHM544.1> (last accessed Apr. 29, 2012).

²⁰¹ *Id.* See generally the Hadley Centre Climate Model, Hadley Centre for Climate Prediction and Research

²⁰² *Id.*

²⁰³ WATER RESOURCES SYSTEMS PLANNING AND MANAGEMENT, Appendix C: Drought Management, 581 http://ecommons.library.cornell.edu/bitstream/1813/2804/4/17_appendix_c.pdf

²⁰⁴ See United Nations Economic and Social Council, Fifth Meeting of the Africa Committee on Sustainable Development (ACSD-5) Regional Implementation Meeting (RIM) for CSD-16 Addis Ababa (Oct. 22-25 2007) AFRICA REVIEW REPORT ON DROUGHT AND DESERTIFICATION 7 (2007). http://www.un.org/esa/sustdev/csd/csd16/rim/eca_bg3.pdf (last retrieved Apr. 29, 2012).

²⁰⁵ *Id.* See also generally AFRICA REVIEW REPORT (Oct. 2007).

1.3.7 HUMAN DISPLACEMENT

There are complex linkages between climate change and human mobility. One major consequence of global climate change is the displacement of people from their homes, whether temporarily or permanently. Environmental displacements are caused by multi-factorial stresses and most of the events are interlinked. The Stern Review concluded that resource scarcity, desertification, risks of droughts and floods, and rising sea levels could drive many millions of people to migrate.²⁰⁶ According to the IPCC reports, Small Island States, the continent of Africa, mega deltas in Asia and the polar region areas are most exposed to climate change.²⁰⁷ From all the climate change impacts, the following three categories, sea level rise,²⁰⁸ increasing severe weather events, and drought and desertification, are likely to have the greatest consequences in terms of human movement.²⁰⁹ Many people will also be forced to flee their homes to escape fighting over meager resources.”²¹⁰ The potential number of climate change migrants is overwhelming. Patrick Maigwa, of UN Radio, Geneva reports that climate change experts predict that by the year 2050 up to a billion people worldwide will be displaced or forced to migrate due to climate change and environmental degradation.²¹¹ Migration is often the survival approach exercised by inhabitants whose human security is threatened. But not

²⁰⁶ Nicholas Stern, *THE ECONOMICS OF CLIMATE CHANGE: THE STERN REVIEW* (2007).

²⁰⁷ United Nations Intergovernmental Panel on Climate Change, (IPCC) *FOURTH ASSESSMENT REPORT, SUMMARY FOR POLICYMAKERS 2-4* (2007), available at http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf

²⁰⁸ I. “Sea level rise increased from the 19th to 20th century, and the total 20th century rise is estimated to be 0.17 meter. Geological observations indicate that sea level rise over the previous 2,000 years was far less”.

²⁰⁹ Bonnie Docherty and Tyler Giannini, *Confronting a Rising Tide: A Proposal for a Convention on Climate Change Refugees* (2009) 33 *HARV. ENVTL L. R.* 349, 355.

²¹⁰ See *supra* note 191. UNHCR available at <http://www.unhcr.org/493e9bd94.html>

²¹¹ *Climate Change Will Lead to More Migration: UN Agencies*, U.N. RADIO <http://www.unmultimedia.org/radio/english/detail/37743.html> (last visited Mar. 26, 2011).

all the residents are capable of moving out. Climate change impacts can weaken and diminish the capacity of the mobility of the certain communities. Those who are not displaced and left behind in a catastrophe are entitled to the same protection concerns.

1.4 CONCLUSION

Reports and research by various scientists and scholars has corroborated the fact that environmental change is a key factor in setting off human migration and displacement worldwide. The striking evidence suggests that climate change causes directly or indirectly large human migration. Shifts in climate patterns, glacial melt, sea level rise and desertification and droughts are increasingly causing migration and displacement. IPCC Fourth Assessment Report states that climate change is already having significant impacts in certain regions, particularly in developing countries, and on most eco systems. The most vulnerable regions include areas like low-lying islands and deltas, coastal areas, areas dependent on glacial-fed water systems and areas subject to persistent drought. The Stern Review concluded, “[g]reater resource scarcity, desertification, risks of droughts and floods, and rising sea levels could drive many millions of people to migrate.”²¹²

The United Nations currently estimates a large growth in global population. By 2050 the world’s population is estimated to become thirty four percent higher than today. Studies indicate that the food demand will increase due to a boost in population from

²¹² Supra note 206. Nicholas Stern, THE ECONOMICS OF CLIMATE CHANGE: THE STERN REVIEW (2007).

seventy to one hundred percent by 2050.²¹³ Globally the rate of growth in yields of the major cereal crops has been steadily declining,²¹⁴ Global water resources are drying up as climate change takes hold and population growth continues. Depleting fresh water is threatening the livelihood of millions of small-scale farmers who depend on water for their crops. Forty percent of the world will live in water-scarce regions by 2025.²¹⁵ Major population increase will take place in the developing countries. Sixty percent of the world's hungry people live in South Asia and sub-Saharan Africa, the most vulnerable to the climate change.

The root causes of mass climate induced human displacement and the role of environmental factors in displacement are identified in this chapter. The next chapter will investigate: Who and how many will get displaced? And where will they go?

²¹³ H. Charles J. Godfray, et.al., Food Security: The Challenge of Feeding 9 Billion People, SCI. MAG. <http://www.sciencemag.org/cgi/content/full/327/5967/812#R18>(last visited Jul. 27, 2010). Citing: Royal Society of London, REAPING THE BENEFITS: SCIENCE AND THE SUSTAINABLE INTENSIFICATION OF GLOBAL AGRICULTURE (2009).

²¹⁴ HOW TO FEED THE WORLD 2050, HIGH LEVEL EXPERT FORUM, THE TECHNOLOGY CHALLENGE, ROME OCT. 12-13, 2009, available at http://www.fao.org/fileadmin/templates/wsfs/docs/Issues_papers/HLEF2050_Technology.pdf

²¹⁵ NATURAL CAPITAL, PRESERVING THE RESOURCE CAPITAL, available at http://pdf.wri.org/tm_03_natural_capital.pdf (last visited Mar. 27, 2012).

CHAPTER 2

CLIMATE HARMS AND DISPLACEMENT

2.1 INTRODUCTION

Interestingly correlation between environment and human migration has generated heated public debate and a large volume of literature. Climate change is considered a root cause for large-scale human displacement in the future.²¹⁶ Climate change induced displacement is an enduring phenomenon for the countries with fragile environments. Increasing migration and displacement by environmental and climate change impacts raise significant concerns. The instant chapter illustrates the dilemma of displacement and discusses the various roles that environmental damage may play in causing human migration. It also categorizes the movements of environmentally induced population at large but the span of the thesis's research is constrained to the people displaced by climate change only.²¹⁷

There is a wide spectrum of causes behind human migration. Conflicts, decreased economic opportunities, freedom, oppression, and human rights violations are only a few to name. Among all, change in the climate and environment is regarded as the prominent driver of recent population movement. Natural disasters²¹⁸ (typhoons, cyclones, floods

²¹⁶ See supra notes 15 & 16.

²¹⁷ J. Borger., Conflicts Fuelled by Climate Change Causing New Refugee Crisis, Warns UN, GUARDIAN ONLINE (Jun. 16, 2008). <http://www.guardian.co.uk/environment/2008/jun/17/climatechange.food>, Antonio Guterres, UN High Commissioner for Refugees affirmed, "Climate change is today one of the main drivers of forced displacement, both directly through impact on environment – not allowing people to live any more in the areas where they were traditionally living – and as a trigger of extreme poverty and conflict".

²¹⁸ Disaster is defined by UN as "a serious disruption of the functioning of a society, causing widespread human, material, or environmental losses which exceed the ability of affected society to cope using only its own resources. "See Univ. of Wis. Disaster Mgmt. Ctr., An Overview of Disaster Management 14

and drought) are forcing more and more people to migrate. This process is calculated to accelerate in the future. As predicted global warming is creating a new emerging category of the displaced people around the world. Janet Sawin, a climate change expert at the World Watch Institute in Washington D.C, deems that human migrations are expected to increase as average global temperatures continue to rise and we experience rising sea levels, more severe weather related disasters, and impacts as a result.²¹⁹ Thomas Homer-Dixon reflects that seven major environmental problems including greenhouse warming contribute to the population displacement.²²⁰ Nicholas Stern expressly warns that climate change will cause large-scale human displacement.²²¹ The sheer numbers of people who can no longer gain a secure livelihood in their homelands because of drought, soil erosion, desertification, deforestation, and natural disasters are on the rise.²²² According to the World Bank Policy Research Working Paper, hundreds of millions of people are likely to be displaced by sea level rise.²²³

(Intertect Training Servs. ed., 2d ed. 1992), available at <http://www.undmtp.org/english/Overview/overview.pdf>. Cited by Mark Wilson, The Protection of Environmentally-Displaced Persons in International Law, Environmental Law, Lewis & Clark Law School, (Oct. 11, 2007) available at <http://www.undmtp.org/english/Overview/overview.pdf>. (last accessed Apr. 29, 2012).

²¹⁹ Janet Sawin, Climate Change Poses Greater Security Threat than Terrorism available at <http://www.worldwatch.org/node/77> (last visited Apr. 29, 2012).

²²⁰ Thomas F. Homer-Dixon, On the Threshold: Environmental Changes as Causes of Acute Conflict, 16 INT'L SECURITY 16 (Autumn 1991). Homer-Dixon writes, "Greenhouse warming, stratospheric ozone depletion, acid deposition, deforestation, degradation of agricultural land, overuse and pollution of water supplies, and depletion of fish stocks are seven major environmental problems which may contribute to population displacement and which in turn may contribute to conflict."

²²¹ Nicholas Stern, THE ECONOMICS OF CLIMATE CHANGE, THE STERN REVIEW (2007).

²²² Often natural disasters such as volcanoes and earthquakes lead to temporary displacements. It is believed that climate change has the potential to displace more people by increasing the frequency and severity of natural disasters. Considerable work has been done in recent years to improve systems of response to natural disasters. The UN defines natural disaster as: "the consequences of events triggered by natural hazards that overwhelm local response capacity and seriously affect the social and economic development of a region". See *supra* 3.

²²³ Sumita Das Gupta, et al, The Impact of Sea Level Rise on Developing Countries: A Comparative Analysis, WORLD BANK POLICY RESEARCH WORKING PAPER 4136 44 (Feb. 2007), available at

Yet a small number of scholars disagree and propose that there is a lack of evidence and consensus on the nature of the relationship between environmental change and migration.²²⁴ The nexus between roles of climate change in human displacement remains to be a matter of debate. Richard Black denies the existence of environmental refugees in total. He argues that environmental changes are no reason for forced migration.²²⁵ An additional complexity is that motivations for human migration are often numerous and overlapping and in some cases it is virtually impossible to identify one motive for migration.

However, the Intergovernmental Panel on Climate Change (IPCC), the World Bank, and other leading organizations concur that the effects of climate change, including rising sea levels, more frequent and severe floods, storms, drought and desertification, will cause large-scale population movements. There is every indication that human displacement and large-scale migration is caused by climate change²²⁶ and will generate complex challenges. The dilemma in question is that when and where²²⁷ such migration is likely to take place?

http://www.wds.worldbank.org/servlet/WDSC ontentServer/WDSP/IB/2007/02/09/000016406_20070209161430/Rendered/PDF/wps4136.pdf (last visited Apr. 29, 2012).

²²⁴ Silke Marie Christiansen, ENVIRONMENTAL REFUGEES: A LEGAL PERSPECTIVE, THE TERMINOLOGY DEBATE, 9 (2010) citing Richard Black, ENVIRONMENTAL REFUGEES: MYTH OR REALITY? 2 (2001).

²²⁵ Id.

²²⁶ Climate Change Will Lead to More Migration: UN Agencies, U. N. RADIO, <http://www.unmultimedia.org/radio/english/detail/37743.html> (last visited Mar. 26, 2011). Estimates regarding large-scale migration due to climate change are based largely on the number of people at risk, rather than any data on actual movements.

²²⁷ Id.

2.2 WHO WILL BE DISPLACED?

Migration is often the survival strategy employed by inhabitants whose security is at risk. People migrate when their living conditions are not sustainable. Numerous climate change impacts pose a grave threat to human livelihoods. A broad variation in climate change's impact on different regions is predicted.²²⁸ Bart W. Edes, Director of Asia Development Bank's Poverty Reduction, Gender, and Social Development Division stated, "Climate-induced migration will affect poor and vulnerable people more than others."²²⁹ Developing and more specifically less developed countries (LDCs) are the first pick by natural disasters due to their geographical location. Furthermore living conditions make the third world²³⁰ countries more vulnerable. These countries lack resources to adapt and mitigate the impact of climate change make these countries more susceptible to such change.²³¹ The 2008 annual report by United Nations High Commissioner for Refugees (UNHCR) indicates that eighty percent of the world's refugees are in developing nations.²³² The World Commission on Environment and Development concluded, "Poverty is a major cause and effect of global environmental

²²⁸ IPCC (2007): FOURTH ASSESSMENT REPORT: CLIMATE CHANGE 2007 (AR4) . Available at http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml The IPCC highlights that Small Island States, Africa, mega deltas, particularly those in Asia and the Polar Regions as areas most exposed to climate change.

²²⁹ Asia Development Bank, POLICY OPTIONS TO SUPPORT CLIMATE-INDUCED MIGRATION <http://www.adb.org/Documents/TARs/REG/43181-REG-TAR.pdf> "In many places, those least capable of coping with severe weather and environmental degradation will be compelled to move with few assets to an uncertain future. Those who stay in their communities will struggle to maintain livelihoods in risk-prone settings at the mercy of nature's whims." Statement by Bart W. Edes, Director of ADB's Poverty Reduction, Gender, and Social Development Division.

²³⁰ Graeme Hugo, Climate Change- Induced Mobility and the Existing Migration Regime in Jane McAdam ed., ASIA AND PACIFIC, CLIMATE CHANGE AND DISPLACEMENT: MULTIDISCIPLINARY PERSPECTIVES, 12 (2010).

²³¹ See id.

²³² United Nations High Commissioner for Refugees (UNHCR), Annual Report 2008, available at www.unhcr.org/4a37c9076.html (last visited Apr. 29, 2012).

problems.”²³³

Climate change impacts the traditional weather patterns on which much of the developing world depends.²³⁴ The IPCC warns that in Africa by 2020 seventy-five to two hundred and fifty million people will be impacted by water stress.²³⁵ A similar but radical climate change impact is forecast for Asia.²³⁶ The Asia- Pacific region is likely to witness unprecedented migratory movements as a result of rising sea levels and destruction of low-lying islands. Over seventy five percent of these risks in Asia will be concentrated in Bangladesh, India, Pakistan, and China.²³⁷ A recent report compiled by Asia Development Bank advised governments in Asia and the Pacific²³⁸ to prepare for a large increase in climate-induced migration in the coming years.²³⁹ Asia is urbanizing rapidly and Asian urban districts located in coastal areas and river deltas are largely exposed to climate change. A study by the World Wide Fund for Nature (WWF) warns that major Asian cities including Hong Kong, Dhaka, Manila and Jakarta are most vulnerable to climate change.²⁴⁰ A number of cities in the region face the risk of socio-economic sensitivity while others have the lowest ability to adapt to climate change.²⁴¹ The region

²³³ Report of World Commission on Environment and Development: Our Common Future, (1987).

²³⁴ IPCC (2007): FOURTH ASSESSMENT REPORT: CLIMATE CHANGE 2007 (AR4). available at http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml (last visited May. 02, 2011).

²³⁵ Id.

²³⁶ Id.

²³⁷ INTERNATIONAL STRATEGY FOR DISASTER REDUCTION, GLOBAL ASSESSMENT REPORT ON DISASTER RISK REDUCTION (2009)

²³⁸ Asia Development Bank Technical Assistance Report, POLICY OPTIONS TO SUPPORT CLIMATE-INDUCED MIGRATION (Dec. 2009), <http://www.adb.org/Documents/TARs/REG/43181-REG-TAR.pdf> (last visited Apr. 21, 2011). Describing Asia and the Pacific as one of the world’s most natural disaster-prone regions.

²³⁹ Id.

²⁴⁰ MEGA-STRESS FOR MEGA-CITIES, A CLIMATE VULNERABILITY RANKING OF MAJOR COASTAL CITIES IN ASIA, 4 available at http://assets.wwf.org.uk/downloads/mega_stress_cities_report.pdf (last visited Apr.29, 2012).

²⁴¹ Id at 3. See Executive Summary “Climate change and climatic variability have and will continue to impact all sectors, from national and economic security to human health, food production, infrastructure,

of South Asia is especially prone to storm threats, sea-level increases²⁴² and water stress from droughts or flooding.²⁴³ According to one estimate one hundred and twenty-five million people will be displaced in the region.²⁴⁴

A report by United Nations University, CARE and Columbia University lists the dry regions of Africa, river systems in Asia, the interior and coasts of Mexico and the Caribbean, and low islands in the Indian and Pacific Oceans as the eco-migration “hot spots.”²⁴⁵ Chinese climate models indicate that data showing the weakening of the East Asia monsoon over 30 years is being driven by global climate change. As a result, some states may lose portions of their territorial lands.²⁴⁶ Recent floods of Indus River in Pakistan submerged twenty percent of the country’s land and displaced a large part of the population. Bangladesh sitting on Ganges-Brahmaputra Delta is equally vulnerable to monsoon related floods. September 2010 floods left thousands of people homeless in Bangladesh. Low elevation coastal areas are more susceptible to the impacts of global warming.²⁴⁷ Eighty percent of Bangladesh is delta and the country is being continuously

water availability and ecosystems.”

²⁴² Scientists warn that global warming will cause sea levels to rise dramatically. Rising sea levels inundate wetlands and other low-lying lands, erode beaches, intensify flooding, and increase the salinity of rivers, bays, and groundwater tables. See AR4 *supra* note 234. Also see *supra* note 238 ASIA DEVELOPMENT REPORT.

²⁴³ *Supra* note 238. ASIA DEVELOPMENT BANK TECHNICAL ASSISTANCE REPORT, POLICY OPTIONS TO SUPPORT CLIMATE-INDUCED MIGRATION (Dec. 2009),

²⁴⁴ *Id.*

²⁴⁵ In Search of Shelter, Mapping the Effects of Climate Change on Human Migration and Displacement, CIESIN Columbia University New York, available at http://ciesin.columbia.edu/documents/clim-migr-report-june09_media.pdf (last visited Apr. 29, 2012).

²⁴⁶ International Centre for Integrated Mountain Development (ICIMOD), The Melting Himalayas Regional Challenges and Local Impacts of Climate Change on Mountain Ecosystems and Livelihoods, Technical Report, available at http://books.icimod.org/uploads/tmp/icimodthe_melting_himalayas:_regional_challenges_and_local_impacts_of_climate_change_on_mountain_ecosystem.pdf (last visited May. 02, 2011).

²⁴⁷ Mc Granathan, Gordon, et al., The Rising Tide: Assessing the Risks of Climate Change and Human Settlement in Low Elevation Coastal Zones, *Env’t & Urbanization*, 19. The report notes that low-elevation coastal areas less than 10 meters above sea level contain 2 percent of the world’s land but 10 percent of the world’s population.

hit by typhoons, storm surges and sea-level rise.²⁴⁸ In 1995, half of Bhola Island in Bangladesh became permanently flooded, leaving half a million people itinerant.²⁴⁹ Scientists predict rising sea levels may ultimately swallow more than twenty percent of Bangladesh's land.²⁵⁰ A World Wild Fund (WWF) survey, “Mega-Stress for Mega-Cities”, found Dhaka, the capital city of Bangladesh and home of nineteen million, is overall at the highest risk from climate change and has the lowest ability to adapt to climate change.²⁵¹ Climate change will greatly affect small island states and coastal zones in certain regions and most particularly in Asia.²⁵² By 2050 one million citizens of small island states will likely lose their habitation.²⁵³

The list of most vulnerable regions includes low-lying islands and deltas, coastal areas, regions dependent on glacial-fed water systems and areas subject to persistent drought. The next section of the thesis will lead us to study the estimates and projections of numbers of people forced out from their homes by climate induced disasters.

2.3 HOW MANY?

²⁴⁸ Salma A. Shafi, Nicolienne Oudwater, eds., Food and Agriculture Organization, Land Tenure and Natural Disasters, Addressing Land Tenure In Countries Prone To Natural Disasters, Natural Disasters In Bangladesh And Their Impact, available at <http://www.fao.org/docrep/013/i1855e/i1855e.pdf> (last visited Mar. 27, 2012).

²⁴⁹ Bonnie Docherty and Tyler Giannini, Confronting a Rising Tide: A Proposal for a Convention on Climate Change Refugees, 33 Harv. Env'tl. L. R. 349, 355(2009). People displaced by floods in Bhola Island in Bangladesh have been described as some of the world's first climate change refugees.

²⁵⁰ Id.

²⁵¹ See supra note 240. Executive Summary, World Wildlife Federation, MEGA-STRESS FOR MEGA-CITIES, A CLIMATE VULNERABILITY RANKING OF MAJOR COASTAL CITIES IN ASIA.

²⁵² UN University's Institute for Environment and Human Security, available at http://www.ehs.unu.edu/index.php?page=12_October_-_UN_Disaster_Day (last visited Apr. 29, 2012).

²⁵³ Id.

Climate change impacts will cause large-scale population movement. Projected estimates for future climate migrant range from fifty million to one billion.²⁵⁴ The world is already seeing large numbers of environmental refugees as people attempt to deal with changing climatic conditions. Millions of people are being forced to leave their homes and their livelihoods as a direct result of environmental damage. The indications anticipate a significant rise in these numbers. International Federation of Red Cross and Red Crescent Societies conclude in their World Disasters Report 2001, “more people are now forced to leave their homes because of environmental disasters than war”.²⁵⁵ Exact numbers of those who will get displaced are not known and approximations of the numbers of people who may be displaced globally vary widely. Compiling accurate data sets of displaced or precise figures is a complex and difficult task. Historically, the difficulty in trying to predict the authoritative global estimates is the inability of distinguishing environmental refugees from economic migrants.²⁵⁶ In many instances human migration is a combination of pressures and aspirations. Considerable migration is noted in which people move mainly but not always just because of environmental factors. Moreover displacement caused by an increase in floods, droughts and storms is likely to be regional and short-term, and is still very difficult to estimate.²⁵⁷ In some cases people

²⁵⁴ HUMAN TIDE: THE REAL MIGRATION CRISIS (2007) Christian Aid estimates that environmental migrants will eventually number a billion.

²⁵⁵ See International Federation of Red Cross and Red Crescent Societies, WORLD DISASTERS REPORT (2001)

²⁵⁶ Biermann, F. and Boas, I., Preparing for a Warmer World: Towards a Global Governance System to Protect Climate Refugees, GLOBAL GOVERNANCE WORKING PAPER NO. 33(Nov. 2007), subsequently published at 10 GLOBAL ENVTL. POL. 60 (2010). Bierman and Boas strongly warn about some of the issues surrounding future estimates of the magnitude of environmentally displaced populations. One issue from many is lack of recognition that climate change may be one reason to migrate, but not the only one and often not the most important.

²⁵⁷ Etienne Piguet, CLIMATE CHANGE AND FORCED MIGRATION, NEW ISSUES IN REFUGEE RESEARCH (Jan.

relocate from one area to another in the same community. A study reveals that very little is known about large number of displaced people who end up in slums in urban areas instead of camps whether they are across the border refugees or internally displaced persons (IDPs).

A UNHCR report disclosed that number of refugees worldwide grew from 9.9 million in 2007 to 11.4 million in 2008. The report claims that climate change is one of the leading causes of the global rise in refugees.²⁵⁸ A study by United Nations University Institute for Environment and Human Security (UNU-EHS) has suggested that about 19.2 million people are officially recognized as "persons of concern." These are the people who are likely to be displaced because of environmental disasters.²⁵⁹ In 2002, the UNHCR estimated that approximately twenty-four million people around the world were displaced because of floods, famines and other environmental factors.²⁶⁰ The Norwegian Refugee Council reports that in 2008 as many as twenty million people may have been displaced by climate-induced sudden-onset natural disasters.²⁶¹ In 1994 the Almeria Statement claimed that one hundred and thirty-five million people could be at the risk of displacement as a consequence of severe desertification.²⁶² Anke Strauss of the International Organization for Migration (IOM) has much similar predictions.²⁶³

31, 2008). Available at <http://www.unhcr.org/research/RESEARCH/47a316182.pdf>

²⁵⁸ United Nations High Commissioner for Refugees, 2008 REPORT, Climate change is one of the leading causes of the global rise in refugees, along with conflict and escalating food prices.

²⁵⁹ Supra note 245.

²⁶⁰ United Nations High Commissioner for Refugees, www.unhcr.org/4a37c9076.html

²⁶¹ Elverland, S., 20 Million Climate Displaced in 2008 (June 08, 2009). available at <http://www.nrc.no/?did=9407544>.

²⁶² THE ALMERIA STATEMENT ON DESERTIFICATION AND MIGRATION. STATEMENT FOLLOWING THE INTERNATIONAL SYMPOSIUM ON DESERTIFICATION AND MIGRATIONS, ALMERIA, 8-11 FEBRUARY 1994 (1994).

²⁶³ International Organization of Migration Migration, CLIMATE CHANGE AND THE ENVIRONMENT, A COMPLEX NEXUS, <http://www.iom.int/jahia/Jahia/complex-nexus> "By 2010 we'll see an additional 50

According to a World Bank study, sea levels rising of a single meter would displace fifty-six million people in eighty-four developing countries.²⁶⁴ Another report estimates, there could be as many as one hundred and fifty million environmental refugees by 2050.

Norman Myer believes the correct figure would be closer to two hundred and fifty million.²⁶⁵ The Stern Review forecasts many millions of people will become climate change migrants.²⁶⁶ Nicholls estimates that between fifty and two hundred million people could be displaced by climate change by 2080.²⁶⁷ Australian climate scientist Dr. Graeme Pearman has predicted that a 2°C rise in temperature would place one hundred million people directly at risk from coastal flooding by 2100.²⁶⁸

International NGOs have their own predictions about the expected increase in "climate refugees. Oxfam predicts a 54% increase in people affected by climate disasters by 2015.²⁶⁹ A Friends of Earth report in 2007 estimates displacement of fifty million in Africa and two hundred million worldwide.²⁷⁰

A cursory glance at the recent history reveals that environmental catastrophes

million environmental migrants". Anke Strauss, Address to the High Level Segment of the Fifteenth Session of the Commission on Sustainable Development, 5 September 2007.

²⁶⁴ World Bank, CLIMATE CHANGES AND IMPACT ON COASTAL COUNTRIES, available at <http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/0,,contentMDK:21215328~pagePK:64165401~piPK:64165026~theSitePK:469382,00.html> (last visited Apr. 09, 2012).

²⁶⁵ Norman Myers, ENVIRONMENTAL REFUGEES, AN EMERGENT SECURITY ISSUE, 13TH ECONOMIC FORUM (May 2005).

²⁶⁶ Nicholas Stern, THE ECONOMICS OF CLIMATE CHANGE: THE STERN REVIEW (2007). The Stern Review estimates, "[g]reater resource scarcity, desertification, risks of droughts and floods, and rising sea levels could drive many millions of people to migrate".

²⁶⁷ Id.

²⁶⁸ Alan DuPont and Graeme Pearman, Climate Change and Security; Heating up the Planet, LOWY INSTITUTE PAPER 12 available at http://arts.anu.edu.au/polsci/courses/pols2101/Material/LIP12_Dupont_WEB.pdf (last visited May. 03, 2011).

²⁶⁹ Oxfam, NUMBER OF PEOPLE AFFECTED BY CLIMATE DISASTER UP 54 PERCENT BY 2015, <http://www.oxfamamerica.org/press/pressreleases/number-of-people-affected-by-climate-disaster-up-54-percent-by-2015/?searchterm=None> (last visited May. 02, 2011).

²⁷⁰ Friends of the Earth Australia, FRIENDS OF EARTH DISPLACEMENT REPORT 2007, A CITIZEN'S GUIDE TO CLIMATE REFUGEES available at www.liser.org/Citizen's%20Guide_2007_small.pdf (last visited Apr. 09, 2012).

have uprooted millions of people instantly. The 2004 Indian Ocean tsunami, Hurricane Katrina in New Orleans, and devastating floods in Pakistan in 2010 are most recent examples of such disasters. The reports confirm that in 2010, floods forced 20 million Pakistanis out of their homes.²⁷¹ In Bangladesh five hundred thousand farmers were flooded off the Bhola Island, country's biggest island. Twelve to seventeen million Bangladeshis have already moved to urban areas after becoming environmental refugees as a result of sea level rise due to climate change.²⁷² At the same time desertification, diminishing water supplies, and rising sea levels gradually displaced innumerable families all over the world.²⁷³ In the North Africa, Sahel, where the heat has shrunk giant Lake Chad by ninety five per cent since 1963, and drought is forcing millions of people off the land.²⁷⁴

However, there is no consensus on the number of people who will actually be displaced or forced to migrate. The exact number of displaced will depend on the speed and severity of climate change and the level of adaptation, investment, planning, and resources.²⁷⁵ Hordes of displaced leaving homes will soon be a common scene. Regardless what are the trends of the present migration and projection of future propensity to migrate, all agree the problem demands urgent action on an international

²⁷¹ 2010 Floods in Pakistan, N.Y. TIMES (Nov. 16, 2010).

http://topics.nytimes.com/top/reference/timestopics/subjects/f/floods/2010_pakistan_floods/index.html (last accessed May. 03, 2011).

²⁷² George Black, The Gathering Storm, What Happened When Global Warming Turns Millions of Destitute Muslims Into Environmental Refugees?, ONEARTH (2008). <http://www.onearth.org/article/the-gathering-storm> (In Bangladesh alone millions of people will become environmental refugees).

²⁷³ UN University's Institute for Environment and Human Security, http://www.ehs.unu.edu/index.php?page=12_October_-_UN_Disaster_Day (Thousands of miles away in Alaska about 200 villages are in serious danger of coastal erosion and flooding due to rising sea levels.)

²⁷⁴ Ray Crigg, THE MATTER OF NUMBERS, SIERRA CLUB BCC, <http://www.sierraclub.bc.ca/local-groups/Quadra-Island/publications/the-matter-of-numbers> (last visited May. 03, 2011).

²⁷⁵ See supra note 266. THE STERN REVIEW, "the exact number who will actually be displaced or forced to migrate will depend on the level of investment, planning and resources."

scale. The discussion in the next section will trace the displaced persons to see where do they go?

2.4 WHERE WILL THEY GO?

Climate change will impact all socio-economic classes in a region especially the poorest of the poor who lack the resources to cope with the effects of the climate change.²⁷⁶ Island states and low-lying small islands are extremely vulnerable to sea level rise, storm surges, and more frequent cyclones. In some islands livelihood of the entire population is at risk due to seawater intrusion in fresh water.²⁷⁷ In Tuvalu and the Maldives, the collective body of the people will become an ecological refugee.²⁷⁸ The reports indicate climate change will trigger historically unprecedented waves of mass migration.

The single most important challenge imposed by the climate change is resettlement of those driven from their homes. Closely followed study suggests that the trend of migration caused by climate change is not to the developed or wealthy countries but rather most likely to be within the countries or at least within its regions. Usually human movement due to environmental stresses results in a short-term and short-distance migration. In most situations people move from rural to urban areas within their state

²⁷⁶ See supra note 11. IPCC FOURTH ASSESSMENT REPORT 2007.

²⁷⁷ Jonathan Adams, Rising Sea Levels Threaten Small Pacific Island Nations, N.Y. TIMES (May 3, 2007). (The islands of Kiribati and Tuvalu are vulnerable to flooding which may make the entire islands inhabitable).

²⁷⁸ Id, Also see, Ahmed Shaig, CLIMATE CHANGE VULNERABILITY AND ADAPTATION ASSESSMENT OF THE MALDIVES LAND AND BEACHES

boundaries in search of work and their livelihoods.²⁷⁹ Urban areas are popular destinations for forced migrants. Swelling of population around the major towns of affected area is quite visible.²⁸⁰ Displacements of persons especially in the case of natural disasters are sudden, leaving no time for planning and exploration for resources.²⁸¹ In many situations long distance migration is not common, as people cannot afford to travel.²⁸²

Many states are already overwhelmed with internally displaced populations and they will not be able to support more people on the move. In Africa, an estimated 10 million people have migrated or been displaced over the last two decades mainly because of environmental degradation and desertification.²⁸³ The existence of five coastal countries would be threatened by a 1m rise in sea level. Some nations will almost entirely submerge under rising ocean levels. In a convincing future, Tuvalu and Maldives are predicted to become ecological refugee states and the collective body of the people will itself become ecological refugees.²⁸⁴ An extensive fraction of Bangladesh's territory is anticipated to become ecological refugee state as well. Whether displaced internally or across national boundaries it is a global problem and should be deemed a global

²⁷⁹ Anna Tibaijuka, Adapting to Urban Displacement, *FORCED MIGRATION REV.* Issue 34, (Feb. 2010). Refugees Study Center Oxford University, available at <http://www.fmreview.org/urban-displacement/FMR34.pdf> (last visited May. 03, 2011).

²⁸⁰ *Id.*

²⁸¹ *Id.*

²⁸² *Id.*

²⁸³ Address by Sergio A. Zelaya-Bonilla, Head of Policy and Advocacy on Global Issues Unit, Land Degradation, Desiccation and Drought (DLDD), Forced Migration and Social Vulnerability, <http://www.unccd.int/science/desertsandmigration/docs/wcomenoteunccd.pdf> (last visited Apr. 30, 2011). See also, S.T. Gathara, et al, REPORT OF THE WORKING GROUP ON THE IMPACTS OF DESERTIFICATION AND DROUGHT AND OF OTHER EXTREME METEOROLOGICAL EVENTS (Dec 2006) available at, <http://www.wamis.org/agm/pubs/CAGMRep/CAGM101.pdf> (last visited May. 03, 2011).

²⁸⁴ Cara Nine, Ecological Refugees, States Borders, and the Lockean Proviso, *J. APPLIED PHIL.* 359–375 (Nov. 2010). Available at Wiley Online Library, <http://onlinelibrary.wiley.com/doi/10.1111/j.1468-5930.2010.00498.x/full> “An ecological refugee state is a state whose entire territory is lost to ecological disaster.”

responsibility. A majority of national governments of the developing countries lack the planning and resources to protect and provide resettlement and reintegration for displaced. The world's poorest people who will be forced to move due to climate change are the most marginalized and remote communities. They do not encompass the necessary international support to assist and currently have no adequate recognition in international law.²⁸⁵

2.5 CONCLUSION

There is no concurrence on the exact numbers of the potential climatic displacements but an emerging consensus is that climate change will kick off major population movements. The results derived from different assumptions and methodologies are extensively diverse.

The next section of this thesis will proceed to analyze the definitions of common terminologies related to the notion of environmental refugee. The focus of the discussion will be general terminology and typology relating to climate change displacement.

²⁸⁵ THE ENVIRONMENTAL JUSTICE FOUNDATION REPORT, NO PLACE LIKE HOME; WHERE NEXT FOR CLIMATE REFUGEES? available at http://www.ejfoundation.org/pdf/climate_refugees_final.pdf (last visited Apr. 30, 2011).

CHAPTER 3

DISPLACEMENT AND MIGRATION

T TYPOLOGY AND TERMINOLOGY

3.1 INTRODUCTION

Climate change related migration is emerging as an issue complicated by a lack of agreement on the definition of the climatic migrants. No international or national legislation explicitly recognizes or defines environmentally displaced persons. Disparity of opinion among the climate scientists and scholars as well as differences in the means of migration and the motivations behind migrations fashion a plethora of terms to illustrate the people driven out of their customary abode because of change in the climate. Lack of a specific climate displacement regime and instruments as well as variations in displacement schemes are major causes for divergence in terminology to deal with the climatic displacement.

There are several scenarios in which climate change aggravates the vulnerabilities. People move when it is difficult for them to survive in their communities.²⁸⁶ In certain situations inhabitants are forced to abandon their homes abruptly, leaving behind all their possessions. Floods, hurricanes, and storms cause sudden displacement especially in low-lying deltas.²⁸⁷ In a number of circumstances,

²⁸⁶ There is strong evidence that increase and the intensification of natural disasters, rising sea levels, more droughts and conflict over depleting resources, could displace more people. For detailed discussion see chapter two.

²⁸⁷ Ramsar Convention on Wetland, Wetland Ecosystem Services, (1971) FACTSHEET 3 http://www.ramsar.org/pdf/info/services_03_e.pdf (last accessed Mar. 27, 2012).

people face imminent threats but still have ample time to plan their exit. By and large people leave when they lose their habitat itself or diminishing natural resources make the neighborhoods uninhabitable. Droughts and decreasing food and water stocks are major drivers of slow-onset migration in some areas.²⁸⁸

The discussion in this section reviews the key terms commonly used by the scholars to describe the climatic movement. The thesis will also look at the definitions of these terms and will propose a more suitable term and its definition to represent the climate displacees more precisely.

The terms, environmental refugee, eco-refugee, environmental migrant, forced environmental migrant, environmentally motivated migrant, climate refugee, climate change refugee, environmentally displaced person (EDP), disaster refugee, environmental displaced, ecological displaced person and environmental refugee-to-be (ERTB), are commonly used terms by the academic and environmental community. A review of wide-ranging means of climatic movement such as displacement, migration, involuntary and voluntary, sudden and slow-onset, and temporary and permanent will be necessary to comprehend the diverse definitional approaches.

3.2.1 DISPLACEMENT AND MIGRATION NEXUS WITH CLIMATE CHANGE

Climate-induced displacement is a diverse term. The determination of a specific displacement mode and distinction from others is extremely intricate and poses complex

²⁸⁸ See chapter 2 for discussion.

challenges in the protection and resettlement of displaced persons. The ecosystem services affected by climate change in conjunction with intensifying catastrophes due to increases in extreme weather events and permanent loss of territories as a result of sea level rise will displace millions.²⁸⁹ The term displacement indicates dislocation and dislodgement or the physical dispossession of peoples from their lands or from a recurring site.²⁹⁰ The displacement or involuntary resettlement indicates some degree of coercion or compulsion in human movement. Loss of livelihoods, restrictions in access to income sources or prospects of future earnings associated with ecological means are main characteristics of displaced people. The conditions and causes for such movements may differ considerably but the common factor in all displaced is that they have left their former homes and livelihoods. The term displacement pertains to both those pushed away from the physical territory of their sovereign state and people whose movement from their usual habitat is compulsory but they remain within the close proximity of their customary region. The definition of displacement is expansive but in the context of this discussion the term signifies “the involuntary physical removal of the people from their home areas as a result of changes in the climate”.²⁹¹ Further the precautionary relocation and resettlement²⁹² of people by the governments are also included in the term displacement.

²⁸⁹ “In 2020, the UN has projected that we will have 50 million environmental refugees,” Statement by Cristina Tirado, professor at the University of California, Los Angeles, at the annual meeting of the American Association for the Advancement of Science (AAAS). See chapter 2 How Many at page 48-52

²⁹⁰ THE OXFORD ENGLISH DICTIONARY 2nd ed. OED Online (1989), <http://dictionary.oed.com/> (last accessed Apr. 3, 2012). Displacement means, “removal of a thing from its place, putting out of place.”

²⁹¹ Kent H. Redford and Eva Fearn eds., Protected Areas and Human Displacement: A Conservation Perspective, What is Displacement? Nature, Scope, Impacts, WORKING PAPER NO 29 5 (Apr. 2007), available at <http://www2.fiu.edu/~brayd/wcswp29.pdf> (last visited Apr. 03, 2012).

²⁹² UN Department of Humanitarian Affairs defined resettlement as, “Action(s) necessary for the permanent settlement of persons dislocated or otherwise affected by a disaster to an area different from

Migration generally refers to those who choose to move to another community or country.²⁹³ Migration may take place internally, regionally or internationally. The decision of an individual to migrate is internal and usually it is taken on the basis of personal convenience. Historically, migration has been used as a coping tool and strategy to seek an enhanced livelihood for centuries. People migrate when living conditions are not sustainable.²⁹⁴ Pragmatically environmental conditions are only a few of the many forces behind the human migration. Economic, social, cultural, demographic, political issues are a few of the factors that drive migration.²⁹⁵ The motivations and reasons behind migrations are mixed and often are indistinguishable. It is infrequent that people leave their families and communities for a single reason. Thus, it poses a complex task to isolate the environmental conditions from other deeply interrelated factors forcing migration. The definition of a migrant delineates as “a person who moves from one place to another to live, and usually to work, either temporarily or permanently.”²⁹⁶ The migration is not always by choice. In many cases people are forced to migrate because they do not have access to adequate food, water or shelter. The safety and security of people and their families is another compulsion to migrate.

their last place of habitation”.

²⁹³ The term displacement indicates some degree of coercion or forcible movement and applies both to those forced to leave their countries and those forced to leave their communities but who remain within the borders of their country. The term migration generally refers to those who voluntarily choose to move to another community or country.

²⁹⁴ Tirado, supra note 289. Address at the annual meeting of the American Association for the Advancement of Science (AAAS). 50 Million Environmental Refugees' by 2020, experts say, Karin Zeitvogel (AFP) (Feb. 21, 2011) available at <http://www.google.com/hostednews/afp/article/ALeqM5jnW80NIFZ259UCgMAH Sd3ekHutiQ?docId=CNG.aa651167cd0af745b3cb395cf1d402e3.c41> (last visited Apr. 03, 2012).

²⁹⁵ For detailed discussion see chapter 2.

²⁹⁶ REFUGEES, MIGRANTS AND INTERNALLY DISPLACED PERSONS, available at Amnesty website <https://www.amnesty.org/en/refugees-and-migrants> (last visited Apr. 04, 2012).

3.2.2 INVOLUNTARY AND VOLUNTARY

Climatic displacement or migration is both voluntary and involuntary. It poses a serious challenge to distinguish between forced (involuntary) and planned (voluntary) migration. The International Association for the Study of Forced Migration (IASFM) defines forced migration as “a general term that refers to the movements of refugees and internally displaced people as well as people displaced by natural or environmental disasters, chemical or nuclear disasters, famine, or development projects”²⁹⁷ The term forced migration in the context of climate change refers to those who are driven from their habitats abruptly without planning and without a clear destination in their minds. It also includes the individuals and groups of people gradually pushed out of their communities by gradual adaptation measures. Classic examples of abruptly forced migration include rise in sea level and extreme weather related disasters like floods and hurricanes. Disasters uproot people from their homes unexpectedly as they have no option to stay. Droughts and desertification do the same by diminishing the resources and livelihoods gradually. When people can not sustain their homes because they lose their livelihoods they may not move suddenly en masse but they will be in motion individually when need and opportunity arise. The term involuntary displacement also refers to the cases where the option to stay is eliminated and the decision to move is made and imposed by an external cause. Involuntary displacement typically takes place when a community becomes uninhabitable because of loss of housing, shelter, income, land, livelihoods, assets, access to resources and services. A precautionary migration or displacement as a part of strategy for adapting to impacts often gives an early warning to

²⁹⁷ THE INTERNATIONAL ASSOCIATION FOR THE STUDY OF FORCED MIGRATION (IASFM) available at <http://www.efms.uni-bamberg.de/iasfm/mission.htm> (last visited Apr. 04, 2012).

prepare but remains involuntary with no option to stay even though it may provide some time to leave and a choice of destination.

Contrary to the environmentally displaced persons whose movement is forced and reactive, environmental migration movement may be voluntary and proactive. A common assumption is that environmental disruptions trigger only forced displacements.²⁹⁸

Renaud, Suhrke, and Hugo like many other authors emphasize that environmental factors also induce voluntary migration or displacement.²⁹⁹

3.2.3 SUDDEN AND SLOW-ONSET

A displacement followed by a natural disaster is sudden and immediate. Flooding, hurricanes, typhoons, cyclones and heavy rain causing mudslides, trigger large-scale and sudden displacement.³⁰⁰ In most of the cases the victims of abrupt displacement travel en masse without any destination in their minds. For the most part sudden displacement occurs in short distances. Generally, displaced communities remain within their own national borders. In addition the sudden onset migration is temporary and short term. Displaced people return to their homes once recovery process is completed and their

²⁹⁸ Suhrke, A., Environmental Degradation and Population Flows, 47 J. INT'L AFF. 473-496 (1994).

²⁹⁹ Id. Also see Hugo, G., Environmental Concerns and International Migration, 30 INT'L MIGRATION REV. 105-131 (1996). Also see, Renaud, F. et al. Control, Adapt or Flee – How to Face Environmental Migration?, INTERSECTIONS 5 (2007).

³⁰⁰ In veracity all the disasters are not result of global warming or change in the climate. Many disasters, in actuality, specially linked with hydro- meteorology, would take place apart from of climate change. Walter Kalin writes that in some cases it is obscure to link the causality of a disaster with climate change. He further expresses his opinion by adding that disasters such as volcanoes and earthquakes displace many but are not linked to climate change. For details see, Walker Kalin, Climate Change And Displacement, Multidisciplinary Perspectives, Jane McAdam, ed., CONCEPTUALIZING CLIMATE-INDUCED DISPLACEMENT, 85 (2010).

livelihoods and security are no longer in question.

Slow on-set movement, on the contrary, is a planned migration to a preset target. The process of slow on-set movement begins when people cannot sustain their livelihoods in their domicile due to long-term environmental effects. Such effects include loss of housing, shelter, income, land, livelihoods, and assets, access to resources and services and deterioration in conditions of life in general. Rising sea levels, long term droughts, desertification, freshwater depletion due to increased salinization of ground and soil water, and glacier melt, persistent floods and environmental degradation caused by manifold reasons including change in climate, kicks off the slow on-set displacement. Typically this process initiates voluntarily over time and most relocation takes place gradually. However, in some cases displacement is also involuntary and the decision to move is made and imposed by the government when there is no realistic ability to stay. In the slow on-set scenario, people leave their homes for a variety of reasons and complex interplay of motivations. Frequently, climate change may not be the only drive behind displacement. Jeffery Sachs is an advocate of the notion that climate change affects the environment, which forces the people to leave their homes.³⁰¹ Slow on-set migration is mostly long distance sometimes crossing the borders compared to sudden displacement where movement is short distance and mostly people remain within their national borders. Moreover, slow on-set migration may be permanent and the option to return is

³⁰¹ Jeffrey Sachs, "The Climate Adaptation Challenge," Address to the Global Humanitarian Forum 1, (Oct. 11, 2007). Available at http://www.ghf-geneva.org/documents/OP_ed_JS.pdf "Climate changes affect crop productivity through changes in temperature, rainfall, river flows and pest abundance. Droughts and floods are becoming more frequent. Tropical diseases such as malaria are experiencing a wider range of transmission. Extreme weather events such as high-intensity hurricanes in the Caribbean and typhoons in the Pacific are becoming more likely. Changes in river flow already threaten hydroelectric power, biodiversity, and large-scale irrigation. Rising sea levels in the coming decades may inundate coastal communities and drastically worsen storm surges".

exercised very rarely. Climate change induced displacement both sudden and slow-onset has the potential to displace people and communities, not only within state territories, but also across international borders.

3.2.4 TEMPORARY AND PERMANENT

A displacement, which is likely to occur as a result of climate change, could be temporary and permanent as well. A temporary displacement is sudden and involuntary. Generally a temporary movement is short distance compare to permanent migration where people move long distance and in some cases they cross the international borders as well. A typical example of temporary displacement is initiated by extreme weather events such as hurricanes, floods, and storm surges. Usually after some time displaced people return to their homes once the recovery process is completed and their livelihoods and security are no longer in question.

In a permanent displacement inhabitants are forced to relocate externally and are not permitted to return to their domicile. In most of these cases permanent migration is slow on-set and is planned well ahead of time to a chosen destination. Losses of livelihoods, restrictions in access to income sources or prospects of future earnings are main causes for permanent human displacement. Moreover loss of housing, shelter, land, and assets, access to resources and services and deterioration in conditions of life in general trigger permanent migration. Rising sea levels, long term droughts, desertification, freshwater depletion due to increased salinization of ground and soil

water, and glacier melt, persistent floods and environmental degradation caused by manifold reasons including change in climate, are main basis for permanent displacement or migration. According to “Displacement Solutions” a meeting paper (Universal Declaration of Human Rights and International Human Rights Day meeting) issued on December 10, 2008 in a joint meeting of the Regional Office of the United Nations High Commissioner for Refugees and the Pacific Regional Office of UN Information Centre, there are four scenarios of the permanent displacement:³⁰² permanent local displacement,³⁰³ permanent internal displacement,³⁰⁴ permanent regional displacement,³⁰⁵ and permanent inter-continental displacement.³⁰⁶ It will be important to note that in some cases a temporary displacement converts into a permanent one. People move temporarily but later they do not return after the completion of recovery process as they decide to settle abroad permanently.

³⁰² Climate Change, Human Rights and Forced Human Displacement: Case Studies as Indicators of Durable Solutions, 4 (Dec. 10, 2008) Available at http://www.displacementsolutions.org/files/documents/Climate_Change_Displacement_Meeting_Paper.pdf (last accessed May. 16, 2011).

³⁰³ Id. “Permanent local displacement: groups are displaced locally, but on a permanent basis due to irreversible changes to their living environment, in particular sea-level rise, storm surges, coastal inundation and the lack of clean water. This form of displacement implies that localized displacement solutions will be available to this group, such as higher ground in the same locality;”

³⁰⁴ Id. “(iii) Permanent internal displacement: where relocation is within the national borders but so far from the groups’ original location that the move is permanent may involve an entire lifestyle and livelihood change (e.g. from coastal subsistence to inland town-dwelling);”

³⁰⁵ See id. “(iv) Permanent regional displacement: where solutions within the national territory are non-existent or not possible (for whatever reason) and migrants must be received permanently in other countries in the region;”

³⁰⁶ Id. “(v) Permanent inter-continental displacement: where no national and regional solutions are possible, and an internationally-coordinated relocation is required;”

3.3 APPROPRIATE LEGAL TERMINOLOGY

What is the appropriate legal terminology for climatic migrants or climate driven displacees? No obvious or conclusive answers exist. At present there is no common definition agreed upon in use to characterize the climate displacement. The issue of climate migration and a legal term to depict them is going through a complex process of emergence. There is no census on any single term to represent climatic displacement. In search of an appropriate legal terminology this thesis will look at the manifestation and historical use of the most common terms used by scholars and academia.

3.3.1 ENVIRONMENTAL REFUGEES

Lester Brown first coined the term “environmental refugee” in the 1970s.³⁰⁷ In 1985, El-Hinnawi,³⁰⁸ in 1988, Jacobson,³⁰⁹ in 1995, Myers and Kent,³¹⁰ and Black³¹¹ in 2001 added their contributions in unfolding the term of environmental refugees. Prior to the discussion on the terminology of environmental refugees, it will be more effectual to identify the use of word “refugees” in general. The term refugee is precisely used for the people who traditionally migrate only temporarily³¹² for mixed motives. The term refugee first meant “one seeking asylum” but has since evolved to mean, “one fleeing from

³⁰⁷ See Jessica Lehman, *Environmental Refugees: The Construction of a Crisis*, 1 (UHU-EHS Summer Academy 2009) available at <http://www.ehs.unu.edu/file/get/4145> (last retrieved Apr. 04, 2012).

³⁰⁸ E. El-Hinnawi, *ENVIRONMENTAL REFUGEES* (1985).

³⁰⁹ J. Jacobson, *Environmental Refugees: A Yardstick of Habitability*, *WORLDWATCH PAPER* 86 (1988).

³¹⁰ N. Myers, and J. Kent, *ENVIRONMENTAL EXODUS, AN EMERGENT CRISIS IN THE GLOBAL ARENA*, (1995).

³¹¹ See general discussion in Richard Black, *Environmental Refugees: Myth or Reality?*, *WORKING PAPER* 34 University of Sussex Falmer, Brighton, United Kingdom (2001).

³¹² Some people, who traditionally migrate only temporarily, may not go back.

home”.³¹³ In the United Nations Convention Relating to the Status of Refugees of 1951 “refugee” is defined as someone who has a “well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion” and “is outside the country of his/her nationality”.³¹⁴ The defining language in the Convention does not recognize environmental factors as a cause of displacement. Climate change displacees fall through the gaps of the legal system, as they do not fit neatly into the traditional or legal refugee definition.³¹⁵ International institutions and scholars have defined environmental displacement differently. In essence the term and use of environmental refugees is contentious.

The United Nations declares that environmental degradation around the world is creating a new category of people known as "environmental refugees.”³¹⁶ A number of experts question the term “environmental refugee”. Oliver Smith considers it misleading as it tends to suggest that nature is at fault, when in fact humans are deeply implicated in the environmental changes that make life impossible in certain circumstances.³¹⁷ The United Nations Environment Program (UNEP) describes the term environmental refugees as, "those people who have been forced to leave their traditional habitat, temporarily or

³¹³ See generally Jacobson, *supra* note 309.

³¹⁴ For the definition of refugee, see the Convention Relating to the Status of Refugees, July 28, 1951, 19 U.S.T. 6223, 189 U.N.T.S. 150 [hereinafter Refugee Convention], amended by Protocol Relating to the Status of Refugees, Jan. 31, 1967, 19 U.S.T. 6223, 606 U.N.T.S. 267 [hereinafter Protocol]. For the signatories to the Refugee Convention and Protocol, see U.N. High Commissioner for Refugees, States Parties to the 1951 Convention Relating to The Status of Refugees and The 1967 Protocol (2008), available at <http://www.unhcr.org/protect/PROTECTION/3b73b0d63.pdf>.

³¹⁵ *Id.*

³¹⁶ *Id.*

³¹⁷ Oliver Smith, believes that the term "environmental refugee" is misleading because humans ultimately cause many environmental changes.

permanently, because of a marked environmental disruption,³¹⁸ natural and/or triggered by people, that jeopardized their existence and/ or seriously affected the quality of their life.”³¹⁹ The United Nations Statistics Division, in a glossary of environmental terms, identifies as an environmental refugee, “a person displaced owing to environmental causes, notably land loss and degradation, and natural disaster.”³²⁰ Graeme Hugo asserts that environmental refugees have no choice or control in moving.³²¹ El-Hinnawi, who used the term environmental refugees for the first time at the international level, divides environmental refugees into three major types:³²² Temporarily dislocated due to natural or man-made disasters, permanently displaced due to drastic environmental changes, such as the construction of dams and those who migrate as a result of the gradual deterioration of environmental conditions.³²³ Displacement by destruction of the environment as a result of warfare adds an additional smaller category to the definition. The British environmentalist Norman Myers has defined environmental refugees as, “people who can no longer gain a secure livelihood in their homelands because of drought, soil erosion, desertification, deforestation and other environmental problems, together with associated problems of population pressures and profound poverty. In their desperation, these people

³¹⁸ Environmental disruption refers to any physical, chemical, biological changes in the ecosystem/resource base that renders it temporarily/permanently, unsuitable to support human life.

³¹⁹ The United Nations Environment Program (UNEP), DEFINITION ENVIRONMENTAL REFUGEES. See El-Hinnawi, E. Environmental Refugees. United Nations Environment Programme (1985) UNEP, Nairobi.

³²⁰ UN Statistics Division, GLOSSARY OF ENVIRONMENTAL TERMS, unstats.un.org/unsd/environmentgl/gesform.asp?getitem=473

³²¹ Graeme Hugo, Climate Change-Induced Mobility and the Existing Migration Regime in Asia and Pacific, in Jane McAdam ed., CLIMATE CHANGE AND DISPLACEMENT, MULTIDISCIPLINARY PERSPECTIVES 13 (2010).

³²² Essam el-Hinnawi in 1985, then working for the UN Environment Program (UNEP) defines environmental refugee, “those people who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental disruption (natural and/or triggered by people) that jeopardized their existence and/or seriously affected the quality of their life” Most academics agree that the term “environmental refugees” first came into public usage in 1985 when Essam El-Hinnawi used it as the title of a report for the U.N. Environment Program. This is the first and most-quoted definition of an environmental refugee.

³²³ Id.

feel they have no alternative but to seek sanctuary elsewhere regardless of any hazardousness of their attempt. Not all of them have fled their countries, many being internally displaced. But all have abandoned their homelands on a semi-permanent if not permanent basis, with little hope of a foreseeable return.”³²⁴

Jacobson has differently interpreted the environmental refugees. His first category is of temporarily displaced due to local disruption such as an avalanche or earthquake. The second includes those who migrate because environmental degradation has undermined their livelihood or poses unacceptable risks to health. The third includes those who resettle because land degradation has resulted in desertification or because of other permanent and untenable changes in their habitat.³²⁵ Bates defines the term of environmental refugees as, “people who migrate from their usual residence due to changes in their ambient non-human environment.” Bates suggests a categorization of environmental refugees based on criteria related to the origins of the environmental disruption (natural or technological), its duration (acute or gradual), and whether migration was a planned outcome or not.³²⁶ He argues that migration flows resulting from unintended outcomes, or disruptions, can be divided into three categories: disasters, expropriations and deterioration.³²⁷ Disaster refugees originate in acute events that are not designed to produce migration. These may be divided between those events caused by natural events and those caused by technological accidents. Expropriation refugees result

³²⁴ N. Myers, *Environmental Refugees: A Growing Phenomenon of the 21st Century*, 357 *Phil. Transactions ROYAL SOC. LONDON SER. BIOLOGICAL SCI.* 609-613 (2002).

³²⁵ J. Jacobson, *Environmental Refugees: A Yardstick of Habitability*, *WORLDWATCH PAPER* 86 (1988).

³²⁶ Diana C. Bates, *Environmental Refugees? Classifying Human Migrations Caused by Environmental Change*, 23 *POPULATION AND ENVIRONMENT* 465-477 (2002).

³²⁷ See *id.*

from acute anthropogenic disruptions in the environment.³²⁸ These may be further divided into two groups based on whether the disruptive event was caused by economic development or warfare.³²⁹ Deterioration refugees migrate as a result of gradual, anthropogenic changes in their environments that were not intended to produce migrants.³³⁰ Deterioration refugees tend to come from ecosystems that have gradually degraded to a point where people cannot survive on the local resource base.³³¹

Renaud has also identified three different categories of environment-related mass movement of people. These include environmentally motivated migrants, environmentally forced migrants and environmental refugees.³³²

The issue of environmental refugees has received scant attention at the highest level.³³³ The focus has been more on the impact that mass displacement has on the environment rather than on the role the environment itself plays in creating refugees.³³⁴ In conclusion the concept of environmental refugees is widely and hotly debated. The scholars instituted various definitions. Most of the definitions are too vague to define the environmentally refugees effectively for a variety of reasons discussed in this chapter.

³²⁸ See *id.*

³²⁹ *Id.*

³³⁰ *Id.*

³³¹ *Id.*

³³² Renaud, Fabrice, et al., *Control, Adapt or Flee: How to Face Environmental Migration?*, INTERDISCIPLINARY SECURITY CONNECTIONS 5 (2007).

³³³ Rhoda Margesson, Foreign Affairs Analyst with the U.S. Congressional Research Service in Washington, D.C.

³³⁴ See *id.*

3.3.2 CLIMATE REFUGEES

Climate refugee is the most widely used term to depict the climate migrants. Climate refugees are a group of displaced persons within the broader category of environmental refugees.³³⁵ The term, as used, is not a legal term. It is descriptive only. There is no internationally agreed definition of climate refugees and they (climate refugees) do not have a legal status in international law. The term (climate refugees) broadly refers to those who are forced to move due to the severe effects of climate change.³³⁶ In 2007, Frank Biermann and Ingrid Boas proposed the following definition of climate refugees, "people who have to leave their habitats, immediately or in the near future, because of sudden or gradual alterations in their natural environment related to at least one of three impacts of climate change: sea-level rise, extreme weather events, and drought and water scarcity".³³⁷ The terms, environmental refugees and climate refugees are often used synonymously. The term of environmental refugees covers an extensive range of environmental factors that force people to leave their homes. According to Piguet, this includes natural disasters, gradual environmental change, and development projects like dams that cause environmental change, industrial accidents, and environmental damage from conflicts. Piguet articulates that the first two factors are presumably to be linked to climate change.³³⁸ Scientists believe that the majority of natural disasters are the result of human-caused climate change.³³⁹ Abrupt and extreme

³³⁵ C. Jakobeit, C. Methmann, *KLIMAFLÜCHTLINGE – DIE VERLEUGNETE KATASTROPHE* 8 et seq. (2007).

³³⁶ On November 6, 2008 Greens/EFA group European Parliament adopted climate refugees definition at conference organized on Climate migrations.

³³⁷ See generally Biermann and Boas *supra* note 256.

³³⁸ See *id.*

³³⁹ "Nine out of every 10 natural disasters are today climate related". See *supra* note 171, Sir John Holmes, Under Secretary-General for Humanitarian Affairs and Emergency Relief Coordinator, Opening Remarks at the Dubai International Humanitarian Aid and Development Conference and Exhibition.

weather-related disasters like floods and hurricanes, as well as longer-term events like droughts, desertification and rising sea levels caused by climate change force people to migrate from their homes. Climate change, itself, does not immediately displace people from their homes. Instead, it is the environmental effects of climate change that forces them from their homes.³⁴⁰ A large number of experts believe that much of the migration caused by climate change is likely to be within countries or at least within regions.³⁴¹ But there may be instances where too many areas become less hospitable and people cross an international border. The best examples to cite are where the only escape routes lead them cross border or where there are sinking small island states caused by rising sea levels and the territory is no longer able to sustain human life.

The advocates of the term “climate refugee” believe that it reflects the seriousness of the issue and creates a sense of urgency and global responsibility.³⁴² Others disagree with the term as it is highly simplistic and it does not distinguish between people who have or have not crossed an international border. And it does not represent those who may be migrating due to other push factors such as economic (depletion in resources) and

³⁴⁰ See Swain *supra* note 214. Janet Sawin, a climate change expert at the World Watch Institute in Washington D.C, deems that human migrations are expected to increase as average global temperatures continue to rise and we experience rising sea levels, more severe weather related disasters and impacts as a result.

³⁴¹ Margit Ammer and Ludwig Boltzmann, CLIMATE CHANGE AND HUMAN RIGHTS: THE STATUS OF CLIMATE REFUGEES IN EUROPE, 13 (June 2009) available at <file:///Users/shakeelkazmi/Downloads/displaced%20persons/impClimateChange-definition.pdf> (last retrieved Apr. 04, 2012). See also, Six Questions about Climate Refugees, UNEP ENVIRONMENT IN NEWS 6 (Mar. 13, 2008) quoting Robert McLeman of Ottawa University at an event organized by the Royal United Services Institute in London. available at www.unep.org/cpi/briefs/2008March14.doc (Last retrieved Apr. 04, 2012).

³⁴² See generally, Dan DaSilva, TOWARDS RECOGNITION, THE ONGOING DEFINITIONAL DEBATE (Apr. 20, 2010). <http://www.towardsrecognition.org/2009/04/the-ongoing-definitional-debate/> (last visited Nov, 05, 2010).

political (conflicts triggered by climate change impacts such as dispute on limited natural resources) reasons.³⁴³

3.3.3 ECO REFUGEES AND ECO STATES

Ecological refugees are expected to make up an increasing percentage of overall refugees in the coming decades.³⁴⁴ Refugees in general, as discussed earlier, are migrants forced to move.³⁴⁵ The term eco refugee represents a category of migrants forced by ecological changes.³⁴⁶ It is often used to describe people who are involuntarily displaced because of an environmental change followed by a disaster. In the near future, a major part of the geographical territory of the states of Tuvalu and Maldives are predicted to be lost to rising sea levels and the entire population will become ecological refugees.³⁴⁷ Cara Nine (in her essay) called these disappearing states, “ecological refugee states” and articulated their rights and options.³⁴⁸ When states’ territories are no longer habitable because lands have been lost to the rising sea, the citizens of future ecological refugee

³⁴³ Id.

³⁴⁴ Cara Nine, *Ecological Refugees, States Borders, and the Lockean Proviso*, 27 J. APPLIED PHIL. 359–375 (Nov. 2010), available at Wiley Online Library, <http://onlinelibrary.wiley.com/doi/10.1111/j.1468-5930.2010.00498.x/full>

³⁴⁵ See supra note 312

³⁴⁶ See supra note 36.

³⁴⁷ Nine, see supra note 344. Cara Nine discusses the cases of ‘ecological refugee states.’ She writes that Tuvalu, the Maldives and to some extent Bangladesh are predicted to be ecological refugee states in the near future.

³⁴⁸ An ecological refugee state is a state whose entire territory is lost to ecological disaster. Cara Nine, *Ecological Refugees, States Borders, and the Lockean Proviso*, 27 J. APPLIED PHIL. 359–375 (Nov. 2010), available at Wiley Online Library, <http://onlinelibrary.wiley.com/doi/10.1111/j.1468-5930.2010.00498.x/full>

states should have the right to be immigrants or to establish themselves as a state in a new territory.³⁴⁹

3.3.4 ENVIRONMENTAL MIGRANTS AND CLIMATE MIGRANTS

The terms environmental refugees and environmental migrant are indistinguishable in many ways. Some academics disagree, as they perceive no resemblance in environmental refugees and environmental migrants. Conventionally, deprived inhabitants who abandon their communities in search of their livelihoods are acknowledged as migrants.³⁵⁰ Those who leave their habitat but remain within the borders of their own nation state are recognized as internal migrants. International migrants, on the other hand, cross international borders to relocate themselves in other countries.³⁵¹ The term “environmental migrant” is a more neutral and is often used in working definitions by current United Nations sponsored research projects and international non-governmental organizations such as the International Organization of Migration (IOM).³⁵² Environmental migrants include individuals and communities who migrate as a result of the increasingly frequent occurrence of environmental disasters and a gradual deterioration of essential environmental resources due to change in the climate and environment. The term environmental migrant characterizes both who migrate by

³⁴⁹ See *id.*

³⁵⁰ IOM, see *infra* note 352.

³⁵¹ ADB, see *infra* note 354, Asian Development Bank, ADDRESSING CLIMATE CHANGE AND MIGRATION IN ASIA AND THE PACIFIC 9 (2012).

³⁵² International Organization for Migration (IOM), MIGRATION, CLIMATE CHANGE AND THE ENVIRONMENT, DEFINITIONAL ISSUES, <http://www.iom.int/jahia/Jahia/activities/by-theme/migration-climate-change-and-environment/definitional-issues> (last visited Apr. 05, 2012),

choice or are forced to move from place to place. The IOM defines environmental migrants, “Environmental migrants are persons or groups of persons who, for compelling reasons of sudden or progressive change in the environment that adversely affects their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad”.³⁵³ Those who leave their homes both due to gradual environmental changes or sudden and extreme environmental events fall into the classification of the term of environmental migrants. The Asian Development Bank in its report defines climate migrant as follows, “ ‘climate-induced migration’ or ‘climate migrants’ will refer to the persons or groups who, for compelling reasons of climate-induced changes in the environment that adversely affect their lives or living conditions, are obliged to move from their habitual homes, or choose to do so, within their country of residence or abroad.”³⁵⁴

Does environmentally induced migration need a commonly accepted definition? And why is “environmental migrant”, not the widely used terms “climate refugee” or “environmental refugee”, preferred? The scholars concur that the need for a definition is a crucial step in the conceptualization of environmental migration. Some researchers have adopted the collective term of “environmental migrant” because there is much debate within the international community about the terms “climate refugee” and

³⁵³ See *id.*

³⁵⁴ Asian Development Bank (ADB), ADDRESSING CLIMATE CHANGE AND MIGRATION IN ASIA AND THE PACIFIC, FINAL REPORT 9 (2012). available at http://reliefweb.int/sites/reliefweb.int/files/resources/addressing-climate-change-migration_0.pdf (last visited Apr. 04, 2012).

“environmental refugee”.³⁵⁵ The term “environmental migrant” is a more neutral one, and is often used as a working definition by current UN sponsored research projects and larger migration INGOs. The leading international migration organization, International Organization of Migration (IOM) used the term “environmental migrant” in its definition.³⁵⁶

The main hindrance lies in the fact that climate change displacement is mostly linked to the other factors as well and it is difficult to isolate environmental factors from other drivers of migration. It is an especially significant challenge when environmental degradation is a contributing factor but not a major factor in displacement. Can such migration be considered and treated as environmental migration?

3.3.5 INTERNALLY DISPLACED PERSONS AND ENVIRONMENTALLY DISPLACED PERSONS

Internally Displaced Persons (IDPs) are defined by UN Guiding Principles on Internal Displacement³⁵⁷ as, “persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized

³⁵⁵ WHO ARE ENVIRONMENTAL MIGRANTS? TOWARDS RECOGNITION, available at <http://www.towardsrecognition.org/who-are-environmental-migrants/> (last visited Apr. 04, 2012) “Towards Recognition has adopted the collective term of “environmental migrant”.

³⁵⁶ IOM, see supra note 352. International Organization for Migration (IOM), DEFINITIONAL ISSUES, available at <http://www.iom.int/jahia/Jahia/activities/by-theme/migration-climate-change-and-environment/definitional-issues> (last visited Apr. 04, 2012).

³⁵⁷ The Guiding Principles on Internal Displacement deal with displaced people within their own country’s borders. Primarily it deals with only those displaced by conflicts, disasters or development projects. See chapter 4.7 for more detailed discussion.

violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized State border.”³⁵⁸

Primary responsibility to protect the IDP’s rests with their state because of the principals of sovereignty and non-intervention. Protection of the IDP’s at the international levels remains unsettled. Refugee law does not apply to the protection of internally displaced persons without host country’s consent. The UNHCR or any other UN agency lacks any legal authority to protect persons within their own borders.

The matter of environmentally displaced persons has received no consideration from the international community. It is irrationally believed that environmental change may be just one of many factors that cause displacement. Oliver Smith notes, “No international or national legislation explicitly recognizes or defines ‘environmentally displaced persons’ and there are no bodies mandated to offer them protection.”³⁵⁹ The Guiding Principles for Internal Displacement cover those displaced by natural or human-made disasters.³⁶⁰ The Kampala Convention adopted by the African Union (a regional agreement not in force yet) recognizes these internally displaced by climate change. The Kampala Convention includes an obligation to take measures to protect and assist persons who have been internally displaced due to natural or human made disasters, including climate change.³⁶¹

³⁵⁸ See UN GUIDING PRINCIPLES ON INTERNAL DISPLACEMENT, (1998).

³⁵⁹ Oliver-Smith, A., *Climate Change and Population Displacement: Disasters and Diasporas in the Twenty-First Century*, in S. Crate and M. Nuttall, eds., *ANTHROPOLOGY AND CLIMATE CHANGE: FROM ENCOUNTERS TO ACTIONS* 116-136 (2009).

³⁶⁰ See *supra* note 357.

³⁶¹ Kampala Convention Art. 5(4). The Kampala Convention was adopted by the African Union on Oct. 22, 2009. As of April 2012, 36 member states have signed and 17 members have ratified Kampala Convention. It is not yet in force. Only 11 members have deposited instruments for ratification and it takes 15 deposited

Climate change has the potential to displace more people in developing countries³⁶² by increasing the frequency and severity of natural disasters, particularly hydro-meteorological events. A vast majority of the displaced by the climate related events named internally displaced persons (IDPs) would remain within their country's borders.³⁶³ The Representative of the Secretary-General on the Human Rights of IDPs (RSG) has developed Operational Guidelines for Protecting the Human Rights of those affected by Natural Disasters to ensure that the basic human rights of those affected by natural disasters, including IDPs, are upheld.³⁶⁴

3.3.6 “CLIMATEES”

To date, however, there is no coherent terminology to describe climate-induced displacement nor is a consensus on existing definitions in this field of study. The use of various terms not only creates ambiguity, they pose a potential threat to undermine

ratifications for the Convention to enter into force. For detailed discussion see:

Elizabeth Ferris, Brookings-LSE Project on Internal Displacement, Internal Displacement, in Africa: An Overview of Trends and Opportunities, Presentation at the Ethiopian Community Development Council Annual Conference African Refugee and Immigrant Lives: Conflict, Consequences, and Contributions (May 2-4 2012). available at http://www.brookings.edu/~media/research/files/papers/2012/5/03%20displacement%20africa%20ferris/0503_displacement_africa_ferris.pdf

³⁶² C. Field, et al., eds., IPCC, 2011: Summary for Policymakers: Intergovernmental Panel on Climate Change Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation available at http://www.ipccwg2.gov/SREX/images/uploads/SREX-SPM_Approved-HiRes_opt.pdf (last retrieved Jan. 29, 2012). “Economic, including insured, disaster losses associated with weather, climate, and geophysical events are higher in developed countries. Fatality rates and economic losses expressed as a proportion of GDP are higher in developing countries (high confidence). During the period from 1970 to 2008, over 95% of deaths from natural disasters occurred in developing countries.” Also see chapter 1.3 Social Impacts of the Climate Change

³⁶³ See generally Bierman and Boas, *supra* note 256.

³⁶⁴ UN Launches Yearlong Campaign to Highlight, And Solve, Plight of Displaced, UN NEWS CENTRE, available at <http://www.un.org/apps/news/story.asp?NewsID=29358&Cr=IDPs&Cr1=> (last visited Apr. 05, 2012). In December 2008 the United Nations launched a yearlong advocacy campaign to help scores of millions of internally displaced persons (IDPs), focusing on mitigating the impact of conflict and natural disasters that drive so many people from their homes within their own country.

existing legal terms and obligations of the international community. Assessment of an appropriate definition of climatic displacement is the main focal point in this chapter. The need for a definition is a crucial step in the conceptualization of environmental migration, and the development of policy responses to address these flows of migrants. A specific term and appropriate definition to depict the human movement triggered by climate change is crucial in the development of adequate policy responses to utilize the existing instruments or to develop the new forms of legal protection.

The available terms and their definitions fail to define climate displacement or migration accurately. As discussed in the preceding chapter, escalating changes in the climate displace or force people to migrate in a number of ways (internal and international, temporary and permanent, sudden and slow-onset forced and voluntary). Most of the existing terms represent one or more but not all the aspects of climate related human movement. The term “displacement” connotes some degree of coercion and force in movement. The term “migrants” generally refers to those who voluntarily choose to move to another community or country. The word “refugee” implies that people have already crossed the international borders. Similarly the term “Internally Displaced Persons (IDPs)” represents to those forced to leave their communities but who remain within the borders of their country. The term “climate refugee” questions the term refugee as defined in the 1951 Geneva Convention, which requires that a refugee must be outside of the state of its usual abode and must provide that his/her state failed to protect him. In the climate change displacement a vast majority of people stay within their own state borders and they have no claim against their own state.

This thesis proffers a new term “Climatee” which will equally represent diverse categories of climatic displacement. “Climatee” will embrace all phases of internal climatic displacement and refugees abroad pushed by the change in the climate. It will symbolize both the forced and voluntary migration. Climatee will also include those who leave their homes temporarily or permanently. It will equally provide protection to the sudden and slow on-set migration including preventive and precautionary resettlements.

This thesis defines Climatees as following:

“Climatees are persons or groups of persons who can no longer gain a secure livelihood in their traditional homeland and who are forced to leave their customary habitat temporarily or permanently, and to migrate internally or trans border due to abrupt natural or man made disasters caused by the climate change including but not limited to sudden hydro-meteorological disasters such as hurricanes, cyclones, flooding, and mudslides or progressive changes in the environment such as environmental degradation and slow onset disasters including reduction of water availability, desertification, salinization of coastal zones, and recurrent flooding. Climatees comprises persons who are obliged to leave their habitual homes due to permanent loss of state territory or by increasing conflicts over shrinking natural resources resulting from the effects of climate change. The term Climatees represents individuals, communities, and groups of people who have been displaced,³⁶⁵ relocated³⁶⁶ or resettled³⁶⁷ from their homes and

³⁶⁵ The term displacement indicates dislocation and dislodgement or the physical dispossession of peoples from their lands or from a recurring site. For details see discussion in section 3.2.1 Displacement and Migration Nexus with Climate Change.

³⁶⁶ “Evacuations are defined as the facilitation or organization of transfer of individuals or groups from one area/locality to another in order to ensure their security, safety and well-being”. See Elizabeth Ferris, *Climate Change and Internal Displacement: A Contribution to the Discussion* (Feb. 22-26 2011).

³⁶⁷ See id. “The term relocation can include both: a) Temporary relocation: the act of moving evacuated

neighborhoods for compelling climate related reasons and individuals or groups whose lives are adversely affected but or unable or unwilling to move³⁶⁸ and members of the communities in the host country whose lives or living conditions could be adversely affected by the environmental consequences after receiving the climatic displacement.”

NOTE: Throughout this thesis, unless otherwise indicated, the terms “climatic displacement” “climate migrants” “climate refugee” and “environmental refugees” are used interchangeably and they fall within the definition of “Climatees” as defined above and are used to refer to those persons subject to internal or trans border displacement triggered by the climate change. Where any of the above terms are intended to have a different meaning it will be indicated.

3.4 CONCLUSION

The growing number of displaced persons is now perceived as a significant threat to global security, but at the international level there is no consensus on the terminology used to refer to the displaced. Terminology has implications for moving forward both in the area of research, law, and policy. This discussion concludes that definitions and typologies of climate change displacement are not only for a scholarly debate. A proper definition is mandatory for identification of the dilemma and to provide the requisite

people to a place where they stay until return or settlement elsewhere in the country becomes possible; or b) Permanent relocation: the act of moving people to another location in the country and settling them when they no longer can return to their homes or place of habitual residence. Relocations can be voluntary, i.e. with the consent of affected persons, or forced, i.e. against the will of such persons.”

³⁶⁸ It is central not to fail to notice those who are not displaced. Climate change impacts can weaken the vulnerable and diminish their capabilities to move even further. See Kolmannskog, V, FUTURE FLOODS OF REFUGEES (2008) citing Black, et al., Unpublished paper prepared for DFID.

assistance to the concerns. No one can disagree with the notion that a need for a global system to protect the people, who move owing to environmental or climate-related factors regardless of international consensus on the terminology, is unavoidable. Professor Hans van Ginkel notes,” This is a highly complex issue, with global organizations already overwhelmed by the demands of conventionally recognized refugees, as originally defined in 1951. We should prepare now, however, to define, accept and accommodate this new breed of ‘refugee’ within international frameworks.”³⁶⁹

We must move forward from the debate of the numbers, definitions and the modalities. It is time to focus on the need for preparation, adaptation, and collaboration to assist those in need. We must update and unify the terminology in work to address the Climatees. The thesis moves forward to explore the existing refugee regime to comprehend if climate induced migrants, fit in the regime’s protection zone. The next chapter will examine the question; Are international humanitarian law and international environmental law capable of embracing the emerging group of Climatees?

³⁶⁹ Professor Dr. Hans van Ginkel, United Nations University (UNU) available at www.ehs.unu.edu/file.php?id=58 (last visited Apr. 05, 2012).

CHAPTER 4

INTERNATIONAL RESPONSIBILITY

INTERNATIONAL REGIME AND INSTRUMENTS

4.1 INTRODUCTION

The analysis in the preceding chapters substantiated the notion that people move out of their habitual abode only when changes in the environment make it difficult for them to sustain their lifestyle and health.³⁷⁰ Examining the root causes of human flight and links between the changes in the environment and forced displacement, the thesis looked at the definitional complexities and the terminologies correlated with the climate change migrants. The thesis construes that there is not yet a widely agreed definition of displaced by climate change. There is no international consensus on the terminology, which should apply to people who move owing to environmental and climate-related factors. These include people displaced due to change in socio-economic structure or collapses of their livelihoods because of the changes in the environment deserve international support. Forced migration and displacement triggered by climate change is not a local catastrophe with local causes. The international community concurs that the climate change displacement is an internal and regional as well as intercontinental calamity.

³⁷⁰ World Health Organization, PROTECTING HEALTH FROM CLIMATE CHANGE: GLOBAL RESEARCH PRIORITIES 6 (2009), available at http://www.who.int/phe/news/madrid_report_-_661_finallowres.pdf. (last visited Jan. 21, 2011). World Health Organization (WHO) reports that climate change multiplies the impact of existing health risks.

The thesis in the instant part proceeds to examine the international instruments on hand and the global collaboration mechanisms dealing with the human mobility triggered by climate change. The core discussion is focused on the universal obligation to prevent the arbitrary displacement and legal and operational protection of those already ousted by climate change. This thesis argues that an explicit and autonomous recognition of the climate change refugees by the international legal system is vital. It will examine the states' migration management systems to provide a scheme for the entry and protection of the forced migrants in the situations of cross-border displacement. The discussion will further pursue the emerging international law addressing climate change. In this chapter the thesis will seek the answers to frequently posed questions by academia: Does the international community have an obligation to facilitate the citizens of other countries affected by the change in climate? Do the states have a legal compulsion to allow reasonable access to the climate change refugees into their territories? Do the national governments of the world have the management capabilities and appropriate assistance schemes for handling the citizens whose livelihoods collapsed due to change in environment and they are forced to move? Are two major international legal institutions, international humanitarian law and international environmental law, sufficient to effectively address the issue of whether the existing international instruments are considered adequate to address this problem proactively?

4.2 INTERNATIONAL RESPONSIBILITY

There is no major disagreement on the notion that “Climatees”,³⁷¹ pose a huge challenge to the world. The management of mass migration (internal or international) on such a large scale³⁷² is far beyond the sources of one country. Mitigation and all aspects of the displacement adaptation including preparation, evacuation, and resettlement demand the global collaboration and raise the questions: Is climate change an intrinsically global peril to human rights? Or must human rights be changed? Do nations have an international legal responsibility to cooperate in order to recognize human rights, with respect to climate change?

People always have a right to migrate under the Universal Declaration on Human Rights.³⁷³ Several international organizations, namely OHCHR, UNHCR, UNICEF and ICRC, have specific protection mandates. Climate change induced forced migration or displacement is not a local crisis with local causes. It is a complex global issue that demands international attention. Climate change induced displacement is no longer a prediction but is a reality.³⁷⁴ According to the report issued by the Office of the U.N. High Commissioner for Human Rights whether or not climate change violates human rights law, human rights law places duties on states pertinent to the climate change.³⁷⁵

³⁷¹ See definition of the term Climatees in chapter 3.

³⁷² See chapter 2.3 How Many? The climate change impacts will cause large-scale population movement. Projected estimates for future climate migrant range from fifty million to one billion. See supra note 249. Christian Aid estimates that environmental migrants will eventually number a billion.

³⁷³ See Article 13, of Universal Declaration of Human Rights, 1948. Also see chapter 4.6 Human Rights and Humanitarian Principles.

³⁷⁴ Mostafa Mahmud Naser and Tanzim Afroz, Human Rights Implications of Climate Change Induced Displacement, 21 BOND L. REV. (2009). Available at <http://epublications.bond.edu.au/blr/vol21/iss3/4> (last retrieved Apr. 05, 2012).

³⁷⁵ OHCHR, REPORT OF THE OFFICE OF THE UNITED NATIONS HIGH COMMISSIONER FOR HUMAN RIGHTS ON THE RELATIONSHIP BETWEEN CLIMATE CHANGE AND HUMAN RIGHTS, (2009) U.N. Doc.

Human displacement is growing and the involvement of climate change in natural disasters and conflicts on natural resources is constantly increasing.³⁷⁶ A rising sea level is not the only threat to impact the human movement. Climate change is increasing banditry, humanitarian crisis, and state failures. Climate change is exacerbating all serious problems including ethnic violence, religious strife, and civil unrest due to increase in food prices. Today the role of climate change can be traced in almost all the conflicts among the nations.³⁷⁷ The rising temperatures that bring drought, famine, fire and floods are fueling all these problems.³⁷⁸

The law of international responsibility is new and evolving. States' responsibility to protect and resettle the displaced by the climate change could be viewed as both legal and ethical as well. Sheri P. Rosenberg (Clinical Professor at Benjamin N. Cardozo School of Law, New York) writes, "the international community has the responsibility to take actions using peaceful means to protect populations; and should a state 'manifestly fail' to protect its population."³⁷⁹ To date, however, only limited attention has been placed on the issue. Increasing population displacement has generated a sense that urgent international action is needed to provide the services necessary to rebuild their lives. The international community must put in place a new international legal framework to cope with the coming population shifts. The question is whether the emerging international

A/HRC/10/61 (Jan. 15, 2009)

³⁷⁶ IPCC REPORT, see supra note 47.

³⁷⁷ Christian Parenti, TROPIC OF CHAOS: CLIMATE CHANGE AND THE NEW GEOGRAPHY OF VIOLENCE, Nation Books (2011)

³⁷⁸ Id.

³⁷⁹ World Summit Outcome, UNGA Res. 60/1, 16 September 2005, Paragraphs 138 and 139 of the Outcome Document. Quoted in, Sheri P. Rosenberg, RESPONSIBILITY TO PROTECT: A FRAMEWORK FOR PREVENTION, available at, [http://responsibilitytoprotect.org/The%20Responsibility%20to%20Protect%20A%20Framework%20For%20Prevention%20\(Rosenberg\).pdf](http://responsibilitytoprotect.org/The%20Responsibility%20to%20Protect%20A%20Framework%20For%20Prevention%20(Rosenberg).pdf)

environmental regime and existing human rights frameworks and instruments are able to take up the dilemma of climate migrants or whether new mechanisms and institutions are needed to deal with potential population displacement caused by climate change.

4.3 ETHICAL OBLIGATIONS

The international community owes a “natural law” duty to preserve humankind.³⁸⁰ Human beings have certain moral duties towards others by virtue of their common humanity.³⁸¹ Natural law to preserve humankind entails that one must not destroy life, and also that one must take positive action to preserve it.³⁸² Climate change raises intricate ethical considerations and complex issues emerge in relation to the status and rights of climate refugees.

Interest in the issue of climate change and displacement is growing. United Nations Framework Convention on Climate Change (UNFCCC), an international treaty signed by 193 member nations, states as its motivation the “protection of current and future generations of mankind”.³⁸³ Climate change is an escalating threat to the human

³⁸⁰ It is fundamental law of nature that mankind is to be preserved. See, e.g., J.L. Holzgrefe and Robert O. Keohane, eds., *HUMAN INTERVENTION, ETHICAL, LEGAL, AND POLITICAL DILEMMA, THE HUMANITARIAN INTERVENTION DEBATE* 25 (2003), available at catdir.loc.gov/catdir/samples/cam034/2003269355.pdf (last retrieved Feb. 21, 2012).

³⁸¹ *Id.*

³⁸² *Id.*

³⁸³ United Nations Framework Convention on Climate Change (UNFCCC) available at http://unfccc.int/essential_background/items/2877.php, (last visited Oct. 25, 2011). The United Nations Framework Convention on Climate Change (UNFCCC) was opened for signature at the June 1992 United Nations Conference on Environment and Development in Rio de Janeiro, Brazil. 193 countries ratified the treaty since its introduction in 1992. A protocol to the treaty known as Kyoto Protocol, a protocol to the UNFCCC treaty was adapted in 1997 and ratified by 184 countries. US ratified the UNFCCC but rejected the Kyoto Protocol. Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, 37 INT’L. L. MATERIALS 22(1998). Available at,

survival. There is no disagreement that it is a question of life and death for many, especially for the world's poorest.³⁸⁴ Climate migrants face a future of insecurity, with no guarantees of health, education, food, housing and opportunities to make their living. Every year floods, heat waves, forest fires and landslides claim human lives and leave people homeless. Environmental change is one of a larger set of factors that affect human migration and displacement worldwide. According to John Holmes, UN undersecretary general for humanitarian affairs and emergency relief nine of out of ten disasters are now climate related.³⁸⁵ Anthropologists and sociologists who have been working in this area for several decades recommend focusing on five program areas: prevention, preparedness, mitigation, rehabilitation, and resettlement.³⁸⁶ International coordination is indispensable to address this critical problem. The Preamble to the UNFCCC says, "Acknowledging the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response in accordance with their common but differentiated responsibilities and respective capabilities."³⁸⁷

To determine the moral obligation to help those whom climate change will hurt and displace, we have to look at the answers to these questions: Who is responsible for

http://unfccc.int/kyoto_protocol/items/2830.php, (last visited Oct. 25, 2011).

³⁸⁴ UNHCR, See supra note 232. United Nations High Commissioner for Refugees (UNHCR), ANNUAL REPORT 2008. The 2008 annual report by United Nations High Commissioner for Refugees (UNHCR) indicates that eighty percent of the world's refugees are in developing nations.

³⁸⁵ Sir John Holmes, Under-Secretary General for Humanitarian Affairs and Emergency, Relief Coordinator DIHAD 2008 Conference, Opening Remarks, Apr. 08, 2008, available at, ochaonline.un.org/OchaLinkClick.aspx?link=ocha&docId=1088217 (last visited Oct. 20, 2011)

³⁸⁶ See discussion in chapter 7 to 9

³⁸⁷ The ethical interpretations of the preamble phrase, "common but differentiated responsibilities and respective capabilities," are central to the current impasse in the global climate change negotiations. See the Preamble to the United Nations Framework Convention on Climate Change (UNFCCC) available at, http://unfccc.int/essential_background/items/2877.php, (last visited Oct. 25, 2011).

the damage caused by climate change? Who will suffer more from the climate change effects and what are their capabilities to cope? Industrialized states are historically significant emitters of greenhouse gases, thus they are the principal contributors to the climate change crisis.³⁸⁸ Developed nations owe an obligation to the people displaced by climate change. They must assist the communities affected by climate change. The principle that the polluter pays requires that the person or company responsible for causing the pollution, or environmental damage, should be responsible for cleaning it up.³⁸⁹ Reports suggest that most resettlement will occur within the poor states as a mass of forced migration and displacement will involve the deprived communities.³⁹⁰ Underprivileged states are the ones that suffer first and worst.³⁹¹ Industrialized states have the means to support them and they share the responsibility for the processes that have led to the climate change.

All efforts to follow the above programs and to reconstruct the collapsed socio-

³⁸⁸ IPCC REPORT, see supra note 47. Developed countries account for over half of global GHG emissions, and historically have accounted for a much larger share.

³⁸⁹ Roy E. Cordato, THE POLLUTER PAYS PRINCIPLE: A PROPER GUIDE FOR ENVIRONMENTAL POLICY 6 (2001) available at <http://iret.org/pub/SCRE-6.PDF> (last accessed Apr. 07, 2012). Also see, The Earth Charter Initiative: Resource Materials, The Polluter Pays, available at www.earthcharter.org/report-survey/survey20.htm, (last visited Apr. 07, 2012), The polluter pays principle is widely accepted as a guide to who should take responsibility for the environmental damage. The “polluter pays principle” means that anyone responsible for polluting or causing damage to the environment will be liable for the costs associated to it.

³⁹⁰ The United States Conference of Catholic Bishops has declared in a statement, “[policy] must be built upon a foundation of social and economic justice that does not put the poor at greater risk or place disproportionate and unfair burdens on developing nations.”

³⁹¹ See C.B. Field, et al., eds. IPCC, 2011: SUMMARY FOR POLICYMAKERS. IN: INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE SPECIAL REPORT ON MANAGING THE RISKS OF EXTREME EVENTS AND DISASTERS TO ADVANCE CLIMATE CHANGE ADAPTATION, available at http://www.ipccwg2.gov/SREX/images/uploads/SREX-SPM_Approved-HiRes_opt.pdf (last retrieved Jan. 29, 2012). Fatality rates and economic losses expressed as a proportion of GDP are higher in developing countries (high confidence). During the period from 1970 to 2008, over 95% of deaths from natural disasters occurred in developing countries.” Also see The International Federation of Red Cross and Red Crescent Societies, WORLD DISASTERS REPORT 2001 (2001). According to the World Disasters Report 2001 in developed nations, the average toll is just 22.5 people per reported disaster. Average 1052 lives are lost in each disaster in countries of low human development.

economic structures are essentially far beyond the capacities of the poor states. Does this mean that developed nations have a special responsibility to assist and accommodate those left landless by human-induced climate change? Anthony Albanese, Shadow Minister of Australia for Environment, Heritage and Water said in 2006, "Australia is the highest per capita emitter in the world and we have a moral obligation to give assistance to those in need."³⁹² Whether developed nations are legally obliged to or not, they certainly have a moral obligation to help those whom climate change will hurt and displace. Mary M. Delorey writes, "Migration is not only economic, social, and legal issue, it is also a humanitarian and, ultimately, a moral one."³⁹³

Indeed ethical concerns are central to climate policy. Well established ethical principles set in the UNFCCC such as the precautionary principle, the principle of common but differentiated responsibilities and respective capabilities, and the polluter pays principle, provide the grounds for the binding obligations.

4.4 LEGAL OBLIGATIONS

Climate change is evolving as a tragedy that would cause a systematic violation of

³⁹² Statement by Anthony Albanese, cited in Greg Foyster, *The Next Wave: Climate Refugees*, volume?? G MAG. page?? (Jan. 10, 2011). available at <http://www.gmagazine.com.au/node/2383/full> (last visited Apr. 07, 2012). Also see the statement by Australian Greens Deputy Leader Senator Christine Milne; "Australia is historically one of the biggest contributors to the climate crisis. Whether we are legally obliged to or not, we certainly have a moral obligation to help those who climate change will hurt or displace."

³⁹³ Mary M. Delorey, *ECONOMIC AND ENVIRONMENTAL DISPLACEMENT: IMPLICATIONS FOR DURABLE SOLUTIONS, DRIVEN FROM HOME* 246

the human rights of the poor and of future generations.³⁹⁴ One's right to his/her home and to live in his/her land is indispensable. Climatees have the right to move out of harm's way and all states have the responsibility to assist them in doing so.³⁹⁵

More than two decades ago the first report from the U.N. IPCC composed a specific link between migration and climate change.³⁹⁶ The concluding reports by IPCC note that climate change could displace millions.³⁹⁷ Every single one of these reports illustrate that developing and poor nations will be the most vulnerable to climate change impacts.³⁹⁸ The IPCC Fourth Assessment Report (AR4) in 2007 disclosed that climate change is already having significant impacts in certain regions, particularly in developing countries, and on most ecosystems.³⁹⁹ The report concluded that poor nations would be harmed more as they lack the capabilities to cope with the crisis.⁴⁰⁰

Although as early as 1990, the first IPCC report (AR1) warned that the greatest single impact of climate change could be on human migration,⁴⁰¹ and very little progress

³⁹⁴ UNDP, OVERVIEW, FIGHTING CLIMATE CHANGE: HUMAN SOLIDARITY IN A DIVIDED WORLD, HUMAN DEVELOPMENT REPORT 2007/2008 4 (November 2007).

³⁹⁵ Id. Also see Australian Labor Party, LABOR'S POLICY DISCUSSION PAPER ON CLIMATE CHANGE IN THE PACIFIC, OUR DROWNING NEIGHBORS 10 (2006). Available at: <http://www.anthonyalbanese.com.au/documents/060105%20-%20Our%20Drowning%20Neighbours.pdf> (last retrieved Apr. 07, 2012).

³⁹⁶ IPCC report in 1990 noted, "the greatest single impact of climate change could be on human migration." For details see the IPCC First Report 1990, 20. Also see, Frank Laczko and Christine Aghazarm, eds., MIGRATION, ENVIRONMENT AND CLIMATE CHANGE: ASSESSING THE EVIDENCE (1992). http://publications.iom.int/bookstore/free/migration_and_environment.pdf

In 1992 IOM together with the Refugee Policy Group published a report on "MIGRATION AND ENVIRONMENT" in which it is stated: "Large numbers of people are moving as a result of environmental degradation that has increased dramatically in recent years. The number of such migrants could rise substantially as larger areas of the earth become uninhabitable as a result of climate change."

³⁹⁷ Id.

³⁹⁸ Id.

³⁹⁹ IPCC see *supra* note 47, THE FOURTH ASSESSMENT REPORT (AR4) OF THE UNITED NATIONS INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC).

⁴⁰⁰ See *id.*, IPCC FOURTH ASSESSMENT REPORT AR4 (2007).

⁴⁰¹ In 1990, the Intergovernmental Panel on Climate Change (IPCC) predicted, "the gravest effects of climate change may be those on human migration as millions are displaced by shoreline erosion,

has been made in recognizing the legal status of those displaced by climate change. The unclear legal status of climate change refugees remains unsolved. At present no single instrument or international legal framework exists to protect and resettle the environmental or climate change refugees.

Lack of an agreement on the definition of environmental refugees is one of the foremost hurdles of all. Moreover the international refugee⁴⁰² agency and national governments are reluctant to legally oblige themselves to confer any status to climatees. David Corlett, (adjunct research fellow at Swinburne University of Technology) writes, “There’s no such thing as a climate or an environmental refugee in international or domestic law. It’s a non-existent category that conveys no rights.”⁴⁰³ Environmental refugees therefore do not exist in regard to current international law. Migrants or refugees forced to leave their home country for environmental reasons are denied any legal status. The United Nations High Commissioner for Refugees (UNHCR), the International Organization for Migration (IOM) and the Refugee Policy Group all use the term “environmentally displaced persons” rather than “environmental refugees.”⁴⁰⁴ Another justification for non-response on Climatees’ legal status is that often displacement rationale is comingled with other causes and it is very difficult to isolate the climate change factor. Elizabeth Ferris, co-director of the Brookings-Bern Project on Internal

coastal flooding and severe drought.”

⁴⁰² The terms “Climate Refugees” and “Climate Change Refugees” are often used synonymously. The category of “Environmental Refugees” covers a wider range of environmental factors for displacement. Climate refugees are a group within the broader category of environmental refugees. For detailed discussions see chapter 3.

⁴⁰³ David Corlett, *STORMY WEATHER: THE CHALLENGE OF CLIMATE CHANGE AND DISPLACEMENT*, University of New South Wales, Sydney, 2008

⁴⁰⁴ Environmentally displaced persons are defined as “persons who are displaced within their own country of habitual residence or who have crossed an international border and for whom environmental degradation, deterioration or destruction is a major cause of their displacement, although not necessarily the sole one”

Displacement notes that although people are displaced for various reasons they experience the same sufferings and trauma. She reveals that international response is different in each situation and it is based on the causes of displacement.⁴⁰⁵

Environmental, social, political and economic factors are major factors that activate human movement. In some instances people move mainly but not always just because of environmental factors. President Mwai Kibaki of Kenya noted in his speech during an executive session of the Commonwealth Heads of State and government in Perth, Australia,⁴⁰⁶ “Besides the rising insecurity and political instability, Somalia was faced with a devastating drought and famine with millions of people in different parts of the country in dire need of food and water. This has led to mass movements of Somali nationals into the already overcrowded Dadaab refugee camp in Kenya, which now holds more than 600,000 refugees.”⁴⁰⁷

As discussed there is no absolute binding international climate change law to hold the international community responsible with a duty to protect and assist the other states or their citizens.⁴⁰⁸ Nonetheless there is significant movement towards the recognition of a binding legal obligation in the near future. The principles of climate change, human rights and international law offer the basis for legal obligations of the international

⁴⁰⁵ Elizabeth Ferris, *Natural Disasters and Conflict-Induced Displacement: Similarities, Differences and Inter-Connections*, Society for Applied Anthropology, Mar. 27, 2008, http://www.brookings.edu/speeches/2008/0327_displacement_ferris.aspx

⁴⁰⁶ Commonwealth Heads of Government met in Perth, Australia, from 28 to 30 October 2011. Kenya not at war with Somalia, Kibaki asserts, Posted by Presidential Press Service on October 28, 2011, available at <http://www.capitalfm.co.ke/news/2011/10/kenya-not-at-war-with-somalia-kibaki-asserts/> (last visited Oct. 30, 2011).

⁴⁰⁷ Id. Dadaab refugee camp in Kenya was originally designed to host 90,000 refugees but now holds more than 600,000 refugees.

⁴⁰⁸ The UNFCCC, the only climate change regime demands the international cooperation in accordance with their “common but differentiated responsibilities and respective capabilities.” The UNFCCC is not a treaty it is a framework convention only.

community towards the Climatees. The Preamble to the Framework Convention on Climate Change reads, “Acknowledging the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response in accordance with their common but differentiated responsibilities and respective capabilities.”⁴⁰⁹ The Declaration of the United Nations Conference on the Human Environment, adopted at Stockholm on 16 June 1972, holds states responsible, “to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.” The principles of “polluter pays,” and to some extent the English common law concept of “duty of care,” propose that states have obligation to other states. The international legal principles of non-refoulement and the legal framework on statelessness can also provide guidance to award the needed protection to the Climatees in the cases where the entire population will be displaced.

Whereas the international refugee instruments and regime is concerned, the United Nations Convention Relating to the Status of Refugees (1951) and its 1967 protocol and the United Nations High Commissioner for Refugees (UNHCR) provide protection to refugees. Do climate refugees fit in the traditional refugee protection regime? Are they qualified for the protection under the refugee convention? The next section will explore the available protection for Climatees in the international refugee law regime, a rational place for the refugee’s protection.

⁴⁰⁹ The ethical interpretations of the preamble phrase, “common but differentiated responsibilities and respective capabilities,” are central to the current impasse in the global climate change negotiations. See the Preamble to the UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC) available at http://unfccc.int/essential_background/items/2877.php (last visited Oct. 25, 2011).

4.5 REFUGEES CONVENTION OF 1951

The growing numbers of climate change migrants, within or beyond their national borders, demand a response that is based on the principles of human rights and human dignity. The 1948 Universal Declaration of Human Rights, a nonbinding declaration, is the foundational document of international human rights law.⁴¹⁰ Drafted in the immediate aftermath of the Second World War, the Refugee Convention of 1951, in general protects refugees. Its focus is on the people who are unable or unwilling to remain in their country of origin due to fear of persecution.⁴¹¹ The convention and protocol of 1967⁴¹² apply only to those who have crossed an international border to escape and have well-founded fear of being persecuted⁴¹³ for reasons of race, religion, nationality, membership of a particular social group or political opinion.⁴¹⁴

Climate change is not expressly listed in this definition, but some scholars believe it may fall within a social group context.⁴¹⁵ In the context of climate change the

⁴¹⁰ UNIVERSAL DECLARATION OF HUMAN RIGHTS, G.A. Res. 217, U.N. GAOR, 3d Sess., U.N. Doc. A/810 (1948). Raj Bhala, Philosophical, Religious, and Legalistic Perspectives on Equal Human Dignity and U.S. Free Trade Agreements, 28 ST. LOUIS U. PUB. L. REV. 9, 53 (2008).

⁴¹¹ UNITED NATIONS CONVENTION RELATING TO THE STATUS OF REFUGEES, July 28, 1951, 19 U.S.T. 6259, 189 U.N.T.S. 137

⁴¹² PROTOCOL RELATING TO THE STATUS OF REFUGEES, Jan. 31, 1967, 19 U.S.T. 6225, 606 U.N.T.S. 268

⁴¹³ United Nations High Commission for Refugees, HANDBOOK ON PROCEDURES AND CRITERIA FOR DETERMINING REFUGEE STATUS UNDER THE 1951 CONVENTION AND THE 1967 PROTOCOL RELATING TO THE STATUS OF REFUGEES, ch. II.B. (2)(b), 1 (1979) (1992), available at <http://www.unhcr.org/publ/PUBL/3d58e13b4.pdf> (last visited Oct. 23, 2011). The popular definition of 'persecution,' involves an act or acts taken by governments against an individual or a group of individuals.

⁴¹⁴ CONVENTION RELATING TO THE STATUS OF REFUGEES, art. 1A, adopted on July 28, 1951, 189 U.N.T.S. 150.

⁴¹⁵ Elizabeth Burleson, Climate Change Displacement to Refuge, 25 J. ENVTL. L. & LITIG. 19 (2010). Also see, Vikram Odedra Kolmannskog, FUTURE FLOODS OF REFUGEES: A COMMENT ON CLIMATE CHANGE, CONFLICT AND FORCED MIGRATION 25-27 (2008). available at <http://www.nrcfadder.no/arch/img.aspx?fileid=9904602>.

refugee is not trying to flee a government instead they are threatened by the actions of the international community. Vikram Kolmannskog argues that some climatically displaced people may be considered refugees even under the 1951 Convention.⁴¹⁶ He suggests, “Persecutors often use environmental destruction to undermine people’s livelihoods. Such cases are easily included in the 1951 Convention. Furthermore, persecution is not defined, and there is place for evolution of the concept. Serious or systematic human rights violations are normally considered to amount to persecution.”⁴¹⁷

4.6 HUMAN RIGHTS AND HUMANITARIAN PRINCIPLES

States owe a duty to protect their citizens from foreseeable harms.⁴¹⁸ All UN and partner agencies have a responsibility to integrate human rights into their work and to approach their work with due regard to protection issues.⁴¹⁹ Citizens around the world have the implied obligation not to injure others or the natural resources on which the human life depends.⁴²⁰ An infringement of human rights is generally understood to entail

⁴¹⁶ Vikram Kolmannskog, To What Extent Can Existing Forms of Legal Protection Apply in Climate Change-related Cross-border Displacement? (2009) Paper presented at the Oxford University Workshop on Environmental Change and Migration, 8-9th January 2009.

⁴¹⁷ Id. at 6

⁴¹⁸ See Chinthaka Mendis, Sovereignty vs. Trans-boundary Environmental Harm: The Evolving International Law Obligations and the Sethusamuduram Ship Channel Project United Nations, (2006) available at http://www.un.org/depts/los/nippon/unnnff_programme_home/fellows_pages/fellows_papers/mendis_0607_sri_lanka.pdf (last retrieved Apr. 07, 2012).

⁴¹⁹ See RENEWING THE UNITED NATIONS: A PROGRAMME FOR REFORM, REPORT OF THE SECRETARY-GENERAL TO THE UNITED NATIONS GENERAL ASSEMBLY (UN doc. A/51/950) and PROTECTION OF INTERNALLY DISPLACED PERSONS (2000).

⁴²⁰ A HUMAN RIGHTS-BASED APPROACH TO PROTECTION OF ENVIRONMENTALLY DISPLACED PERSONS, INTERNAL DISPLACEMENT, CLIMATE CHANGE, HUMAN RIGHTS, NANSSEN CONFERENCE ON CLIMATE CHANGE AND DISPLACEMENT, JUNE 7, 2011 IN OSLO, NORWAY. Available at Brookings, http://www.brookings.edu/speeches/2011/0607_beyani_nansen.aspx (last visited Oct. 26, 2011).

a breach of a legal duty under human rights laws.⁴²¹ All humanitarian principals are based on the necessity of the protection of the victims. The human rights approach focuses more on people in need of help rather than causes of a catastrophe.⁴²² The basic difference between International law and humanitarian law is that international law essentially deals with the obligations that states owe to each other and human rights laws, however, encompass additional duties owed by states to individuals and groups, and a special obligation is owed to vulnerable populations and minorities, including women, children and indigenous people. Human rights based principles are still largely voluntary.

Climate change implicates human rights and humanitarian law due to serious threats to numerous well-recognized human rights acknowledged by the Universal Declaration of Human Rights (UDHR) and other international humanitarian instruments.⁴²³ In general human rights and humanitarian principles provide fundamental rights, such as the right to life, to health, to food, to water, and housing to all persons.⁴²⁴ Increase in impoverishment caused by climate change due to shortage of food production in the developing countries is having a negative impact on the recognition of the human

⁴²¹ See id.

⁴²² See generally supra note 413-415

⁴²³ “Many well recognized rights contained in the UDHR and other international instruments are significantly threatened by the impacts of climate change.” Ms Kyungwha Kang Deputy High Commissioner for Human Rights, Office of the United Nations High Commissioner for Human Rights, address to Conference of the Parties to the United Nations Framework Convention on Climate Change and Kyoto Protocol. Dec. 13-14 2007, Bali, Indonesia, available at <http://www.unhchr.ch/huricane/hurricane.nsf/view01/013DC0FAA475EC87C12573B1007479> (last visited Apr.05, 2012)

⁴²⁴ HRC Resolution 10/4, preamble. Cited in Margit Ammer and Ludwig Boltzmann, SWISS INITIATIVE TO COMMEMORATE THE 60TH ANNIVERSARY OF THE UDHR PROTECTING DIGNITY, AN AGENDA FOR HUMAN RIGHTS RESEARCH PROJECT ON CLIMATE CHANGE: CLIMATE CHANGE AND HUMAN RIGHTS: THE STATUS OF CLIMATE REFUGEES IN EUROPE, INSTITUTE OF HUMAN RIGHTS (June 2009) “The UN Human Rights Council (HRC) recently reaffirmed that impacts of climate change would have direct and indirect implications for the effective enjoyment of human rights, e.g. the right to life, the right to adequate food, the right to the highest attainable standard of health, the right to adequate housing, the right to self-determination and human rights obligations related to access to safe drinking water and sanitation.”

right to food.⁴²⁵ Similarly, the human right of adequate housing, which arises from the right to shelter and from UN Human Settlements declarations, is in peril.⁴²⁶ In February of 2008 (while attending a conference in Geneva) Ms. Kyung-wha Kang, Deputy High Commissioner for Human Rights, approached the issue in more detail.⁴²⁷ A number of humanitarian rights standards to protect persons internally displaced by climate change related disasters are in place but no explicit standards exist to protect the persons migrating across the international borders in response to climate disasters.⁴²⁸ In certain cases victims of climate mixed with conflict crises may qualify for temporary protection or asylum.

A variance in the application of humanitarian standards is discernible in forced or voluntary migration and slow onset migrants, responding to the effects of prolonged drought and migrants of rapid-onset disasters. International scholars have scrutinized international law theories related to climate change migrants. Their discussion covers ethical perspectives and a comparison of nationalist, globalist, and federalist approaches and the issue of international responsibility concerning the human displacement, more specifically beyond their borders. Peter Penz in, “Responsibilities to Climate Change Refugees” discussed the theories to position the potential responsibilities of the globe

⁴²⁵ See HRC Resolution 10/12.

⁴²⁶ OHCHR, REPORT OF THE OFFICE OF THE UNITED NATIONS HIGH COMMISSIONER FOR HUMAN RIGHTS ON THE RELATIONSHIP BETWEEN CLIMATE CHANGE AND HUMAN RIGHTS page?? U.N. Doc. A/HRC/10/61 (Jan. 15, 2009). The OHCHR published its report on climate change and human rights in January 2009. The report is based on submissions from states, international agencies, and non-governmental organizations.

⁴²⁷ Id. Also see Kyung-wha Kang Deputy High Commissioner for Human Rights, address in the, Conference on Climate Change and Migration: Addressing Vulnerabilities and Harnessing Opportunities, 19.02.2008, Geneva. Cited in Margit Ammer and Ludwig Boltzmann, SWISS INITIATIVE TO COMMEMORATE THE 60TH ANNIVERSARY OF THE UDHR PROTECTING DIGNITY: AN AGENDA FOR HUMAN RIGHTS RESEARCH PROJECT ON CLIMATE CHANGE: "CLIMATE CHANGE AND HUMAN RIGHTS: THE STATUS OF CLIMATE REFUGEES IN EUROPE" BY INSTITUTE OF HUMAN RIGHTS (June 2009)

⁴²⁸ See id.

towards the climate change refugees.⁴²⁹ States' obligations extend to those beyond their territory, not just to those within it. The right of free movement is fairly a basic human right. Traditionally if such movement is confined within state boundaries then primary responsibility rests with the state itself. Human rights law primarily establishes the responsibility of the country of origin in the situations where displaced persons are present within its borders. The country of origin is obliged to safeguard an individual against harm affecting the enjoyment of human rights. Under the Guiding Principles on Internal Displacement, national establishments have the primary duty and responsibility to provide protection and humanitarian assistance to internally displaced persons within their jurisdiction.⁴³⁰

In the case of internal displacement, the principle of non-interference in international law hinders global assistance. Non-consensual relief efforts are viewed as a challenge to the sovereignty of the state. In a situation where displacement spills over the state borders and there are no agreements between the states, ethical considerations demand the host state to open its borders to facilitate such displacement. Climatees have the right to move out of harm's way, and others, including host states, have the responsibility to facilitate and accommodate them. States are generally responsible not only for ensuring that their own conduct does not violate human rights, but also for protecting against interference with human rights from other sources, including private actors.⁴³¹

⁴²⁹ See, Peter Penz, RESPONSIBILITIES TO CLIMATE CHANGE REFUGEES, 155-167 (2010)

⁴³⁰ See Guiding Principle 1998 2(1), AU Convention Article 5(1).

⁴³¹ Hum. Rts. Comm., General Comment 31: The Nature of the General Legal Obligation

There are various ambiguities and gaps in human rights and humanitarian law, which leave many Climatees unprotected and vulnerable. In general human rights principles obligate states to safeguard the life and property of those within a state's territory against threats of disaster and foreseeable harm. The Guiding Principles on Internal Displacement and the African Union Convention for the Protection and Assistance of Internally Displaced Persons provide a framework for a human rights-based approach in protecting and assisting internally displaced persons, which is pertinent to climate change induced displacement.⁴³² In March 2008 the UN Human Rights Council decided to investigate the issues of human rights and climate change.⁴³³ Growing humanitarian needs of climate change migrants demand that we must go well beyond the current conventional capacities of humanitarian actors. A second Human Rights Council resolution (March 31, 2009) acknowledged that, climate change-related impacts have a range of implications, both direct and indirect, for the effective enjoyment of human rights.⁴³⁴

4.7 GUIDING PRINCIPLES ON INTERNAL DISPLACEMENT

Guiding Principles on Internal Displacement deal with displaced people within their own country's borders. Primarily it deals with only those displaced by conflicts,

Imposed on States Parties to the Covenant, ¶ 8, CCPR/C/21/Rev.1/add.13 (2004).

⁴³² A Human Rights-Based Approach to Protection of Environmentally Displaced Persons, Internal Displacement, Climate Change, Human Rights, Nansen Conference on Climate Change and Displacement, June 7, 2011 in Oslo, Norway. Available at Brookings, http://www.brookings.edu/speeches/2011/0607_beyani_nansen.aspx (last visited Oct. 26, 2011).

⁴³³ See *id.*

⁴³⁴ G.A. Res. 10/4, U.N. Doc. A/HRC/10/L.11 (Mar. 31, 2009). Cited in, Elizabeth Burleson, Climate Change Displacement to Refuge, 25 J. ENVTL. L. & LITIG. 19 (2010).

disasters or development projects.⁴³⁵ These principles are derived from international humanitarian law, international human rights law and refugee law. The Guiding Principles therefore reflect important areas of existing international human rights law, international humanitarian law, and international refugee law by analogy. These principles interpret the responsibilities of national authorities to prevent displacement, to respond to the needs of those who have been displaced and to support durable solutions for their displacement. The Guiding Principles make national authorities responsible to prevent displacement and to respond to the needs of those who have been displaced. For the protection of the rights of those affected by the natural disasters, international organizations have adopted the Operational Guidelines on the Protection of Persons in Situations of Natural Disaster.⁴³⁶ International human rights law applies to those who have been displaced, relocated or resettled regardless of the causes.

Researchers have concluded that most environmentally induced migrants and displaced people will move within their own countries. Forced migrants are likely to be internally displaced.⁴³⁷ Many face challenges and have needs similar to conflict-induced displaced persons. For the internally displaced persons in general there is still a severe protection deficit. The protection and assistance of slow onset disasters largely depend on whether or not international organizations include them in their mandates.

⁴³⁵ See *supra* note 430

⁴³⁶ See UN GUIDING PRINCIPLES ON INTERNAL DISPLACEMENT, INTRODUCTION, SCOPE AND PURPOSE, (1998).

⁴³⁷ *Id.* Kolmannskog *supra* note 416.

4.8 REGIONAL AGREEMENTS

THE AFRICAN CHARTER AND CARTAGENA DECLARATION'S

Regional human rights instruments offer broader definitions of refugees than the Refugee Convention, but have yet to extend refugee status to the context of climate change.⁴³⁸ The Organization of African Unity (OAU)⁴³⁹ the Convention Governing the Specific Aspects of Refugee Problems in Africa entails a broader secondary definition that would encompass climate refugees. It states, “The term refugee shall also apply to every person who, owing to external aggression, occupation, foreign domination, or events seriously disturbing public order in either part or the whole of his country or nationality, is compelled to leave his place of habitual residence in order to seek refuge in another place outside of his country of origin or nationality.”⁴⁴⁰ The 1984 Cartagena Declaration on Refugees, which relates to the refugee situation in Central America is considered directly inspired by the 1969 OAU Convention, and does not include environmental refugees in the definition but its wider definition could relate to the disaster related displacement.⁴⁴¹

The U.N. University Institute for Environment and Human Security commented on the regional conference in these words, “Definition of a situation of seriously disturbed

⁴³⁸ See OAU CONVENTION GOVERNING THE SPECIFIC ASPECTS OF REFUGEE PROBLEMS IN AFRICA, Adopted on Sep. 10, 1969 by the Assembly of Heads of State and Government. CAB/LEG/24.3. Also see Cartagena Declaration on Refugees of 1984, adopted by the Colloquium on the International Protection of Refugees in Central America, Mexico and Panama, held at Cartagena, Colombia from 19-22 November 1984.

⁴³⁹ The Organization of African Unity (OAU) is a regional organization of African countries.

⁴⁴⁰ OAU CONVENTION GOVERNING THE SPECIFIC ASPECTS OF REFUGEE PROBLEMS IN AFRICA, see *supra* note 438.

public order that comes closest to some form of official international recognition which could potentially encompass those compelled to leave their country of origin due to environmental factors. However, these Conventions only apply to individuals living within the African and Latin-American regions and do not draw attention to environmental issues specifically.”⁴⁴²

Nonetheless considering the complications in the international agreements, the bilateral and regional agreements seem more practical. The Kampala Convention adopted by the African Union is the first treaty to expressly recognize climate change as a form of natural or human made disaster. The Convention includes an obligation to take measures to protect and assist persons who have been internally displaced due to natural or human made disasters, including climate change.⁴⁴³

4.9 RECENT DEVELOPMENT IN INTERNATIONAL ORGANIZATIONS

AND THE CLIMATE REGIME NEGOTIATIONS PROCESS: STOCKHOLM TO DURBAN

The discussion so far has demonstrated the fact that there is no legally binding,⁴⁴⁴

⁴⁴² See generally Fabrice Renaud, and Janos J. Bogardi, Olivia Dun, Koko Warner, Control, Adapt or Flee: How to Face Environmental Migration? available at <http://www.ehs.unu.edu/file/get/3973> (last accessed Apr. 08, 2012).

⁴⁴³ KAMPALA CONVENTION Art. 5(4). The Kampala Convention was adopted by the African Union on Oct. 22, 2009, but is not yet in force.

⁴⁴⁴ A legally binding agreement is one that governments have entered with express intent to comply and the highest level of will, often requiring ratification by domestic institutions and thus creating the highest expectations of compliance. Agreements that do not meet these criteria may be ethically or politically binding rather than legally binding. See generally J. Werksman, Law and Disorder: Will the Issue of Legal Character Make or Break a Global Deal on Climate? The German Marshal Fund of the United States,

international agreement that identifies and protects the climate change-related movement. The constant increase in the dramatic impacts of climate change and the rise in the scale of population movement due to disastrous events have created a new imperative for global action on climate change. Recent climate-related events, such as the displacement of more than twenty million persons after massive flooding in Pakistan in 2010,⁴⁴⁵ reinforce the need for broad multilateral cooperation. The focus of this section is the climate change regime, (a set of international, national and sub-national institutions and actors involved in addressing climate change) to ascertain the available protection to climatic displacement. Do the existing climate change instruments, which include the United Nations Framework Convention on Climate Change (UNFCCC),⁴⁴⁶ its associated Kyoto Protocol,⁴⁴⁷ the Copenhagen Accord,⁴⁴⁸ the Cancun Agreement,⁴⁴⁹ and Durban Agreement⁴⁵⁰ proffer sufficient protection to those displaced by enduring change in the

Climate and Energy Program, Policy Brief (July 2010) available at http://www.gmfus.org/galleries/ct_publication_attachments/Werksman_law_Jul10_final.pdf (last accessed Apr. 28, 2012).

⁴⁴⁵ Estimates of the numbers of people expected to be displaced by climate change range from fifty millions to one billion over the next fifty years. In August of 2010, massive flooding submerging one-fifth of the country's land mass displaced more than twenty millions citizens in Pakistan. For more details see, Refugees International, PAKISTAN: FLOOD SURVIVORS STILL STRUGGLING TO RECOVER, <http://www.refugeesinternational.org/policy/field-report/pakistan-flood-survivors-still-struggling-recover> (last visited Dec. 15, 2011).

⁴⁴⁶ United Nations Framework Convention on Climate Change was signed on May. 09 1992 in Rio de Janeiro and entered into force on Mar. 21, 1994, UNFCCC 1771, U.N.T.S. 107, available at http://unfccc.int/essential_background/convention/items/6036.php (last visited Mar. 08, 2012).

⁴⁴⁷ The Kyoto Protocol entered into force on Feb. 16, 2005. The Protocol to the UNFCCC was adopted at the third session of the Conference of the Parties (COP 3) in Kyoto, Japan, on Dec. 11, 1997. UNFCCC, Status of Ratification of the Kyoto Protocol available at http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php (last visited Mar. 08, 2012).

⁴⁴⁸ Copenhagen Accord, Decision 2/CP.15 taken by the 15th Conference of the Parties to the UNFCCC, December 18, 2009, Doc. FCCC/CP/2009/11/Add.1, §3, available at <http://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf>. (last visited Mar. 08, 2012). A salient feature in Copenhagen agreement is the pledges by industrialized countries to provide \$100 billion by 2020.

⁴⁴⁹ The agreements, reached on Dec. 11, in Cancun, Mexico, at the 2010 United Nations Climate Change Conference. The negotiators from 193 countries were able to agree on a set of texts, collectively known as the Cancun Agreements, which address a suite of issues of fundamental importance to long-term climate policy. The Cancun agreements are available at http://unfccc.int/meetings/cancun_nov_2010/items/6005.php (last accessed Apr. 08, 2012).

⁴⁵⁰ The negotiators managed to thrash out an agreement to begin a new round of talks on a new agreement in the years ahead. The "Durban Platform for Enhanced Action" commits all countries to cutting carbon for

climate?

The UNFCCC is considered a central platform to deal with the climate related issues. The climate change negotiation process commenced in Stockholm in 1972 leading to adoption of a climate change treaty in Rio de Janeiro during the Earth Summit in 1992.⁴⁵¹ One hundred and ninety five countries including the US have ratified the UNFCCC.⁴⁵² In 1994, the Kyoto Protocol, the only agreement with legally binding, specific, and mandatory commitments to reduce greenhouse gas emissions, was signed. Currently, there are 192 Parties (191 States and 1 regional economic integration organization) to the Kyoto Protocol to the UNFCCC. All major developed nations except the United States of America are parties to the protocol.⁴⁵³

Scholars are of the opinion that climate regime falls well short of promoting needed action to effect positive change. There is no legally binding⁴⁵⁴ international agreement that identifies and protects climate refugees. UNFCCC, the international regime dealing with the climate change primarily offers proposals and actions dealing with the mitigation and adaptation actions.⁴⁵⁵ UNFCCC has limitations as a framework

the first time. It is considered a "road map" that will guide countries towards a legal deal to cut carbon in 2015, Details of the agreement can be viewed at UNFCCC website

http://unfccc.int/meetings/durban_nov_2011/meeting/6245.php (last visited Apr. 08, 2012).

⁴⁵¹ See supra note 446

⁴⁵² UNFCCC, FIRST STEPS TO A SAFER FUTURE: INTRODUCING THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, available at

http://unfccc.int/essential_background/convention/items/6036.php (last visited Mar. 08, 2012).

⁴⁵³ See supra note 447.

⁴⁵⁴ A legally binding agreement is one that governments have entered with express intent to comply and the highest level of will, often requiring ratification by domestic institutions and thus creating the highest expectations of compliance. Agreements that do not meet these criteria may be ethically or politically binding rather than legally binding. See supra note 444. J. WERKSMAN, LAW AND DISORDER: WILL THE ISSUE OF LEGAL CHARACTER MAKE OR BREAK A GLOBAL DEAL ON CLIMATE?

⁴⁵⁵ See, Informal Group on Migration/Displacement and Climate Change of the IASC, CLIMATE CHANGE, MIGRATION AND DISPLACEMENT: WHO WILL BE AFFECTED? (Oct. 31 2008). IPCC FOURTH ASSESSMENT REPORT available at <http://www.unfccc.int/resource/docs/2008/smsn/igo/022.pdf> (last visited Feb. 11,

for dealing with the displacement. The Inter-Agency Standing Committee (IASC) Working Paper noted, “Neither the UN Framework Convention on Climate Change, nor its Kyoto Protocol, includes any provisions concerning specific assistance or protection for those who will be directly affected by the effects of climate change.”⁴⁵⁶

Awareness of climate refugees is increasing. We list here some developments in the United Nations process: In April 2007, the UN Security Council held an intensive debate on the impacts of climate change on international peace, security and the threat of climate change migration.⁴⁵⁷ In a statement issued on July 20, 2011 the Security Council expressed its concerns in these words; “that the possible adverse effects of climate change could, in the long-run, aggravate certain existing threats to international peace and security and that the loss of territory in some States due to sea-level rise, particularly in small low-lying island States, could have possible security implications.”⁴⁵⁸ The UN General Assembly adopted a resolution in June 2009, titled “Climate change and its possible security implications.”⁴⁵⁹ In March 2008, the UN Human Rights Council adopted the Resolution “Human Rights and Climate Change.” It was decided that the Office of the UN High Commissioner for Human Rights (OHCHR) would initiate a UN-

2012). Also see, UNCHR at, www.unhcr.org/refworld/docid/4a2d189e0.html (last visited Feb. 11, 2012).

⁴⁵⁶ See id.

⁴⁵⁷ UN Security Council, SECURITY COUNCIL HOLDS FIRST EVER DEBATE ON IMPACT OF CLIMATE CHANGE PEACE, SECURITY, HEARING OVER FIFTY SPEAKERS (Apr. 17, 2007), SC 9000 available at <http://www.un.org/News/Press/docs/2007/sc9000.doc.htm> (last visited Apr. 08, 2012).

⁴⁵⁸ UN Security Council in a Statement Says “Contextual information on possible security implications of climate change important when climate impacts drive conflict, “Make No Mistake”, Says Secretary-General, “climate Change not only exacerbates threats to peace and security, It is a threat to international peace and security”, UN Security Council, SC 10332 available at UN website, <http://www.un.org/News/Press/docs/2011/sc10332.doc.htm> (last visited Apr. 08, 2012).

⁴⁵⁹ UN General Assembly, GENERAL ASSEMBLY EXPRESSING DEEP CONCERN, INVITES MAJOR UN ORGANS TO INTENSIFY EFFORTS IN ADDRESSING SECURITY IMPLICATIONS OF CLIMATE CHANGE, SIXTY-THIRD GENERAL ASSEMBLY PLENARY 85TH MEETING (AM) (June 03, 2009) GA 10830 available at <http://www.un.org/News/Press/docs/2009/ga10830.doc.htm> (last visited Apr. 08, 2012).

study on the relation between human rights and global warming.⁴⁶⁰ In March 2008 Javier Solana, High Representative for the Common Foreign and Security Policy, Secretary-General of the Council of the European Union, and Benita Ferrero-Waldner, European Commission, advocated legal action climate migration in a high-profile report. The report asked the European Union to take measures to deal with climate change impacts, like climate change migration. A few more activities are worth mentioning, which raised the issue of climate change displacement. The emergence of climate displacement in the UNFCCC negotiation process is the most significant move. In 2007, the research and the humanitarian communities helped bring the issue of human displacement to the UNFCCC climate negotiations process.⁴⁶¹ In the sixth session of the Ad Hoc Working Group on Long-Term Cooperative Action (AWG-LCA) under the Convention in Bonn, Bangladesh called for provisions and financing mechanisms related to the protection of climate refugees.⁴⁶² Michael Zammit Cutajar, chair Ad hoc Working Group on long-term Cooperative Action (AWG-LCA) had compiled an assembly document for the COP 14 meeting in Poznan, which mentioned migration for the first time.⁴⁶³ The Cancun Agreement, the outcome of COP 16, adopted on 11 December 2010 in Cancun,

⁴⁶⁰ UN Human Rights, HUMAN RIGHTS AND CLIMATE CHANGE, OVERVIEW, ACTION BY THE HUMAN RIGHTS COUNCIL, available at <http://www.ohchr.org/EN/Issues/HRAndClimateChange/Pages/HRCClimateChangeIndex.aspx> (last visited Apr. 08, 2012).

⁴⁶¹ Koko Warner, CLIMATE AND ENVIRONMENTAL CHANGE, HUMAN MIGRATION AND DISPLACEMENT: RECENT POLICY DEVELOPMENT AND RESEARCH GAPS, Ninth Coordination Meeting on International Migration, Population Division Department of Economic and Social Affairs United Nations Secretariat, New York, 17-18 February 2011, UN/POP/MIG-9CM/2011/10

⁴⁶² See id.

⁴⁶³ FCCC/AWGLCA/2009/16/Rev.1 paragraphs 63(g) on measuring, verifying, and reporting of emissions reductions (section C, ILO submission); paragraph 112(f) and 112(h) in (section D, UNU submission, IASC and UNU submissions). <http://unfccc.int/resource/docs/2008/awglca4/eng/16r01.pdf>. Also see, Dr. Koko Warner, CLIMATE AND ENVIRONMENTAL CHANGE, HUMAN MIGRATION AND DISPLACEMENT: RECENT POLICY DEVELOPMENTS AND RESEARCH GAPS, United Nations University, Institute for Environment and Human Security (UNUEHS)

Mexico,⁴⁶⁴ directly touched the issue of climate change displacement.⁴⁶⁵ The AWG-LCA⁴⁶⁶ in the paragraph 14 (f) recognizes the significance of the movement of people triggered by climate change. The language of the paragraph as agreed by the parties is as following; “Measures to enhance understanding, coordination and cooperation with regard to climate change induced displacement, migration and planned relocation, where appropriate, at national, regional and international levels.”⁴⁶⁷ The tasks of the AWG-LCA were to explore in greater detail the proposals from Parties and Observers on elements for “enhanced action on adaptation and mitigation and the associated enabling and supporting actions.”⁴⁶⁸ Dr. Koko Warner, United Nations University – Institute for Environment and Human Security (UNU-EHS), outlined the process by which the issue of human migration and displacement entered into the UNFCCC climate negotiations. He noted, “With the inclusion of climate induced displacement, migration, and planned relocation in the Cancun Adaptation Framework, many new windows of opportunity have opened for work on the issue.”⁴⁶⁹

The Copenhagen Agreement refers to reducing vulnerability and building resilience in developing countries but does not consider resettlement of displaced people

⁴⁶⁴ For detailed discussion on how the issue of human migration and displacement is emerging in the UNFCCC climate negotiations, and subsequently into the policy process, see, Dr. Koko Warner, CLIMATE AND ENVIRONMENTAL CHANGE, HUMAN MIGRATION AND DISPLACEMENT: RECENT POLICY DEVELOPMENTS AND RESEARCH GAPS, Population Division Department of Economic and Social Affairs United Nations Secretariat, New York, 17-18 February 2011, UN/POP/MIG-

⁴⁶⁵ UNFCCC Conference of the Parties (2010). Decision -/CP.16. Outcome Of The Work Of The Ad Hoc Working Group On Long-term Cooperative Action Under The Convention. FCCC/AWGLCA/2010; available at http://unfccc.int/files/meetings/cop_16/application/pdf/cop16_lca.pdf.

⁴⁶⁶ The Ad Hoc Working Group on Long-Term Cooperative Action (AWG-LCA), a subsidiary body intended to prepare the ground for a successful climate agreement to succeed (or complement) the Kyoto Protocol was created by UNFCCC climate negotiations by the Conference of the Parties held in 2007 in Bali, Indonesia (COP13).

⁴⁶⁷ See id. Paragraph 14 (f)

⁴⁶⁸ Id. Also see Warner supra note 461

⁴⁶⁹ Id.

as an option.⁴⁷⁰ The Cancun Adaptation Framework contented itself with encouraging States to carry out “measures to enhance understanding, coordination and cooperation with regard to climate change induced displacement, migration and planned relocation, where appropriate, at national, regional and international levels.”⁴⁷¹

4.10 CONCLUSION

The discussion and investigation of various forms of currently available protection for the climatic displacement revealed that there are gaps in the existing international human rights protections and humanitarian assistance regime. Presently human rights law and humanitarian principles do not clearly apply to persons displaced by the climate change. Whereas the climate change regime is concerned, the focus of major development in international law with respect to climate change has been mitigation and very little has been built up with respect to adaptation and climate change related human mobility. The international climate change regime, (UNFCCC and the Kyoto Protocol to the UNFCCC) has no specific provisions to deal with the dilemma of climate change displacement. The issue of climate change-induced displacement seems to be muddled up in the politics of climate change. No proposal has surfaced to offer a comprehensive road map or a global solution to climate change related displacement. The

⁴⁷⁰ Copenhagen Accord, Decision 2/CP.15 taken by the 15th Conference of the Parties to the UNFCCC, December 18, 2009, Doc. FCCC/CP/2009/11/Add.1, §3, available at <http://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf>.

⁴⁷¹ Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action Under The Convention, Advanced Unedited Version, Adopted by the Conference of the Parties to the UNFCCC, 16th Session, 10 December 2010, available at http://unfccc.int/files/meetings/cop_16/application/pdf/cop_16_1ca.pdf [Cancun AWG-LCA Outcome], §14(f).

UNFCCC has limitations as a framework in dealing with displacement motivated by climate change because human mobility is not the primary focus of the Framework. The institutions directly related to the environmental regime are not designed to address displacement and the issues associated with it. The duties of a state to individuals or communities also are not discussed in the Kyoto protocol.⁴⁷²

This discussion generates questions for further consideration: What forms of protection could be developed as these population movements increase? How can climate change refugees claim reasonable access to the territory of other states and a right to reside in a state other than their domicile? While this thesis in the next chapter seeks to answer the above raised questions, it further progresses to examine the proposals to use existing international law and expand international human rights law to add protection to climate refugees.

⁴⁷² Bonnie Docherty and Tyler Giannini, *Confronting a Rising Tide: A Proposal for a Convention on Climate Change Refugees* 33 HARV. ENVTL. L. REV. 358 (2009).

CHAPTER 5

SPECIFIC INTERNATIONAL REGIME ON CLIMATEES AND GOVERNANCE

5.1 INTRODUCTION

A simple phrase, “climate change is happening now and related displacement is happening tomorrow” seems to be very much correlated to the theme of instant discussion. There is no major disagreement that climate change is happening and its impacts will force people out of their homes. A divergence of opinion on when and where and how many will be displaced confers no excuse for non-action. Logically, immense variance in reasons for and scales of displacement make the issue more complex. Some states may lose large portions of land due to more frequent storms and flooding, coastal erosion and salinization of land by seawater seepage. Small Island States may lose their entire territory or become uninhabitable and unable to support sustainable livelihood. The citizens of these states would be displaced and forced to migrate permanently to other states. Sir Ronald Sanders (Caribbean diplomat and a member of the Eminent Persons Group), in a statement during Commonwealth Heads of Government Meeting which ended October 30, 2011, in Perth Australia) precisely predicted, "Not only will some of them (islands) physically disappear, but in others there will be such severe dislocation of populations that will have to be shifted to God knows where because nobody has made any plans about what to do if such a tragedy occurs."⁴⁷³

⁴⁷³ Phillip Hudson, Commonwealth Leaders Warned About Climate Refugees As Sea Levels Rise, Herald Sun (Oct. 31, 2011, 12 AM). <http://www.heraldsun.com.au/news/more-news/warning-on-climate-refugees/story-fn7x8me2-1226180897531>(last visited Oct. 30, 2011).

As discussed in the preceding chapter, international law leaves Climatees in limbo.⁴⁷⁴ Present national and international legal regimes (environmental and human rights) are not quite adequate to address their very specific needs.⁴⁷⁵ The world leaders are not acting quickly enough on a strategy for the "very serious and grave issue" of climate change, which threatens the existence of small countries in the Pacific and the Caribbean.⁴⁷⁶ Existing international environmental and humanitarian law provide no protection to such migrants. With the exception of only a few, national laws of the state do not open their doors for these ill-fated migrants forced from their habitual domicile.

The instant chapter analyzes different options for climatic displacement management advocated by environmentalists. Is there a need for a new legally binding instrument identifying and protecting climate refugees or extension in the formal legal definition of refugees to include those affected by climate change? Are bilateral agreements sufficient to provide the necessary resources for Climatees' management? What is the role of international administrative law in the migration governance? While this thesis will seek to examine the above queries, it will also look into the emergence of an international response. It will also examine more specifically measures taken by the developed nations to adjust their refugee regimes to accommodate the growing numbers of climatic displacements from the South to the North, historically a choice destination for migrants.

⁴⁷⁴ See discussion in chapter 4

⁴⁷⁵ The Climate Change Displacement Nexus' (address by Prof. Walter Kälin, Representative of the UN Secretary General on the Human Rights of Internally Displaced Persons, to ECOSOC Humanitarian Affairs Segment, 16 July 2008). available at http://www.brookings.edu/speeches/2008/0716_climate_change_kalin.aspx . (last visited Apr. 29, 2012).

⁴⁷⁶ See Statement by Sir Ronald Sanders, available at <http://www.heraldsun.com.au/news/more-news/warning-on-climate-refugees/story-fn7x8me2-1226180897531>(last visited Oct. 30, 2011).

5.2 A NEW PROTOCOL TO THE REFUGEE CONVENTION

Climate refugees are still outside the realm of international laws. It is an accepted fact that deteriorating environmental conditions are likely to displace millions of people. A substantial number of these refugees will cross international borders. Those who are forced to migrate due to climate change hold a lost identity. Presently no legally binding international agreement identifies and protects climate refugees. The present international environmental and human rights laws fail to address the climate change refugee issues amicably. Climate refugees do not fit in the criteria set in the 1951 UN Refugee Convention⁴⁷⁷ but nonetheless they anticipate the same rights as refugees under the 1951 Convention Relating to the Status of Refugees. Experts in refugee law by and large agree that the application of these conventions to Climatee is limited, and persons displaced by climate change would not be the focus of protection under the 1951 Geneva Convention and related Protocol of 1967. A restrictive definition of a refugee is deliberately promoted in the existing jurisprudence. To ascertain that a person displaced by climate change has been “persecuted” as required by the Refugee Convention is difficult. The international community is not geared up to acknowledge climate refugees the same way it recognizes the refugees fleeing persecution. Further, most of those displaced by climate change are expected to remain within their home states. They will not find themselves outside their country of the origin as required by the 1951 Convention to qualify as refugees.⁴⁷⁸

A group of concerned international jurists advocates a modification in the

⁴⁷⁷ A few scholars believe that environmental refugees fit in the definition of the 1951 Refugee Convention. For example Jessica B. Cooper argues that environmental refugees already fall within the 1951 Refugee Convention. See, Jessica B. Cooper, *Environmental Refugees: Meeting the Requirements of the Refugee Definition*, 6 N.Y.U.ENVTL. L.J. 480 (1998).

⁴⁷⁸ See supra note 413. 1951 Refugee requires that a person must be outside the country to claim asylum.

definition of refugee to accommodate the inclusion of climate change refugees in the convention. An option to draft a protocol along the lines of the 1967 Protocol relating to the Status of Refugees is considered a more appropriate tool to change the current definition of refugees to facilitate climate change refugees. This proposal of a protocol to the 1951 Convention Relating to the Status of Refugees became more popular among the human rights law experts for two reasons. One practical reason is that the 1967 Protocol had been adopted successfully previously. Moreover a protocol bears the least procedural obstacles compared to a new convention. In 2006, delegates to a meeting organized by the Maldives Government proposed an amendment to the 1951 Convention, extending it to include climate refugees.⁴⁷⁹

A number of human rights campaigners oppose extending the definition to include another group of refugees as well. They are concerned that inclusion of climate change refugees in the 1951 Convention would weaken the international protection for refugees with “a well-founded fear of persecution.”⁴⁸⁰ Criticism from human rights activists is based on the fear that use of the phrase “climate refugees” by climate change NGOs will blur the refugee issue.⁴⁸¹ The UNHCR, the leading UN agency responsible for refugee affairs, oppose the proposal to revise the 1951 Convention on the Status of Refugees to include climate refugees and to offer legal protections similar to those for refugees fleeing political persecution. The UNHCR claims that it might undermine international legal protections for refugees and present a potentially misleading link

⁴⁷⁹ See supra note 477

⁴⁸⁰ Id.

⁴⁸¹ Id,

between climate change and migration.⁴⁸²

Evidently the object and purpose of the agreement on refugees is narrowly specified in the Convention. The parties to the Convention intended the restricted applicability of the Refugee Convention to discourage an extension of the refugee definition beyond political persecution.⁴⁸³ Critics claim that the revision in the definition does not effectively resolve the emerging climate refugee crisis. Besides, it is highly uncertain that such a proposal is even politically feasible. The United Nations agency dealing with refugees, UNCHR is already overwhelmed with traditional refugees. At present it is handling approximately ten million refugees worldwide. Realistically it is not capable of handling fifteen to twenty-five times more refugees because most receiving States actually want to restrict the refugee regime further.⁴⁸⁴ The UN refugee regime is already under steady pressure from developed nations that seek to limit interpretation of its provisions.

The odds of an agreement to extend the same level of protection to climate refugees, a much larger group than current group of traditional refugees, are slim. Moreover, extending the current UN refugee regime will raise difficult moral issues. In a majority of cases climate refugees may not have to leave their countries. Under the principles of international law, the primary responsibility of their protection lies with their own state's government. Resettlement of displaced communities in the case of

⁴⁸² United Nations High Commission for Refugees, HANDBOOK ON PROCEDURES AND CRITERIA FOR DETERMINING REFUGEE STATUS UNDER THE 1951 CONVENTION AND THE 1967 PROTOCOL RELATING TO THE STATUS OF REFUGEES, ch. II.B.(2)(b), U.N. Doc. HCR/1P/4/Eng. Rev. 1 (1979) (reedited Jan. 1992), available at <http://www.unhcr.org/publ/PUBL/3d58e13b4.pdf> (last visited Oct. 23, 2011).

⁴⁸³ Id.

⁴⁸⁴ See id.

climate refugees will usually take place within their own countries with a few exceptions where the whole country or a major portion of it will submerge under water in which case settlement would take place outside their own territory.⁴⁸⁵ Above and beyond this, it is asserted that to some extent the protection of climate refugees is a development issue. Thus, it is well argued that climate displacement demands preventive measures to avoid or minimize any displacement. For both prevention and development of resettlement projects, adaptation is claimed to be the best venue. Whereas regime is concerned, instead of UNHCR, the UN Development Program (UNDP)⁴⁸⁶ and the World Bank are asserted to be more suitable institutions.⁴⁸⁷

At the present time refugees may not be able to navigate the developed world to assert their privileges and legal right to protection afforded by international law. Recently, the developed countries have been intensifying border security systems to stem immigration of refugees. These nations have adopted new and stricter immigration rules and more stringent enforcement of laws dealing with migrants. In most of the cases refugees are in a unique situation. They lack the resources or are pressed by time to obtain the travel documents prior to their entry into other countries. In the case of sudden displacement the situation is even worse. People are forced to leave having no opportunity to plan their departure or gather travel documents.

⁴⁸⁵ Bonnie Docherty and Tyler Giannini, *Confronting a Rising Tide: A Proposal for a Convention on Climate Change Refugees* 33 HARV. L. REV. 349, 352 (2009).

⁴⁸⁶ UN Development Programme (UNDP), *A WORLD OF DEVELOPMENT EXPERIENCE*, http://www.undp.org/content/undp/en/home/operations/about_us.html (last visited Apr. 08, 2012). “UNDP is the United Nations' global development network, an organization advocating for change and connecting countries to knowledge, experience and resources to help people build a better life.”

⁴⁸⁷ The World Bank, *Projects & Operations*, <http://www.worldbank.org/projects> (last visited Apr. 08, 2012). The World Bank carries out projects and provides a wide variety of analytical and advisory services to help meet the development needs of individual countries and the international community. World Bank has handled several development related settlement programs.

5.3 A NEW CONVENTION TO DEAL WITH THE CLIMATE DISPLACEMENT

Climatees⁴⁸⁸ lack needed attention in contrast to the conventional refugees. Conventional refugees are defined in 1951 Refugee Convention⁴⁸⁹ and UNHCR (a United Nations' agency committed to refugee's affairs) is authorized to protect and assist refugees fleeing persecution as recognized in the Convention.⁴⁹⁰ Taking into account that climate change displacement is a global problem and a global responsibility, Climatees require the same treatment as political refugees or permanent immigrants when they cannot return to their homes.⁴⁹¹ Neither the existing climate change regime nor prevailing refugee laws adequately provide protection for Climatees. The UNFCCC (the only climate change regime) does not acknowledge climatic displacement at all.⁴⁹² The refugee convention, as discussed, covers only individual⁴⁹³ political refugees who flee their countries because of state-led persecution based on race, religion, political opinion or ethnicity.⁴⁹⁴

In an attempt to deal with Climatees dilemma, vastly diverse propositions are being pressed forward. It is widely believed that a need for a new legally binding

⁴⁸⁸ See chapter 3.3.6 for Climatees definition.

⁴⁸⁹ See chapter 4.5

⁴⁹⁰ UNHCR was organized under the General Assembly Resolution 428 (V) of 14 December 1950. Chapter I section 1 of the Statute of the Office of the United Nations High Commissioner for Refugees, states: "The United Nations High Commissioner for Refugees, acting under the authority of the General Assembly, shall assume the function of providing international protection, under the auspices of the United Nations, to refugees who fall within the scope of the present Statute and of seeking permanent solutions for the problem of refugees by assisting Governments and subject to the approval of the Governments concerned, private organizations to facilitate the voluntary repatriation of such refugees, or their assimilation within new national communities." See Statute of the Office of the United Nations High Commissioner for Refugees, Chapter 1 General Provision, 1. Available at <http://www.unhcr.org/3b66c39e1.html> (last visited Apr. 09, 2012).

⁴⁹¹ Benoît Mayer, The International Legal Challenges of Climate-induced Migration: Proposal for an International Legal Framework 22 COLO. J. INT'L. ENVTL. L. & POL'Y 3, 6 (2011).

⁴⁹² See supra note 455

⁴⁹³ See supra 482

⁴⁹⁴ See chapter 4.5

instrument identifying and protecting Climatees, from individuals to entire nations, is inevitable.⁴⁹⁵ A new agreement must support emergency relief responses by national governments to protect displaced people and provide voluntary resettlement and reintegration where it is necessary.

One proposal suggests that such an instrument should be part of the United Nations Framework Convention on Climate Change (UNFCCC).⁴⁹⁶ Another proposal favors a stand-alone convention explicitly tailored for climate refugees. Most noteworthy submissions of new conventions and protocol come from Frank Biermann and Ingrid Boas,⁴⁹⁷ Docherty and Giannini of Harvard Law School,⁴⁹⁸ Michel Prieur,⁴⁹⁹ and Tess Burton, and David Hodgkinson.⁵⁰⁰ Activists and academia are currently discussing these drafts with the international community to be signed as an agreement.

Earlier support for a new international convention has come from various organizations especially New Economics Foundation. In 2003 the Foundation suggested

⁴⁹⁵ See E. J. Foundation, available at <http://www.ejfoundation.org/page563.html> (last visited Apr. 29, 2012).

⁴⁹⁶ UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC), UN Doc.A//CONF.151.26

⁴⁹⁷ Frank Biermann and Ingrid Boas Call For A Protocol To The UNFCCC To Deal With Climate Change Displacement. Frank Biermann & Ingrid Boas, PREPARING FOR A WARMER WORLD: TOWARDS A GLOBAL GOVERNANCE SYSTEM TO PROTECT CLIMATE REFUGEES 8 (2007). Mike Hulme criticizes Frank Biermann and Ingrid Boas for their proposed Protocol for the Recognition, Protection, and Resettlement of Climate Refugees. He observed the considerable errors in the proposed protocol. "I remain unconvinced about the need or viability of such a protocol." Mike Hulme stressed. He insisted that migration is best handled within existing and evolving development and adaptation discourses and practices. Mike Hulme Commentary, Climate Refugees: Cause for a New Agreement? *Env't. Sci. & Poly Sustainable Development* (Nov./Dec. 2008). Available at <http://www.environmentmagazine.org/Archives/Back%20Issues/November-December%202008/hulme-full.html> (last visited Nov. 06, 2011).

⁴⁹⁸ Bonnie Docherty and Tyler Giannini, Confronting a Rising Tide: A Proposal for a Convention on Climate Change Refugees, 33 *HARV. L. REV.* 349, 352 (2009).

⁴⁹⁹ Michel Prieur, Draft Convention on Environmentally Displaced Persons, 42/43 *URB. LAW.* 247-257 (2010/11).

⁵⁰⁰ David Hodgkinson, Tess Burton, Heather Anderson and Lucy Young, Hour When The Ship Comes In: A Convention for Persons Displaced by Climate Change (2009) available at www.ccdpconvention.com/documents/Hour_When_Ship_Comes_In.pdf

a new international convention "focusing on people whose way of life is being destroyed by a lost, ruined or degraded environment."⁵⁰¹ The Council of Europe's parliamentary assembly also has put forward the idea of a European Union convention for environmental migrants.⁵⁰² The Norwegian Refugee Council suggested that a convention might provide legal status and protection for the "environmental refugee/migrant".⁵⁰³ Angela Williams in "Turning the Tide: Recognizing Climate Change Refugees in International Law" has suggested regional efforts under the UNFCCC umbrella.⁵⁰⁴

From all the proposals of a new convention on climate change refugees, one put forth by Australian lawyers, Tess Burton and David Hodgkinson, drew a lot of attention from scholars. They observe that the existing UN refugee convention would not shield people forced from their homes by global climate change. They proposed a draft of a convention particularly for such people (Climatees).⁵⁰⁵ The convention proposal is annexed to their 2008 research note.⁵⁰⁶ To justify his proposal, Hodgkinson, one of the authors, noted that human rights activists have concerns that extending the refugee convention to cover climate change refugees would weaken international protection for

⁵⁰¹ Daniel Nelson, A Treaty for Climate Refugees? One World, available at <http://uk.oneworld.net/article/view/162390/1/7232> (last visited Apr. 09, 2012).

⁵⁰² Council of Europe, Parliamentary Assembly, ENVIRONMENTALLY INDUCED MIGRATION AND DISPLACEMENT: A 21ST CENTURY CHALLENGE REPORT COMMITTEE ON MIGRATION, REFUGEES AND POPULATION, Doc 11785 available at <http://assembly.coe.int/Main.asp?link=/Documents/WorkingDocs/Doc08/EDOC11785.htm> (last visited Apr. 09, 2012).

⁵⁰³ Vikram Odedra Kolmannskog, FUTURE OF FLOODS OF REFUGEES (April 2008) available at http://www.nrc.no/arch/_img/9268480.pdf (last accessed Apr. 09, 2012).

⁵⁰⁴ Angela Williams, Turning the Tide: Recognizing Climate Change Refugees in International Law, 30 L. & POL'Y 502 (2008).

⁵⁰⁵ David Hodgkinson et al., Towards a Convention for Persons Displaced by Climate Change: Key Issues and Preliminary Responses, The New Critic Issue 8 page 2 (Sep. 2008), available at <http://www.ias.uwa.edu.au/new-critic/eight/?a=87815> (last visited Apr. 09, 2012).

⁵⁰⁶ See id.

political refugees.⁵⁰⁷ He further commented that many of those displaced by climate change would remain in their own countries, calling for a different relief based on adaptation. Hodgkinson, advocating his proposal of a new convention, observes that the proposed convention solely for climate change refugees would help in planning for a future of mass displacement sufferers and would allow time for preparedness to avoid panic reactions. The proposed convention, would give “certainty and consistency”, provide a mechanism for governments to act together, undertake research to plan and prepare for the impacts of large-scale displacement, and establish a fund to help pay for resettlement as well as for climate adaptation and mitigation measures”, he added.⁵⁰⁸ As justified in the discussion note, “the proposed convention would be informed by the principles of equity, and common but differentiated responsibilities and respective capabilities.⁵⁰⁹ It further states that obligations under the convention would, in some form and to some extent, be determined by parties’ responsibilities for greenhouse gas emissions.⁵¹⁰ Authors in the discussion note list a number of problems and principles, which include: “(i) defining persons displaced by climate change; (ii) identifying the normative basis of the convention; (iii) problematizing the question of who the convention is for; (iv) raising questions about vulnerability and migration; conceptualizing migration as a form of adaptation; and (v) suggesting some principles that might inform the research programmed proposed as part of the convention.”⁵¹¹

⁵⁰⁷ Id.

⁵⁰⁸ Id.

⁵⁰⁹ See supra note 505.

⁵¹⁰ Id.

⁵¹¹ Id.

Another leading proposal for a new convention on climate refugees came from Docherty and Giannini of Harvard Law School in 2009.⁵¹² The proposal, “Confronting a Rising Tide: A Proposal for a Convention on Climate Change Refugees”, justifies the need of a new convention to deal with the problem of refugees motivated by the climate in these words, “the problem of climate-induced migration is sufficiently new and substantial to justify its own legal regime instead of being forced into frameworks which were not designed to handle it.”⁵¹³ The arguments of Docherty and Giannini stress that readily available refugee law and international environmental law instruments are inadequate to deal with the climate change refugees. They note that proposed convention would guarantee human rights protections and humanitarian assistance for climate change refugees.⁵¹⁴ The authors introduced six norms in climate change definition: forced migration, temporary or permanent relocation, movement across national borders, disruption consistent with climate change, sudden or gradual environmental disruption, and a ‘more likely than not standard’ for human contribution to the disruption.⁵¹⁵ The Docherty, Giannini proposal is based on international human rights law, refugee law and instruments of international environmental law.⁵¹⁶ The authors claim that this new convention will help to define the parameters of climate change refugee status, would guarantee human rights protections and humanitarian assistance for climate change

⁵¹² Bonnie Docherty and Tyler Giannini, *Confronting a Rising Tide: A Proposal for a Convention on Climate Change Refugees*, 33 HARV. L. REV. 349, 352 (2009).

⁵¹³ *Id.* at 350

⁵¹⁴ *Id.* at 370, 373.

⁵¹⁵ Geetanjali Ganguly, paper presented May. 28 2011 at the ANU College of Law, ENVIRONMENTAL LAW STUDENT SOCIETY SYMPOSIUM TOWARD RIO+20: CONTEMPORARY ISSUES IN INTERNATIONAL ENVIRONMENTAL LAW, CLIMATE CHANGE, DISAPPEARING STATES AND FORCED HUMAN DISPLACEMENT: THE DESIRABILITY AND MERITS OF A PROTOCOL OR CONVENTION FOR PERSONS DISPLACED BY CLIMATE CHANGE, available at <http://law.anu.edu.au/coast/events/environment/papers/ganguly.pdf> (last visited Nov. 18, 2011).

⁵¹⁶ *Id.*

refugees, would equitably apportion the responsibility of providing assistance to affected regions among member states and would establish an institutional framework comprising a humanitarian agency, a body of scientific experts and a global fund.⁵¹⁷

The convention is criticized for its interdisciplinary approach. Combining international environmental laws and humanitarian laws will maintain the same problems of existing regimes. The convention focuses too much on climate change refugees while ignoring the broader category of both the internally displaced persons (IDP) and cross border migrants.⁵¹⁸ The predictions are that the vast majority of communities adversely affected by climate change will remain within their national borders with the exception of small islands where a major part of the state will submerge under the water making it uninhabitable.⁵¹⁹

The creation of a new convention or a protocol to the Refugee Convention or UNFCCC Framework is backed by a number of researchers while some advocacy groups oppose it. Jane McAdam is a leading opponent of the new convention for climate change refugees. She criticizes the convention proposal of Docherty and Giannini for ignoring the internal displacement by climate change. McAdam argues that a global convention is not a solution to the climatic displacement problem.⁵²⁰ She emphasizes more on development of bilateral and regional agreements in response to individual situations of

⁵¹⁷ See Bonnie Docherty and Tyler Giannini *supra* note 512.

⁵¹⁸ *Id.*

⁵¹⁹ K. K. Moberg, *Extending Refugee Definitions to Cover Environmentally Displaced Persons Displaces Necessary Projection*, 94 IOWA L. REV. 1132(2009). See also, D. Keane, *The Environmental Causes and Consequences of Migration: A Search for the Meaning of Environmental Refugees*, 16 GEO. INT'L ENVTL. L. REV. 213 (2004).

⁵²⁰ Jane McAdam, *Swimming against the Tide: Why a Climate Change Displacement Treaty is Not the Answer*, 23 INT'L. J. REFUGEE L. 1, 4 (2011).

climatic events of displacement. Saul and McAdam both argue that the climate migrant's protection approach should correspond with human rights principles.⁵²¹

This section examines the possible notions of a new convention for climatic displacement and its governance. There are numerous bleak problems with the option to negotiate a completely new convention to guarantee specific rights and protections to climate refugees. A significant distinction exists between persons forcibly displaced and those who move voluntarily in international law. It is extremely difficult to determine and distinguish between a forced or voluntary migration in slow onset disasters such as drought and other environmental degradations. Similarly, in some cases it is hard to determine if disaster is caused by man-made global climate change or is naturally occurring. It would not be easy to negotiate a new convention that depends on the willingness of certain nations to accept obligations and responsibilities towards Climatees based on their contribution in climate change. Considering the direction of the world's economy and increasing security concerns, only a few states may be able to absorb the increasing flow of refugees or provide necessary services for those in need.

Any new convention can only be helpful if it addresses on the focal points of the Climatees' concerns. It should look more on the preventive measures, including necessary steps to avoid the displacement and early settlement where it is necessary and to eliminate the suffering and costs of displacement.

If no one country is capable of coping with the dilemma of Climatees alone, and international agreement is not the precise solution then what is the way forward? One

⁵²¹ J. McAdam And B. Saul, AN INSECURE CLIMATE FOR HUMAN SECURITY? CLIMATE-INDUCED DISPLACEMENT AND INTERNATIONAL LAW 25 (Working Paper No. 4) (Oct. 2008).

option is bilateral agreements. International cooperation based on the needs of each region and mutual economic, social, political, and environmental interests seem more pragmatic. Are the bilateral commitments and measures to address the needs of both host and migrating communities sufficient to cope with such massive devastation? The next section will look into the bilateral approach.

5.4 BILATERAL AGREEMENTS

International law emphasizes “a just settlement of the refugee problem.”⁵²² The impacts of climate change vary by region as well as by the climate refugee’s situation. Climate change is triggering diverse aspects of human movement (internal and international, temporary and permanent, sudden and slow onset). It entails new international legal norms to cope with growing population displacement. Taking into account the scale of human displacement and other social and cultural concerns such as language, culture and heritage, regional and bilateral agreements instead of international mechanisms and conventions offer more rational solutions. Many bilateral and regional associations based on economic, social, political, and environmental interests are already well recognized. It is not only the home refugees leave behind; they lose their historical connections as well. An article in International Bar Association suggests, “Looking to international law alone to solve the problem of climate-induced migrations is unwise.”⁵²³

⁵²² On November 22nd, 1967, the Security Council unanimously adopted, Resolution 242. Security Council S/RES/242(1967)22 November 1967 available at <http://unispal.un.org/UNISPAL.NSF/0/7D35E1F729DF491C85256EE700686136> (last visited Apr. 29, 2012)

⁵²³ Ben Glahn, 2 Climate Refugees? Addressing The International Legal Gaps, in International Bar Association, CLIMATE CHANGE (available at

The author further quotes Jane McAdam, “People... tend to look to international law for solutions, but [it] is not necessarily going to provide solutions on the ground.”⁵²⁴

Bilateral agreements based on economic, social, political, and environmental interests are more suitable to the particular needs of displaced persons. Country and region specific agreements tend to provide needed jobs and education. Free access bestowed in the bilateral agreements alleviates uncertainty of climate change. Bilateral agreements for merits-based migration can provide a useful labor force to a receiving country and remittance by the migrating individuals improves the economic situation of those remaining in the affected country.

The Pacific Access Category (PAC) an agreement between New Zealand and Tuvalu⁵²⁵ is an example of a bilateral cooperation. The PAC awards special immigration status and allows environmental refugees displaced by the effects of climate change to reside in New Zealand.⁵²⁶ There are certain requirements that Tuvaluans must satisfy in order to qualify under the PAC scheme.⁵²⁷ More needs to be done to draw together the countries where climate refugees can be better adjusted. A bilateral agreement between Bangladesh and India to deal with climatic displacement is much needed. Bangladesh is

<http://www.ibanet.org/Article/Detail.aspx?ArticleUid=3E9DB1B0-659E-432B-8EB9-C9AEEA53E4F6> (last visited Dec. 31, 2011).

⁵²⁴ See *id.* Jane McAdam, Director of the International Refugee and Migration Law Project at the University of New South Wales in Australia has written and made plentiful presentations on climate refugees.

⁵²⁵ Tuvalu is comprised of nine island atolls totaling an area of 26 square kilometers. It is located in the Pacific Ocean and is one of the world’s lowest lying countries. The eleven thousands residents of Tuvalu are in serious danger from the ongoing threat of global warming and rising sea levels.

⁵²⁶ Angela Williams, *Turning the Tide: Recognizing Climate Change Refugees in International Law*, 30 L. & POL’Y 515 (Oct. 2008), also available on line at, http://www.muenchner-fluechtlingsrat.de/uploads/Williams_turning_tide.pdf

The PAC agreement establishes a special quota for citizens of Tuvalu, Kiribati, Fiji, and Tonga to be granted residence in New Zealand annually.

⁵²⁷ *Id.*, at 515, the immigration program is limited to those aged between eighteen and forty-five, who have an acceptable offer of employment in New Zealand, and meet a minimum level of English-language ability.

one of those countries where sea level rise will make a part of the country inhabitable leaving up to 20 million homeless. Bangladesh and India not only share very long borders, citizens of the bordering cities in both countries speak the same language⁵²⁸ (Bengali is spoken in bordering west Bengal in India and east Bengal in Bangladesh) and have enjoyed the same culture for centuries. The population assimilation can take place between two countries without sacrificing the dignity and cultural shock to moving and receiving country. Moreover, the education of migrants will be less complicated since the educational systems are similar. Working adults will not need to be re-educated or learn a new language and students will be able to easily transfer to the new schools. A similar bilateral agreement between United States and Mexico would also be beneficial. The US and Mexico have a long history of shared culture and geography, and migration patterns that long pre-date the modern border.⁵²⁹ They have long cooperated on environmental issues⁵³⁰ and have several trade, security and environmental agreements.⁵³¹ A mutual cooperation to accommodate environmental displacement will offer an ideal solution.

Angela Williams in “Turning the Tide” advocates regional and bilateral cooperation. She states, “ However, regional cooperation and bilateral agreements that build on existing geopolitical and economic relationships and, moreover, that allow states to develop responsive policies in a timeframe appropriate to the relative capacity of the

⁵²⁸ Language is considered a basic right. In New York and many other states in US right to speak a language is considered a legal right. The legal system provides the opportunity to speak the native language and courts provide the interpreter services.

⁵²⁹ Marc R. Rosenblum, THE UNITED STATES AND MEXICO: PROSPECTS FOR A BILATERAL MIGRATION POLICY (March 8, 2007), <http://borderbattles.ssrc.org/Rosenblum/index1.html>

⁵³⁰ UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, BILATERAL AND INTERNATIONAL AGREEMENTS, <http://www.epa.gov/international/air/agreements.htm> (last visited Jan. 01, 2012).

⁵³¹ To see the list of bilateral agreements between US and Mexico see, US Department of State, BILATERAL TREATIES AND OTHER AGREEMENTS MEXICO – UNITED STATES, <http://www.usembassymexico.gov/bbf/bftreaties.pdf>

countries involved, appears a model better suited to climate change displacement.”⁵³²

Responses and measures based on bilateral agreements are more localized and directly address the needs of both host and migrating communities. Also such agreements provide time to plan for an appropriate graduated response.

5.5 INTERNATIONAL ADMINISTRATIVE LAW

Even absent a new international agreement, it is possible that international agencies, like International Organization of Migration (IOM), will produce a kind of administrative law to deal with environmentally displaced persons. The issue of climatic displacement is growing in urgency and producing alternative approaches of global governance and of international administrative law. The body of global administrative law is not unified but the patterns of global governance are emerging.⁵³³ Although there is no general administrative law for transnational governance to date, scholars have identified the urgency of international administrative law as a parallel to national administrative law. A variety of fields of administrative law are being created by globalization. Growing numbers of international treaties, organizations and regimes create rules that also shape the substance of national administrative law.

⁵³² See generally, Williams, *supra* note 521

⁵³³ Benedict Kingsbury, Nico Krisch, and Richard B. Stewart, *THE EMERGENCE OF GLOBAL ADMINISTRATIVE LAW INTRODUCTION : THE UNNOTICED RISE OF GLOBAL ADMINISTRATIVE LAW*, available at <http://iilj.org/GAL/documents/TheEmergenceofGlobalAdministrativeLaw.pdf> (last visited Jan. 01, 2012).

How is the global administrative law⁵³⁴ related to environmental administrative law? Benedict Kingsbury, et al. explain, “Environmental regulation is partly the work of non-environmental administrative bodies such as the World Bank, the OECD, and the WTO, but increasingly far-reaching regulatory structures are being established in specialized regimes such as the prospective emissions trading scheme and the Clean Development Mechanism in the Kyoto Protocol.”⁵³⁵ The United Nations High Commissioner for Refugees is conducting refugee status determinations and administering refugee camps in many countries. To deal with the issue of climate change displacement, global administrative law could offer a valuable way forward in structuring global governance and ameliorating some of its problems. Global administrative law can use its classical sources of public international law, treaties, custom, and general principles of law.

The issue of climatic displacement is emerging too rapidly to wait for new agreements and instruments to be adopted. Experts believe that global actions to cope with displacement are behind. Refugees cannot wait for a global consensus on their protection instruments. Some experts argue that international administrative law may not provide assistance to victims of climatic displacement. They state it will not be appropriate to rely solely on international administrative law. Present sources of

⁵³⁴ See id. at 17. Global administrative law is defined as, “global administrative law as comprising the mechanisms, principles, practices, and supporting social understandings that promote or otherwise affect the accountability of global administrative bodies, in particular by ensuring they meet adequate standards of transparency, participation, reasoned decision, and legality, and by providing effective review of the rules and decisions they make. Global administrative bodies include formal intergovernmental regulatory bodies, informal intergovernmental regulatory networks and coordination arrangements, national regulatory bodies operating with reference to an international intergovernmental regime, hybrid public-private regulatory bodies, and some private regulatory bodies exercising transnational governance functions of particular public significance.”

⁵³⁵ Id. at 19.

international administrative law are not sufficient to tackle the problem of such a large scale. Others say it can serve as a key source of protection if there is an evolution in international administrative law.

5.6 ENVIRONMENTAL GOVERNANCE

RIO+20

Climate change will impact the lives of millions worldwide.⁵³⁶ A large number of citizens of coastal and low-lying countries will be forced out of their homes. All projections and predictions indicate large-scale human displacement, which is raising the experts' concern about global environmental governance⁵³⁷ and more specifically climate change governance.⁵³⁸ Are the instruments and mechanisms of international governance capable of addressing the dilemma of climate change migration? If not, what should we expect from RIO+20 in the term of enhancements in the capacity of institutions and mechanisms responsible for climate governance?

⁵³⁶ Achim Steiner, Climate Migration will not Wait for Scientific Certainty on Global Warming, THE GUARDIAN (May 12, 2011). Available at UNEP website <http://www.unep.org/newscentre/Default.aspx?DocumentID=2641&ArticleID=8731&l=en> (last visited Jan, 19, 2011). "according to the research millions are displaced annually as a result of climate disasters."

⁵³⁷ Adil Najam, Mihaela Papa, Nadaa Taiyab, GLOBAL ENVIRONMENTAL GOVERNANCE: A REFORM AGENDA, A PRIMER ON THE GEG REFORM DEBATE, AN EVOLVING SYSTEM OF GLOBAL ENVIRONMENTAL GOVERNANCE, 9 (2006) available at <http://www.iisd.org/pdf/2006/geg.pdf> (last accessed Apr. 09, 2012). Global Environmental Governance (GEG) is defined as: "GEG refers to the sum of organizations, policy instruments, financing mechanisms, rules, procedures and norms that regulate global environmental protection."

⁵³⁸ Id. Also see generally James Meadowcroft, Climate Change Governance, in THE WORLD BANK DEVELOPMENT ECONOMICS WORLD DEVELOPMENT REPORT TEAM MAY 2009 BACKGROUND PAPER TO THE 2010 WORLD DEVELOPMENT REPORT (2010).

As discussed earlier, climate change-induced displacement is a global phenomenon and, thus, demands a global strategy and support.⁵³⁹ The arguments in this section converge on governance mechanisms as they are directly related to the protection of climate displacement. The existing structure of global governance clearly lacks central authority. There is little or no variance in experts' opinion that international institutions lack the capacity to handle the climate-related migration adequately.⁵⁴⁰ Biermann's observations on global climate governance reflect the concerns of many international scholars. He notes, "Overall, the governance system is fragmented, with many agencies and institutions with often overlapping mandates, weak enforcement powers and few financial and other resources at hand. International non-compliance mechanisms are, in most cases, weak and poorly developed."⁵⁴¹ Biermann's diagnosis of climate governance is inclusive and requires no explanations. The current international legal regime affords no explicit protection agreement to climate migrants.⁵⁴² The proposals on how global

⁵³⁹ Frank Biermann, PD16: GLOBAL ENVIRONMENTAL GOVERNANCE AND CLIMATE CHANGE INDUCED MIGRATION, 9 (Oct. 2011), available at <http://www.bis.gov.uk/assets/bispartners/foresight/docs/migration/policy-development/11-1150-pd16-global-environmental-governance-and-climate-migration.pdf> (last visited Jan. 18, 2011). Bierman argues the issue of the climate migration is different than environmental degradation. He argues, "Issues of compensation, liability, and the need for international cooperation are thus more prominent when it comes to climate change-related impacts as opposed to more traditional types of environmental degradation and migration, placing a higher responsibility in particular on the established industrialized countries that have caused most of the emissions that are now warming up the planet."

⁵⁴⁰ There is no agreement on the exact numbers of the climate migrants but all estimates indicate that displacement will take at a large scale. For detailed discussion on how many people will get displaced see chapter 2.

⁵⁴¹ Frank Biermann, PD16: GLOBAL ENVIRONMENTAL GOVERNANCE AND CLIMATE CHANGE INDUCED MIGRATION, available at <http://www.bis.gov.uk/assets/bispartners/foresight/docs/migration/policy-development/11-1150-pd16-global-environmental-governance-and-climate-migration.pdf> (last visited Jan. 18, 2011).

⁵⁴² 1951 GENEVA CONVENTION RELATING TO THE STATUS OF REFUGEES and its 1967 PROTOCOL RELATING TO THE STATUS OF REFUGEES are restricted to individual political refugees only and they do not cover climate-related migration. (for detailed discussion see chapter 4.5 of the thesis.) THE GUIDING PRINCIPLES ON INTERNAL DISPLACEMENT, 1998 AND THE 2006 OPERATIONAL GUIDELINES ON HUMAN RIGHTS AND NATURAL DISASTERS, 'PROTECTING PERSONS AFFECTED BY NATURAL DISASTERS', cover the environmentally displaced persons but offer only assistance of humanitarian agencies. They place primary responsibility on national authorities of affected countries. See chapter 4.7 for more detailed discussion.

governance mechanisms related to climatic displacement could be more effective include: Extension of the definition of the 1951 Geneva Convention to include climate refugees and a new international treaty, a multilateral convention on climate migrants and a protocol on climate-related migration to the United Nations Framework Convention on Climate Change. A new climate governance to address the climate migration rather than a protocol to the 1951 convention or a protocol to the UNFCCC can be achieved only by intergovernmental cooperation in negotiation. A cursory review of the recent climate negotiations shows that the international community is not ready for intergovernmental compromises on their divergent interests.⁵⁴³ Another argument relates to the pace of intergovernmental negotiation process. There are wide variations in nations' interest, as climate will not impact all states evenly.⁵⁴⁴ The convergence of a new treaty and its implementation may take several years based on the current pace of negotiations.

The scholars are optimistic that the 2012 United Nations Conference on Sustainable Development, 'Rio+20',⁵⁴⁵ possibly will offer possible measures of global governance as major projections predict large displacement in the second half of this century. The IOM Outcome Document for RIO + 20 states that the issue of migration is

⁵⁴³ See discussion in chapter 5.3

⁵⁴⁴ Climate will not impact evenly all states but no one is immune from its impacts. For example climate change will decrease the food production in some countries. Shortage of food supply in one part of the world will impact the food prices globally. Large-scale population movements across international borders will increase the influx of the human population in developed countries and large cities worldwide. The massive influx of population will impact the quality of lives by increasing health and security issues in the major cities worldwide.

⁵⁴⁵ Rio+20, United Nations Conference on Sustainable Development will be held in Rio de Janeiro, Brazil, on June 20-22, 2012. See Rio+20 website www.uncsd2012.org/rio20/about.html (last visited Apr. 09, 2012).

important and interlinked with sustainable social and economic development as well as the resilience of populations under environmental stress.⁵⁴⁶

The comments of IOM and UNISDR on the zero draft (based on lessons learned in implementation of the Hyogo Framework for Action: Building the Resilience of Nations and Communities to Disasters and in IOM's responses to population mobility related to environmental degradation and natural disasters) call for five conceptual and substantive issues: any future framework for sustainable development to include a clear understanding and practical measures to reduce the risk of natural hazards; current and emerging risks to be addressed in setting the stage of the Rio+20 outcome document; the existing and ongoing review of progress by countries and partners in the implementation of the HFA to directly inform the assessment of progress in the implementation of sustainable development; prioritization of actions in disaster risk reduction and resilience; and clarification of thinking about the role of disaster risk reduction and migration in the negotiations.⁵⁴⁷

The Executive Committee on Economic and Social Affairs (ECESA)⁵⁴⁸ Plus Cluster on Social Protection⁵⁴⁹ submitted the Compilation document to provide input to the preparatory process for the 2012 "Rio+20", which was fully supported by the

⁵⁴⁶ A RESILIENT FUTURE: UNISDR AND IOM STATEMENT ON ZERO DRAFT OF THE OUTCOME DOCUMENT OF THE UN CONFERENCE ON SUSTAINABLE DEVELOPMENT (RIO+20) 'THE FUTURE WE WANT, (2012). available at, UNCSD, <http://www.uncsd2012.org/rio20/content/documents/690UNISDR.pdf> (last retrieved Mar. 09, 2012).

⁵⁴⁷ See id.

⁵⁴⁸ The Executive Committee on Economic and Social Affairs (ECESA) is one of these four Committees with the Under-Secretary-General for Economic and Social Affairs serving as Convener. The ECESA membership comprises DESA, the regional commissions, UNCTAD, UNEP, UN-Habitat, UNODC, UNWomen, OHCHR, UNDP, OHRLLS and OSAA and also includes UNU and the research/training institutes UNRISD, and UNITAR. The purpose of Executive Committees is to sharpen the contribution that each unit makes to the overall objectives of the Organization by reducing duplication of effort and facilitating greater complementarity and coherence.

⁵⁴⁹ See id.

International Organization for Migration (IOM). The document presented by IOM highlighted three sectorial priorities of particular relevance for Rio+20: “ (1) Rural Migration and Urban Settlements (2) Climate Change Adaptation and Disaster Risk Reduction (3) Migration and Sustainable Development.”⁵⁵⁰ The Input Document further suggests, “With regard to existing proposals, IOM believes that Rio+20 could provide strong input to the post-2015 development framework by, inter alia, informing the articulation of potential sustainable development goals (SDGs).

Sustainable development and migration are very much inter-reliant.⁵⁵¹ Managing of human movement is essential in order to reduce poverty and to sustain the progress in new development. At Rio, in 2012, leaders must take into consideration the adaptation related to the human mobility triggered by the climate change and environmental degradation besides the economic and social development.

Should the international community reach an agreement to include a climate migration related proposal in its document at the 2012 ‘Rio plus 20’ UN Conference on Sustainable Development, a new role of international governance will emerge which may provide well needed financial and administrative support to climate migrants.

Major projections predict large displacement in the second half of this century. The importance and necessity of intergovernmental agreements such as a new climate convention and protocols to deal with climate migration and 2012 United Nations

⁵⁵⁰ See id.

⁵⁵¹ IOM and Migration and Development, International Organization for Migration, available at http://publications.iom.int/bookstore/free/iom_migration_and_development.pdf (last retrieved Mar. 09, 2012). “Migration cannot be a substitute for development, and development is not necessarily dependent on migration. However, each of these two processes can profoundly influence the other.”

Conference on Sustainable Development ‘Rio+20’ cannot be negated. At the same time the international governance evolution process, which is shaping up a new global society must be observed. Climate change governance is no exception and is in the same flow of global governance. Further commitments to research activities on environmental change and migration, as already encouraged by the COP16 Decisions, will be crucial for closing implementation gaps between policy and practice. This will be of vital importance. Here states can play an important role by increasing transparency in sharing migration-related statistics.⁵⁵²

5.7 CONCLUSION

Management of human movement is vital. Migration management must be governed justly, humanely and pursuant to the rule of law at both national and international levels. The existing structure of global governance clearly lacks the necessary central authority. Existing national and international institutions have limited capacity to handle climate related migration adequately.

The climate refugee issue calls for a more diverse approach than a humanitarian one. It demands a separate and independent legal and political regime based on the principal “common but differentiated responsibilities.” Ideally, with the political support from all member nations, such a regime can be formed as a Protocol on the Recognition, Protection, and Resettlement of Climate Refugees to the United Nations Framework Convention on Climate Change. Existing refugee convention and regime have no system

⁵⁵² See chapter 4

or resources to deal with climate refugees, leaving Climatees existence untenable. Also they do not address the issues of the prevention and evacuation, a discrete aspect of climate change displacement. A new convention can help to concentrate more on preventive measures including necessary steps to avoid the displacement and early settlement and to eliminate the suffering and cost of sudden displacement.

A valid concern is that just a new convention alone perhaps may not be able to resolve the catastrophe of such diverse impacts. Climate change displacement is a combination of internal and external displacement. Although predominantly overlooked, it also includes an utterly ignored group of people who choose to stay in the affected regions for numerous reasons including lack of information and resources to move. Considering the direction of the world's economy and increasing security concerns, only a few states may be able to absorb the increasing flow of refugees or provide necessary services for those in need. As discussed above climate change displacement is a development issue in the sense it requires large-scale and long-term planned resettlement.

In view of the complexity of this issue it will be accurate to say that protection of such a large-scale displacement demands much more than a new convention from the international community. A report by the office of the UN High Commissioner for Human Rights for a meeting of the Human Rights Council, addresses the issue very well, "Human rights law does not provide clear answers as to the status of populations who have been displaced from sinking islands states. Arguably, dealing with possible disasters on such a scale and protecting the human rights of the people affected will first and foremost require adequate long-term political solutions, rather than new legal

instruments."⁵⁵³

The recent UNFCCC negotiation patterns illustrate that it would be difficult to negotiate a new convention that depends on the willingness of certain nations to accept obligations and responsibilities towards the climate refugees based on their contribution in the climate change. A more realistic approach entails that all options for the emergence of the climate governance must be well thought-out and applied. An interim international administrative law for the management of the climate displacees is a good way to move forward. Bilateral agreements in most of regions offer the best solution for Climatees. Primary management of human movement within national borders remains in the national realm, but climatic displacement demands the collaboration and partnerships with other nations. The Regional migration management requires cooperation and international partnerships. In the last few decades the involvement of non-governmental actors is on the rise. The roles of NGOs, civil society groups and large corporations are increasing. The United Nations in the term of sustainable development has already realized the importance of major corporations.⁵⁵⁴

This chapter concludes that the international regime fails to offer adequate global governance for climates. Therefore, displacement remains the primary responsibility of individual national governments. The next chapter will discuss all aspects of the national responses to adapt to the climatic displacement. The discussion will extend an overview of national responses including the legal instruments offering the complimentary, temporary and permanent legal status of climate refugees.

⁵⁵³ See UN High Commissioner for Human Rights address in a meeting of the Human Rights Council,

⁵⁵⁴ See chapter 8.2.3

CHAPTER 6

NATIONAL RESPONSES

6.1 INTRODUCTION

Coastal areas and deltas around the world are rapidly becoming an uninhabitable. The alarming fact is that growing numbers of the people of coastal communities are escaping into the large cities after losing their livelihoods. Already overpopulated cities are having real economic and social impacts due to population invasion. Asia is particularly vulnerable to climate change.⁵⁵⁵ Seven of the 10 most populous cities in the world are in Asia.⁵⁵⁶ According to the UN Population Fund the region's urban population is expected to double from 1.36 billion to 2.64 billion by 2030.⁵⁵⁷ Increasing shortage of food, water and basic housing in large cities is raising the question: would they be able to adapt to the future inundation of refugees as predicted?

The inherent complexity of climate change demands that nations of the world must begin to take climate change more seriously. After all, each individual state has the responsibility to protect its population.⁵⁵⁸ The Parliamentary Assembly of Council of

⁵⁵⁵ See chapter 2

⁵⁵⁶ Citymayors Statistics, available at http://www.citymayors.com/sections/rankings_content.html (last accessed Apr. 09, 2012).

⁵⁵⁷ UNFPA, STATE OF WORLD POPULATION 2007, UNLEASHING THE POTENTIAL OF URBAN GROWTH, (2007). available at http://www.unfpa.org/swp/2007/presskit/pdf/sowp2007_eng.pdf (last visited Apr. 09, 2012).

⁵⁵⁸ WORLD SUMMIT OUTCOME, UNGA Res. 60/1, 16 September 2005, Paragraphs 138 and 139 of the Outcome Document. cited in Sheri P. Rosenberg, Responsibility to Protect: A Framework For Prevention, available at [http://responsibilitytoprotect.org/The%20Responsibility%20to%20Protect%20A%20Framework%20For%20Prevention%20\(Rosenberg\).pdf](http://responsibilitytoprotect.org/The%20Responsibility%20to%20Protect%20A%20Framework%20For%20Prevention%20(Rosenberg).pdf) (accessed Nov. 02, 2011). "Each individual state has the responsibility to protect its populations from genocide, war crimes, crimes against humanity, and ethnic cleansing, including the prevention of such crimes".

Europe (CoE)⁵⁵⁹ has acknowledged that Europe would not be immune to the consequences of climate change including migration.⁵⁶⁰ The more practical approach demands that concerned nations undertake measures of protection of displacement locally and regionally without relying solely on help from the international community. Human rights laws entail that every government in every state is obliged to ensure the protection and enforcement of human rights. Historically, states have developed their jurisprudence, national legislation, and policies mandated to protect and assist refugees in support of 1951 Geneva Convention and the related Protocol of 1967. But what about the climate change refugees? This chapter will focus on national responses to adapt to climatic displacement and it will provide an overview of legal instruments dealing with both temporary and permanent legal status of climate refugees.

6.2 INFLUX OF DISPLACEMENT ON LARGE CITIES IN ASIA

Developed countries will face an influx of refugees from devastated developing nations. Climate refugees will increase conflicts in certain parts of the world and at the same time these refugees will run into underlying racism and xenophobia in other countries. Climate refugees from across countryside are pouring into the big cities of disaster prone countries in Asia. Migration from rural to urban areas is a common response to calamities such as floods and famines. Professor Elizabeth Burleson notes,

⁵⁵⁹ The Council of Europe, founded on May. 05, 1949, is based in Strasbourg (France), It has 47 members and now it covers virtually the entire European continent. The Council seeks to develop protection of individuals based on the European Convention on Human Rights throughout Europe. For more details see the website at <http://www.coe.int/aboutCoe/index.asp?page=quisommesnous&l=en> (last visited Nov. 02, 2011).

⁵⁶⁰ See id.

“On current projections, substantial parts of the world risk being left uninhabitable by rising sea levels, reduced freshwater availability or declining agricultural capacity. This will exacerbate existing migratory pressures from rural areas to cities...”.⁵⁶¹ A focus to this issue is needed because these cities are facing several other challenges besides environmental degradation. The population in cities all over the world is constantly increasing. In the USA in 2010, 82 percent of Americans lived in cities; by 2050 it will be 90 percent.⁵⁶² In India, according to census data released in 2011, a rapid increase in the urban population in the past decade is reported. Urban population increased from 286.1 million, in 2001 to 377.1 million.⁵⁶³ Almost twenty-five percent of India’s population lives along the coastline. Millions of people in different parts of the world in dire need of food and water are rushing to big cities. Citizens deserting their coastal homelands after cyclones and tidal flooding have driven most of the population increase in the big cities. In most cases coastal populations have nowhere to go. They need a place where they can house and feed their families. In India where the urban population is already rising at an alarming speed, it is predicted that cities like Mumbai, Chennai and Kolkata, will be forced to accommodate more migrants. The influx of refugees has resulted in several challenges including environmental degradation due to congestion in big cities. The population of Dhaka, capital city of Bangladesh, increased from 200 thousand to fifteen million in the last three decades.⁵⁶⁴ Most of the population increase in

⁵⁶¹ Elizabeth Burleson, Essay Climate Change Displacement to Refuge, J. ENVTL. L. & LITIG. 24 (2011) available at, <http://www.law.uoregon.edu/org/jell/docs/251/burleson.pdf> (last visited Dec. 25, 2011).

⁵⁶² SUSTAINABLE CITIES, available at <http://www.usa.siemens.com/sustainable-cities/> (last visited Apr. 09, 2012).

⁵⁶³ Infochange, POPULATION, <http://infochangeindia.org/population/analysis/53-million-plus-cities-vs-355-million-plus-districts.html> (last visited Nov. 03, 2011).

⁵⁶⁴ Shahadat Hossain, Rapid Urban Growth and Poverty in Dhaka City, 5 BANGLADESH E-J. SOC. (Jan. 2008) available at <http://www.bangladeshsociology.org/BEJS%205.1%20Rapid%20Urban%20Growth%20and%20Poverty%20final.pdf> (last visited Apr. 08, 2012).

Dhaka, the fastest growing city of the world, is due to migration from the coastal regions due to constantly increasing floods, cyclones and tidal flooding.⁵⁶⁵ Today environmental refugees are visible only in big cities of Asia, fleeing flooded mangrove forests and other remote places, but planners predict that sea level increases during this century could affect many large coastal cities all over the world including in Europe and America. In late August 2005, more than one million people were evacuated from New Orleans when Hurricane Katrina approached the US Gulf Coast but close to 300,000 did not return back after the storm was over. They are considered the first large wave of modern climate refugees.⁵⁶⁶

It is no secret that big cities in Asia already lack basic amenities. The new influx of climate change migrants will add pressure to urban areas. Migrants will bring with them a host of issues that could lead to a hazardous environment and increase in conflicts will raise the issue of security as well. Sanitation will continue to be an area of concern, particularly in crowded areas of large cities. In New Delhi, migration from villages, in many islands, is increasing as well as the business of illegal huts in the Govindpuri slums, one of illegal settlements in New Delhi.⁵⁶⁷

⁵⁶⁵ WWF, MEGA-STRESS FOR MEGA-CITIES: A CLIMATE VULNERABILITY RANKING OF MAJOR COASTAL CITIES IN ASIA (2009). A series of record cyclones has wiped out human habitat for millions of people along Bangladesh's Bay of Bengal coast and its inland mangrove forests and deltas. In the last decade approximately six million Bangladeshis were displaced from their homes and a vast majority ended up in the big cities in search of their livelihood.

⁵⁶⁶ Lester Brown, RAGING STORMS, RISING SEAS SWELL RANKS OF CLIMATE REFUGEES 5, available at <http://www.grist.org/climate-change/2011-08-15-raging-storms-and-rising-seas-swelling-the-ranks-of-climate> (last visited Nov. 03, 2011).

⁵⁶⁷ Infochanfe, COASTAL REFUGEES, <http://infochangeindia.org/agenda/coastal-communities/coastal-refugees.html> (last visited Nov. 03, 2011).

6.3 NATIONAL LEGAL INSTRUMENTS TO PROTECT CLIMATE DISPLACEES

Where protection of the climatic displacement is concerned, the Swedish aliens' law is one of a few state migration laws that creates a category of persons who cannot return to their home states because of severe disasters.⁵⁶⁸ The Australia Migration Bill of 2007 is another example of an emerging trend of states to acknowledge and provide a status to those who become the victims of global climate change. The bill embraces a definition of climate refugees and provides the Immigration Minister with the authority to declare climate change as an induced environmental disaster.⁵⁶⁹ The Minister is given the authority to set the visa numbers specially allocated for those displaced by the disaster based on the geographical range of disaster, potential for adaptation and long-term sustainability of the area and the available means of the country and bordering states to admit displaced persons.⁵⁷⁰ The Australian Labor Party, a major political party in Australia, advocated that Australia's humanitarian immigration program should acknowledge climate change refugees and should guarantee appropriate recognition of climate change refugees in existing Conventions, and/or a new convention on climate change refugees.⁵⁷¹

New Zealand is considered a pioneer in taking more concrete actions on the issue of climate refugees at the national level. New Zealand has already started accepting climate refugees.⁵⁷² On the basis of an immigration agreement Pacific Access Category

⁵⁶⁸ SWEDISH TRAVAUX PRÉPARATOIRES (SOU) (1995) 75, 147 cited in Kolmannskog and Myrstad.

⁵⁶⁹ Australian Labor Party, OUR DROWNING NEIGHBOURS: LABOR'S POLICY DISCUSSION PAPER ON CLIMATE CHANGE IN THE PACIFIC 10 (2006).

⁵⁷⁰ Id.

⁵⁷¹ See id.

⁵⁷² New Zealand accepts annually 75 persons from Tuvalu and Kiribati and 350 citizens of Tonga as refugee. Pacific Access Category, Immigration New Zealand, available online at:

(PAC), New Zealand accepts migrants from island states of Tuvalu and Kiribati and Tonga as refugees.⁵⁷³ The PAC is criticized for not using expressly the term environmental or climate refugee and it does not state any responsibility for the displacement of these populations. Under PAC, New Zealand is accepting only seventy-five persons from Tuvalu and Kiribati and three hundred and fifty from Tonga. The selection of new migrant is based on criteria, which excludes the vulnerable and hardest affected groups of the elderly, sick or poor.⁵⁷⁴ New Zealand immigration law requires that to qualify, the applicants must meet a minimum English language requirement and must not be less than eighteen and no more than forty-five years in age.⁵⁷⁵ It is also conditioned upon an “acceptable” offer of employment.⁵⁷⁶

6.4 TEMPORARY STATUS

Temporary status offers prompt humanitarian responses to a large number of people fleeing devastation in their own countries. It provides a procedure for a timely response where enormous numbers of people are seeking refuge compared to time-consuming mechanisms of national asylum processes. Although temporary status provides only short-term protection, it does not strip the displaced persons from other

<http://www.immigration.govt.nz/migrant/stream/live/pacificaccess/> (last visited Dec. 21, 2011).

⁵⁷³ The Government of New Zealand Introduced the Pacific Access Category visa in 2002. See L. Dalziel, Government Announces Pacific Access Scheme, available online at: <http://www.beehive.govt.nz/node/12740> (last visited Dec. 21, 2011).

⁵⁷⁴ Emma Brindal, Asia-Pacific: Justice for Climate Refugees, 32 ALT. L.J. 240 (2007)

⁵⁷⁵ A recent report by the UNESCO shows the children will get hard hit from the climate change.

⁵⁷⁶ Benoît Mayer, THE INTERNATIONAL LEGAL CHALLENGES OF CLIMATE-INDUCED MIGRATION: PROPOSAL FOR AN INTERNATIONAL LEGAL FRAMEWORK, *Colo Enval Law Pol*, Vol. 22, No. 3, 31-32 (2011), available at: <http://ssrn.com/abstract=1755622>

human rights claims such as relief under the 1951 Refugee Convention.⁵⁷⁷ UNHCR in its policy document recommends, “Beyond the traditional refugee framework, state migration management systems might provide for the entry and temporary protection of people who are affected by climate change, natural disasters and other forms of acute distress.”⁵⁷⁸ Legal systems in a number of developed countries offer such temporary protection.

6.4.1 EU TEMPORARY PROTECTION DIRECTIVE (TPD)

European Union adopted the Temporary Protection Directive (TPD)⁵⁷⁹ in the aftermath of unrest in the Balkan states during the 1990s.⁵⁸⁰ Unexpectedly, EU countries were swamped with millions of displaced peoples. A humanitarian crisis on such a scale was unprecedented in the European Union's history. Due to unequal shares of refugees, the member states sensed that they were not ready to respond effectively to mass influxes of displacement. Based on the desire to respond to such a calamity in a more amicable fashion, EU decided to prepare a common policy. The span of its protection is limited to certain displacement. Does the Directive provide temporary protection to environmental displacement? The simple answer is that it is debatable. It is not custom tailored for

⁵⁷⁷ Article 3(1) of the Directive explicitly provides that Geneva Convention rights, including the right to claim asylum, are not prejudiced by the TPD.

⁵⁷⁸ See UNHCR POLICY DOCUMENT, available at

⁵⁷⁹ In July 2001 the EU introduced the Temporary Protection Directive. It applies to all Member States except Denmark and Ireland and came into force in December 2002. ECRE, European Counsel on Refugees and Exiles, Temporary Protection, <http://www.ecre.org/topics/areas-of-work/introduction/81-temporary-protection.html> (last visited Nov. 20, 2011).

⁵⁸⁰ S. Reynolds, Legislative Development: European Council Directive 2001/55/EC: Toward a Common European Asylum System, 8 COLUM. J. EUR. L. 359 (2001).

climatic migrants but the general consensus is that environmental displacement can fit in the temporary protection offered by EU. As defined in Article 2 (c) of the protocol persons who have fled areas of armed conflict or endemic violence and persons at serious risk of, or who have been the victims of, systematic or generalized violations of their human rights are qualified for temporary protection. Article 2 (c) does not provide an exhaustive list of persons who will qualify for temporary protection. It just mentions persons that in particular qualify for temporary protection. The Directive provides that the term “mass influx”⁵⁸¹ will be decided on a case-by-case basis by a qualified majority of the Council. For example if a majority decides that a specific natural disaster requires temporary protection, the TPD instrument can be implicated. The purpose of the TPD as former UK Home Office Minister Des Browne described, is that each European Member State plays its part in providing humanitarian assistance⁵⁸² to people forced from their homes by war and natural disasters.

The TPD faces practical problems⁵⁸³ similar to asylum systems established by individual nations, but as an emergency situation is concerned, it is considered a critical instrument in the EU international protection regime. TPD is not a replacement of any humanitarian right instrument. Article 3(1) of the Directive explicitly provides that Geneva Convention rights, including the right to claim asylum, are not prejudiced by the TPD. It is not expressly designed for the protection of climate change related

⁵⁸¹ UNHCR’s Executive Committee Conclusion No. 100 defined the “mass influx” as, “ a situation with: arriving over an international border; (ii) a rapid rate of arrival; (iii) inadequate absorption or response capacity in host States, particularly during the emergency; (iv) individual asylum procedures, where they exist, which are unable to deal with the assessment of such large numbers,”

⁵⁸² TPD, oblige the member states to provide the protected persons residence permits, authorization to work, provide housing, social welfare, medical assistance, and education for the children under eighteen.

⁵⁸³ G. Gilbert, *Is Europe Living up to Its Obligations to Refugees?*, 15 *Eur. J. Int’l. L.* 963 (2004) for detailed discussion on TPD problems also see, E. Guild, *Seeking Asylum: Storm Clouds Between International Commitments and EU Legislative Measures*, 29 *EUR. L. REV.* 198-218 (2004).

displacement but in the absence of more specific climate change instrument it can be a useful tool for the climate refugees.

6.4.2 TEMPORARY PROTECTION IN UK, FINLAND, SWEDEN AND DENMARK

While the United Kingdom has no legislation that deals directly with the protection of the environmental displacement, historically certain emergency immigration concessions were extended to the citizens of the countries affected by natural disasters.⁵⁸⁴ Volcanic eruptions in the island of Montserrat in 1995 are a good example. The British government launched a voluntary evacuation plan to award Montserrattians two years exceptional leave to remain in the UK.⁵⁸⁵ Later in 1997, after another eruption, the program was extended to include an Assisted Passages Program. The program provided financial assistance for relocation of the Montserrattians in the UK.⁵⁸⁶ The protection under TPD is considered better than the Geneva Convention in the sense that protectees under TPD are entitled to seek employment and therefore assimilate better into British culture.

Finland is another country that offers temporary protection to displacees. The Aliens Act of Finland grants temporary protection to persons who cannot return safely to their home country or country of permanent residence, because there has been a massive

⁵⁸⁴ See note 172, Jane McAdam, CLIMATE CHANGE DISPLACEMENT AND INTERNATIONAL LAW: COMPLEMENTARY PROTECTION STANDARDS, at page 28. Available at <http://www.unhcr.org/4dffb16e99.pdf> (last accessed Apr. 09, 2012). “It is not incorporated in either the Immigration Rules or the Qualification Regulations of 2006, but provisions of the 1971 Immigration Act allow the Secretary of State for the Home Office to grant leave to a person for a reason not covered by the Immigration Rules.”

⁵⁸⁵ Id.

⁵⁸⁶ Id.

displacement of people in a person's home country or its neighboring areas as a result of an armed conflict, some other violent situation or an environmental disaster.⁵⁸⁷ Finland is the only European Union country that explicitly grants temporary protection on the basis of environment related displacement.

Sweden is another member of the EU that extends temporary protection in disaster displacement cases. Vikram Kolmannskog notes, “The Travaux Préparatoires⁵⁸⁸ emphasize that the first alternative in environmental disasters is internal flight and international humanitarian help, but acknowledge that mass influx may occur and temporary protection may be necessary.”⁵⁸⁹ The people displaced by a disaster may qualify for complementary protection and permanent residence as well.⁵⁹⁰ The Swedish Aliens Act provides that foreign nationals who cannot return to their home country because of an environmental disaster can be issued a residence permit.⁵⁹¹

The Aliens Act in Norway, proposed by the Ministry of Immigration and the Norwegian Directorate of Immigration, are in favor of temporary residence status for those who belong to a country coping with a disaster. In Denmark, the Danish Ministry

⁵⁸⁷ See section 109 (1) of the Aliens Act of Finland

588 “[T]he record of the negotiations preceding the conclusion of a treaty, the minutes of the plenary meetings and of committees of the Conference which adopted a treaty, and so on...”, Robert Jennings and Arthur Watts, 1 Oppenheim’s International Law 1277 (9th ed. 1992). For detailed discussion on Travaux Préparatoires see Jonathan Pratter, À LA RECHERCHE DES TRAVAUX PRÉPARATOIRES: AN APPROACH TO RESEARCHING THE DRAFTING HISTORY OF INTERNATIONAL AGREEMENTS, available at, New York University Law School Hauser Global Law School Program, http://www.nyulawglobal.org/globalex/Travaux_Preparatoires.htm#_A._What_Are_Travaux%20Pr%20E9paatoires%20a

⁵⁸⁹ Vikram Kolmannskog, NORWEGIAN REFUGEE COUNCIL, TO WHAT EXTENTS CAN EXISTING FORMS OF LEGAL PROTECTION APPLY IN CLIMATE CHANGE-RELATED CROSS-BORDER DISPLACEMENT?, Paper Presented at the Oxford University Workshop on Environmental Change and Migration, Jan. 8-9, 2009. Available at, NWR <http://www.nrc.no/arch/img/9448543.pdf> (last visited Apr. 29, 2012).

⁵⁹⁰ See *id.*

⁵⁹¹ Id. Footnote 25, Chapter 4 Refugees and Others in Need of Protection 2 § nr. 3. English version of the Swedish law is available at <http://www.sweden.gov.se/content/1/c6/06/61/22/fd7b123d.pdf>

of Refugees, Immigrants and Integration is developing a policy to deal with climate change and displacement issues on the treatment of those will show up in Denmark.⁵⁹²

6.4.3 US TEMPORARY PROTECTED STATUS (TPS)

In US, Temporary Protected Status (TPS)⁵⁹³ program awards temporary legal status to the foreign nationals whose homelands are in crisis and they are prevented to return safely or their country is unable to handle their return rationally.⁵⁹⁴ The TPS status is initially issued for a maximum period of eighteen months but extension is warranted where there continues to be a substantial disruption of living conditions in the person's home country.⁵⁹⁵ Section 244 of the US Immigration and Nationality Act (INA)⁵⁹⁶

⁵⁹² Id.

⁵⁹³ US Citizen and Immigration Services, WHAT IS TEMPORARY PROTECTED STATUS?, <http://www.uscis.gov/portal/site/uscis/menuitem.5af9bb95919f35e66f614176543f6d1a/?vgnextoid=319c96981298d010VgnVCM10000048f3d6a1RCRD> (last visited Nov. 23, 2011). "Temporary Protected Status (TPS) is a temporary immigration status granted to eligible nationals of designated countries. TPS beneficiaries will not be required to leave the United States and may obtain work authorization for the initial TPS period and for any extensions of the designation. TPS does not lead to permanent resident status. When the Secretary of Homeland Security (Secretary) terminates a TPS designation, beneficiaries will return to the same immigration status they had before TPS (unless that status has expired or has been terminated) or to any other status they may have been granted while in TPS. The Secretary may designate a country for TPS when he/she determines, after consulting with appropriate government agencies, that: There is an ongoing armed conflict within the state and, due to that conflict, return of nationals to that state would pose a serious threat to their personal safety; The state has suffered an environmental disaster resulting in a substantial, temporary disruption of living conditions, the state is temporarily unable to handle adequately the return of its nationals, and the state has requested TPS designation; or There exist other extraordinary and temporary conditions in the state that prevent nationals from returning in safety, unless the Secretary finds that permitting nationals of the state to remain temporarily is contrary to the national interest of the United States.

⁵⁹⁴ US Citizen and Immigration Services describes the TPS, "The Secretary of Homeland Security may designate a foreign country for TPS due to conditions in the country that temporarily prevent the country's nationals from returning safely, or in certain circumstances, where the country is unable to handle the return of its nationals adequately." US Citizen and Immigration Services, Temporary Protected Services, <http://www.uscis.gov/portal/site/uscis/menuitem.eb1d4c2a3e5b9ac89243c6a7543f6d1a/?vgnextoid=848f7f2ef0745210VgnVCM100000082ca60aRCRD&vgnnextchannel=848f7f2ef0745210VgnVCM100000082ca60aRCRD>(last visited Nov. 22, 2011).

⁵⁹⁵ Historically, the US government extended the eighteen months temporary stay generously. TPS grantees from certain nations are still residing in the US on a temporary basis almost ten years after the catastrophe.

provides a mandate for TPS to the nationals of a foreign state.⁵⁹⁷ The TPS process for countries struck with environmental disasters is based on three key facts: there has been an environmental disaster in the foreign state resulting in a substantial, but temporary displacement; the foreign state is temporarily unable to handle adequately the return of its own nationals, and the foreign state officially has requested such designation.⁵⁹⁸ More recently the Homeland Security Secretary announced “the designation of Temporary Protected Status (TPS) for Haitian nationals who were in the United States as of January 12, 2010.”⁵⁹⁹ Thousands of Haitians in the United States are granted temporary protected status.⁶⁰⁰ The TPS designation of the Haitians is extended till Jan. 22, 2013 after expiry of initial term.⁶⁰¹ In the past citizens of Nicaragua,⁶⁰² El Salvador,⁶⁰³ Honduras,⁶⁰⁴

⁵⁹⁶ The Immigration and Nationality Act (INA), section 244, available at <http://www.uscis.gov/propub/ProPubVAP.jsp?dockkey=c9fef57852dc066cfe16a4cb816838a4>

⁵⁹⁷ Under the HOMELAND SECURITY ACT OF 2002 (P.L. 107-296), the former Immigration and Naturalization Service was transferred to the Department of Homeland Security. As a part of this transfer, the responsibility for administering the TPS was transferred from the Attorney General in the Department of Justice to the Secretary of the Department of Homeland Security (DHS). DHS’s U.S. Citizenship and Immigrations Services (USCIS) administer TPS.

⁵⁹⁸ The Secretary of Homeland Security’s decision to designate a country for TPS is based on the certain temporary conditions in the country. These conditions include, ongoing-armed conflict (such as civil war), an environmental disaster (such as earthquake or hurricane), or an epidemic and other extraordinary and temporary conditions.

⁵⁹⁹ Immigration Policy CENTER, GRANTING REFUGE: TEMPORARY PROTECTED STATUS (TPS) FOR HAITIANS IN THE UNITED STATES, <http://www.immigrationpolicy.org/just-facts/granting-refuge-temporary-protected-status-tps-haitians-united-states> (last visited Nov. 22, 2011).

⁶⁰⁰ Tara Bahrapour, Haitians’ Temporary Protected Status in U.S. Since Quake to be Extended 18 Months, WASH. POST (May 17, 2011), http://www.washingtonpost.com/local/haitians-temporary-protected-status-in-us-extended-for-18-months/2011/05/17/AFD8Dv5G_story.html (last visited Nov. 22, 2011).

⁶⁰¹ Id.

⁶⁰² USCIS, TEMPORARY PROTECTED STATUS EXTENDED FOR NICARAGUANS, available at <http://www.uscis.gov/portal/site/uscis/menuitem.5af9bb95919f35e66f614176543f6d1a/?vgnextoid=e5b77b300df53310VgnVCM100000082ca60aRCRD&vgnnextchannel=17dcb6f2cae63110VgnVCM1000004718190aRCRD> (last visited Nov. 25, 2011). “Secretary of Homeland Security Janet Napolitano has extended Temporary Protected Status (TPS) for eligible nationals of Nicaragua for an additional 18 months, beginning Jan. 6, 2012, and ending July 5, 2013.

⁶⁰³ Id. “The 18-month extension of TPS for El Salvador will remain in effect through March 9, 2012.” <http://www.uscis.gov/portal/site/uscis/menuitem.5af9bb95919f35e66f614176543f6d1a/?vgnextoid=b619772a45c6a210VgnVCM100000082ca60aRCRD&vgnnextchannel=17dcb6f2cae63110VgnVCM1000004718190aRCRD> (last visited Nov. 25, 2011).

⁶⁰⁴ See id. Temporary Protected Status Extended for Hondurans, available at <http://www.uscis.gov/portal/site/uscis/menuitem.5af9bb95919f35e66f614176543f6d1a/?vgnextoid=b4677b>

Somalia⁶⁰⁵ and Sudan,⁶⁰⁶ were granted TPS and their status was extended multiple times.⁶⁰⁷ Other countries in the TPS list include, Liberia, Kuwait, Rwanda, Lebanon, Kosovo Province of Serbia, Bosnia-Herzegovina, Angola, and Sierra Leone.⁶⁰⁸

TPS law in the US accommodates the citizens of certain states with ongoing armed conflicts or a situation where a foreign country temporarily cannot handle the return of its nationals due to an environmental disaster or there are extraordinary but temporary conditions in a foreign state that prevent aliens from returning.⁶⁰⁹ Whereas designation of TPS on the basis of natural disaster is concerned Haiti is the most recent addition in the list, but in the past nationals from El Salvador due to continuing effects of earthquake in 2001, and in 1998 Honduras and Nicaragua for continuing effects of

300df53310VgnVCM100000082ca60aRCRD&vgnnextchannel=17dcb6f2cae63110VgnVCM1000004718190aRCRD (last visited Nov. 25, 2011). “Secretary of Homeland Security Janet Napolitano has extended Temporary Protected Status (TPS) for eligible nationals of Honduras for an additional 18 months, beginning Jan. 6, 2012, and ending July 5, 2013.”

⁶⁰⁵ Id. 18-Month Extension of Temporary Protected Status for Somalia, available at, <http://www.uscis.gov/portal/site/uscis/menuitem.5af9bb95919f35e66f614176543f6d1a/?vgnextoid=1dffa8ac980c210VgnVCM100000082ca60aRCRD&vgnnextchannel=17dcb6f2cae63110VgnVCM1000004718190aRCRD> (last visited Nov. 25, 2011). “The Department of Homeland Security (DHS) will extend Temporary Protected Status (TPS) for 18 additional months, through Sept. 17, 2012, to eligible nationals of Somalia and people having no nationality who last habitually resided in Somalia. “

⁶⁰⁶ Id. DHS Announces 18-Month Extension of Temporary Protected Status for Sudan and Designation for South Sudan, available at <http://www.uscis.gov/portal/site/uscis/menuitem.5af9bb95919f35e66f614176543f6d1a/?vgnextoid=48f111e0ab9f2310VgnVCM100000082ca60aRCRD&vgnnextchannel=17dcb6f2cae63110VgnVCM1000004718190aRCRD> (last visited Nov. 25, 2011). “Secretary of Homeland Security Janet Napolitano extended the Temporary Protected Status (TPS) designation for Sudan for 18 months. She also designated the new Republic of South Sudan for TPS for 18 months. Both the extension and the new designation are effective Nov. 3, 2011, and will continue through May 2, 2013.

⁶⁰⁷ See id.

⁶⁰⁸ Congress Research Service, Pub No. RS20844, TEMPORARY PROTECTED STATUS: CURRENT IMMIGRATION POLICY AND ISSUES, RUTH ELLEN WASEM SPECIALIST IN IMMIGRATION POLICY DOMESTIC SOCIAL POLICY DIVISION KARMA ESTER TECHNICAL INFORMATION SPECIALIST KNOWLEDGE SERVICES GROUP, (Updated September 18, 2008) available in pdf format at, http://assets.opencrs.com/rpts/RS20844_20080918.pdf (last visited Nov. 25, 2011). List of countries granted TPS. Liberia from March 1991 to October 2007; Kuwait from March 1991 to March 1992; Rwanda from June 1995 to December 1997; Lebanon from March 1991 to March 1993; the Kosovo Province of Serbia from June 1998 to December 2000; Bosnia-Herzegovina from August 1992 to February 2001; and Angola from March 29, 2000, to March 29, 2003; and Sierra Leone from November 4, 1997, to May 3, 2004. For a complete list and dates of TPS designation visit USCIS website at, [http](http://www.uscis.gov)

⁶⁰⁹ See supra note 599.

hurricane were granted TPS.⁶¹⁰

The major problem with US temporary status law is that it is not linked to mass influx. Citizens of the designated state can benefit only if already present in US at the time of disaster. Those who are present in the home country at the time of a disaster and later escape from the adversity will not be benefited.⁶¹¹ While announcing Haiti's TPS designation, the Secretary of the Homeland Security made it clear that protection would extend to Haitians who were already in the United States.⁶¹² A hefty fee for the TPS application⁶¹³ is blamed for fewer TPS grants. The New York Times quoted administration officials, "the special status would cover at least 100,000 Haitians believed to be living in the United States illegally, as well as about 30,000 Haitians who had been ordered deported."⁶¹⁴ USCIS announced that only thirty-eight thousand Haitians registered for the TPS.⁶¹⁵ Another setback with TPS is that a decision to designate a country is based on political considerations rather than purely humanitarian factors. Section 244 of Immigration and Nationality Act requires, "provided that granting TPS is consistent with U.S. national interests."⁶¹⁶ In 2008, a Congress Research Service Report on Temporary Protected Status, noted, "As a result of the natural disasters in recent years

⁶¹⁰ See supra notes 600 to 606.

⁶¹¹ See supra note 594.

⁶¹² The statement by the secretary of homeland security, Janet Napolitano, available at,

⁶¹³ See USCIS, website fee chart.

⁶¹⁴ Julia Preston, Haitians Illegally in U.S. Given Protected Status, N.Y. TIMES (Jan. 15, 2010), available at <http://www.nytimes.com/2010/01/16/world/americas/16immig.html> (last visited Nov. 25, 2011). Also see Immigration Policy Center, Granting Temporary Protected Status, available at, <http://www.immigrationpolicy.org/just-facts/granting-refuge-temporary-protected-status-tps-haitians-united-states> (last visited Nov. 25, 2011) reported that according to the Department of Homeland Security (DHS) estimates, from 100,000-200,000 Haitian immigrants now in the United States on a temporary basis or without authorization will be benefited from TPS.

⁶¹⁵ Many Haitians living without status could not apply for TPS status because they could not afford to pay the required immigration fees. According to the estimates approximately one hundred thousand Haitians live in the US without documents.

⁶¹⁶ §244 of INA (8 U.S.C. §1254a).

that devastated Peru, Pakistan, Sri Lanka, India, Indonesia, Thailand, Somalia, Myanmar, Malaysia, Maldives, Tanzania, Seychelles, Bangladesh, Kenya, and Haiti, some have called for the Administration to grant TPS to nationals from these countries.” The report concluded, “. . . Proponents maintain that these countries could not handle the return of nationals due to the environmental disasters and that there are extraordinary and temporary conditions that prevent these people from returning safely. Few have issued public statements in opposition, and the Administration repeatedly has not taken a position.”⁶¹⁷

In August 2010, floods devastated Pakistan like never before.⁶¹⁸ Almost twenty percent of the country’s land was flooded, which included the agricultural land of the country, historically coping with the shortage of food. Twenty million people (the largest displacement in the history) were forced out from their homes.⁶¹⁹ In spite of demand from Pakistan⁶²⁰ and a very aggressive campaign organized by Pakistani citizens in US, and supporters for TPS status, which included rallies in New York and Washington, DC the US government did not grant the status to Pakistanis. Saleem Rizvi,⁶²¹ who led the coalition for TPS for Pakistan, expressed his frustrations in an interview in these words, “It is a matter of continuing concern for a plethora of human rights organizations and

⁶¹⁷ See supra note 608, Congressional Research Service, Pub No. RS20866 at 6, available in pdf format at http://assets.opencrs.com/rpts/RS20844_20080918.pdf (last visited Nov. 25, 2011).

⁶¹⁸ 2010 Floods in Pakistan, N.Y. TIMES (Nov. 16, 2010).

http://topics.nytimes.com/top/reference/timestopics/subjects/f/floods/2010_pakistan_floods/index.html (last accessed May.03, 2011). Cited in, Joyce Chen, H. Roy Williams, Jessica Cuttone, Heather Hansen, Denise Lee, Rennie Taylor, Changes in USAID Funding to International Non- Governmental Organizations, The Pakistan Case, School of International and Public Affairs, Columbia University (May 2011) available at <http://sipa.columbia.edu/academics/workshops/documents/IRCFinalReport.pdf> (last visited Apr. 28, 2012).

⁶¹⁹ Id.

⁶²⁰ See ANPUSA TPS Action Committee Meets Shah Mehmood Qureshi, available at You Tube, http://www.youtube.com/watch?v=vac_gWfbBog (last visited Apr. 29, 2012).

⁶²¹ Saleem Rizvi, a leading practitioner of US immigration and international law, is based in New York. He founded the TPS for Pakistan Coalition. He regularly writes on Pakistan related issues.

Pakistani- Americans that Pakistan has not yet been designated for TPS status.” He further added, “ “A friend in need is a friend indeed” we have not seen such a gesture from the current US administration on this issue yet.”⁶²²

Temporary protection in certain cases has proven to be very accommodating. The process to attain such status is efficient and simple compared to other immigration procedures. Because it is temporary it demands fewer procedural requirements. Host States feel more at ease in issuing the provisional status than a permanent one because by surrendering a temporary status they are not obligating themselves for long-term liabilities. However, temporary protection might not always be adequate when catastrophes of a large scale displace peoples from their countries of usual abode. Reconstruction after a sudden disaster or rehabilitation in a case of environmental degradation is a drawn out process and often carries on much longer than the duration of the temporary stay afforded in most of the temporary protection laws.⁶²³ Also in some cases people prefer to settle where they are instead of going through the painful process of returning to repair and rebuild their homes.⁶²⁴ For example in the European Union, TPD provides a maximum of three years stay.⁶²⁵ United States TPS law grants a legal status to stay in the U.S. for eighteen months.⁶²⁶ In certain cases temporary protection

⁶²² Remarks made by Saleem Rizvi, founding Chair of Coalition for TPS for Pakistan in an interview in New York on Nov. 27, 2011.

⁶²³ TPS in US grants six months to eighteen months and TPD in EU provide temporary status up to three years. See supra note 596.

⁶²⁴ In August 2005, more than 1 million people were evacuated from New Orleans due to Hurricane Katrina. Approximately 700,000 returned to rebuild and live, but almost 300,000 never returned to New Orleans. Scholars consider them as climate refugees.

⁶²⁵ Article 22 of the EU Temporary Protection Directive establishes that “in cases of enforced return, Member States shall consider any compelling humanitarian reasons which may make return impossible or unreasonable in specific cases.” Anyhow it does not clearly spell out the nature of the status a State should award to such individuals.

⁶²⁶ See supra note 526.

afforded by EU, US, and other States' laws may be beneficial in providing some protection for cross border environmentally displaced persons but it might not help the people who may not be able to return and need to stay permanently. Most if not all-temporary protection laws discourage people to stay permanently. Section 244(h), a provision in the Immigration and Nationality Act (INA) dealing with the Temporary Protected Status in US states that a bill or amendment that provides a permanent legal resident status for any alien receiving TPS requires a supermajority vote in the US Senate⁶²⁷ voting affirmatively.⁶²⁸

Both in US and European Union an executive decision is required before the temporary protection can be availed.⁶²⁹ The temporary protection status is more like a day-to-day shelter. Protected individuals have to sleep with their beds folded in a transition mode, as they do not know when they have to move out. Do they not deserve a better quality of life, as guaranteed by the international human rights laws? All humanitarian and compassionate considerations demand not a temporary but a permanent residence status.

⁶²⁷ Super majority voting in the US Senate means three-fifths of all Senators.

⁶²⁸ §244(h) of INA (8 U.S.C. §1254a). See supra note 608, Congress Research Service, Report No. RS20844, TEMPORARY PROTECTED STATUS: CURRENT IMMIGRATION POLICY AND ISSUES, RUTH ELLEN WASEM SPECIALIST IN IMMIGRATION POLICY (Updated September 18, 2008). available in pdf format at http://assets.opencrs.com/rpts/RS20844_20080918.pdf (last visited Nov. 25, 2011). In US, TPS provision in the INA states that a bill or amendment that provides for the adjustment to lawful temporary or legal permanent resident (LPR) status for any alien receiving TPS requires a supermajority vote in the Senate (i.e., three-fifths of all Senators) voting affirmatively. In 1992 Chinese people on Deferred Enforced Departure (DED) were permitted to adjust to LPR status under the Chinese Student Protection Act of 1992: PL102-404, 106 Stat 1969 (9 October 1992). Haitians on TPS were granted permanent status under the FY 1999 OMNIBUS CONSOLIDATED AND EMERGENCY SUPPLEMENTAL APPROPRIATIONS ACT: Pub. L. 105-277, 112 STAT 2681, 105th Congress 2nd Sess (Oct. 21, 1998).

⁶²⁹ In US Homeland Secretary declares the TPS. See above note 597 and by the Council of the European Union in EU. See note 625

6.5 STATES REFUSING TO ADMIT “REFUGEES”

Owing to climate change more and more people are being driven away from their homes and in some cases even away from their countries.⁶³⁰ Given the nature and magnitude of the crisis, cooperation among the international community is crucial. However, existing global governance mechanisms are not adequate to deal with this frightening dilemma. It appears unlikely that, at least in foreseeable future, states would agree to a binding treaty specific to climate change displacement. It is a common practice that people make a trans-border move to seek refuge when their communities become uninhabitable. António Guterres UN High Commissioner for Refugees addressing the 62nd session of the Executive Committee of the UNHCR, (which took place in Geneva, Switzerland, from 3-7 October 2011) called on the international community to work better, with a sense of shared responsibility and commitment. He also expressed his frustration by saying, “that international community had been slow to react.”⁶³¹

In the absence of global protection, affected states and their citizens depend more on help from their neighbor states. But several countries are denying access to refugees from other countries. On February 25 2004 George W. Bush, then US president, made declaration regarding Haitian refugees. He said, “I have made it abundantly clear to the

⁶³⁰ VOICE OF INTERACTIVE CHOICE & EMPOWERMENT, INTERNATIONAL CAMPAIGN ON CLIMATE REFUGEES' RIGHTS, available at <http://www.voicebd.org/iccr> (last visited Jan. 19, 2012). “Recent studies show that around 30 million people from the coastal areas of Bangladesh, 300 thousand from the Maldives, 10 million from Vietnam, 10 million from Mediterranean Egypt, and 600 thousand from Guyana will be displaced due to loss of land as a result of climate change effects.”

⁶³¹ International Institute of Sustainable Development, UN High Commissioner for Refugees Calls for Greater International Cooperation, <http://climate-l.iisd.org/news/un-high-commissioner-for-refugees-calls-for-greater-international-cooperation/> (last visited Jan. 19, 2011).

Coast Guard that we will turn back any refugee that attempts to reach our shore.”⁶³²

Australia's has adopted a hard line stance towards the swelling numbers of "Boat People" arriving on its shores.⁶³³ Australia's prime minister said, "We simply cannot allow a situation to develop where Australia is seen ... as a country of easy destination."⁶³⁴

Some states are taking extreme measures to block the future migration flow.

Professor Burleson listed some of extreme steps taken by other nations. She notes. "India is building a 2100-mile fence along its border with Bangladesh. Spain has aired advertisements in West Africa in an effort to reduce illegal immigration. Protection of endangered species such as the ocelots led to litigation to halt construction of the U.S.-Mexico border fence."⁶³⁵ United States has constructed fences, walls, and vehicle barriers on 1,952-mile long boundary between United States and Mexico since the 1990s.⁶³⁶ And this is not the end there may soon be hundreds more miles of walls.⁶³⁷ The US.

Government responded to the environmental concerns raised by the activist. A New York Times report states that the government agreed to devote up to fifty million dollars in the

⁶³² Remarks by the President, "President Bush Welcomes Georgian President Saakashvili to White House," White House News Release/Transcript (February 25, 2004), available at: <http://www.whitehouse.gov/news/releases/2004/02/20040225-1.html>. (last visited Jan. 20, 2012). Quoted in, Cheryl Little and Charu Newhouse al-Sahli, HAITIAN REFUGEES: A PEOPLE IN SEARCH OF HOPE, also see, Seline Trevisanut, THE PRINCIPAL OF NON- REFOULMENT AT SEA AND THE EFFECTIVENESS OF ASYLUM PROTECTION, available at, http://www.mpil.de/shared/data/pdf/pdfmpunyb/05_trevisanut_12.pdf (last visited Jan. 20, 2012)

⁶³³ United States Committee for Refugees and Immigrants, Paying the Price: Australia, Indonesia try to Stop Asylum Seekers, 22 REFUGEE REP. 1 (Sept. 1, 2001). available at <http://www.unhcr.org/refworld/docid/3c58099a1.html> [accessed 21 January 2012]

⁶³⁴ Kathy Marks, Australia Turns Away Rescue Ship Carrying Asylum Seekers, INDEP. (Aug. 28, 2001). available at <http://www.independent.co.uk/news/world/australasia/australia-turns-away-rescue-ship-carrying-asylumseekers-667207.html> (last visited Jan. 21, 2012).

⁶³⁵ See generally Burleson supra note 561

⁶³⁶ U.S.-Mexico Border, National Geographic, <http://ngm.nationalgeographic.com/2007/05/us-mexican-border/bowden-text> (last visited Jan. 19, 2012). "In San Diego, nine miles (14 kilometers) of a double-layered fence have been erected. In Arizona, the state most over run with illegal crossings, 65 miles (105 kilometers) of barriers have been constructed already."

⁶³⁷ Id.

next year for mitigation measures. It could include modifying the fence to curb flooding and to accommodate threatened and endangered species or restoring their habitats.⁶³⁸ It is positive step for the endangered species but what about climate migrants?⁶³⁹ Do they deserve the same consideration or do they have to wait to be declared as “endangered species” to qualify? Unpredictable seasons and unreliable crop yields⁶⁴⁰ are swelling the number of Mexicans risking their lives each year to try to reach the US. Many of those who escape from Mexico in search of their livelihoods end up losing their lives in the Arizona desert. According to a report estimates of the death toll range from 3,861 to 5,607 in the last fifteen years.⁶⁴¹ Like the U.S., India is constructing a huge double-walled, barbed-wire fence on the borders between India and Bangladesh.⁶⁴² The government of India claims that “the Great Wall of India” is meant to prevent terrorism and smuggling.⁶⁴³ Bangladesh is one of the countries that can get hard hit from climate change.⁶⁴⁴ The number of Bangladeshis displaced by climate change could be in

⁶³⁸ Randal C. Archibold , Border Plan Will Address Harm Done at Fence Site, N.Y. TIMES (Jan. 16, 2009). available at <http://www.nytimes.com/2009/01/17/us/17border.html?ref=borderfenceusmexico> (last visited Jan. 19, 2012).

⁶³⁹ FEELING THE HEAT, A REPORT FROM TEARFUND, 16 . Available at <http://reliefweb.int/sites/reliefweb.int/files/resources/D9FE30AEB365A3A3492572100022D71A-tearfund-global-20-oct.pdf> (last accessed Jan. 20, 2012). Amextra (Asociación Mexicana de Transformación Rural y Urbana) a Tear fund partner working in central and southern Mexico on water, agriculture and health projects, reports that 40% of Mexico is already desert, and flooding and drought are undermining the nation’s ability to feed itself. Also see chapter 2, who will get displaced?

⁶⁴⁰ Climate change displacement is not restricted only to coastal environments. Extreme weathers cause loss of liveliness that triggers the human displacement. See chapter 2 for detailed discussion.

⁶⁴¹ Maria Jimenez, HUMANITARIAN CRISIS: MIGRANT DEATHS AT THE U.S. – MEXICO BORDER Endnote 1 (Oct. 1, 2009). Available at <http://www.aclu.org/pdfs/immigrants/humanitariancrisisreport.pdf> (last retrieved Jan. 20, 2012).

⁶⁴² See supra note 635

⁶⁴³ Rizwana Shamshad, POLITICS AND ORIGIN OF THE INDIA – BANGLADESH BORDER FENCE, This paper was presented to the 17th Biennial Conference of the Asian Studies Association of Australia in Melbourne 1-3 July 2008. Available at <http://arts.monash.edu.au/mai/asaa/rizwanashamshad.pdf> (last time visited Jan. 20, 2012). “According to the Indian Ministry of Home Affairs, ANNUAL REPORT 2005-2006, fencing was necessary in order to prevent illegal infiltration and other anti-national activities from across the border.”

⁶⁴⁴ See chapter 2.2 Who Will Get Displaced?

millions.⁶⁴⁵ Scientists predict rising sea levels may ultimately swallow more than twenty percent of Bangladesh's land.⁶⁴⁶ A survey entitled, *Mega-Stress for Mega-Cities*, found Dhaka, the capital city of Bangladesh and home of nineteen million, is overall at the highest risk from climate change and has the lowest ability to adapt to climate change.⁶⁴⁷ Borders between the India and Bangladesh are one of the longest in the world. Those who know the Bangladesh's geography will agree that the borders with India is the only "exit" for drowning Bangladeshis. Experts believe that as climate change accelerates, the fence will only increase cross-border tension. As countries are closing their doors on comparatively small number of refugees, the question arise how nations will respond to the projected large-climate displacement in the future

6.6 CONCLUSION

This chapter concludes that the international community's efforts in offering an international instrument for legal protection of the climate migrants are futile. At the national level progress is being made in national responses to address the cross-border climate and environmental displacement. No national law addresses directly climate change related migration. The national laws of Sweden, Finland and Argentina could be applied to those displaced by climate impacts. Legal systems of other countries offer mechanisms of temporary protection to the people displaced by sudden disasters. The

⁶⁴⁵ Id.

⁶⁴⁶ Bonnie Docherty and Tyler Giannini, *Confronting a Rising Tide: A Proposal for a Convention on Climate Change Refugees*, 33 HARV. ENVTL. L. REV. 349, 355(2009).

⁶⁴⁷ World Wildlife Federation, *MEGA-STRESS FOR MEGA-CITIES, A CLIMATE VULNERABILITY RANKING OF MAJOR COASTAL CITIES IN ASIA* (2009).

problem is that temporary status does not solve the problem for those who are permanently displaced. There also is a protection gap in that all the national laws deal only with the human movement triggered by sudden disasters. Fundamentally, migration in response to slow-onset changes is ignored and left without any relief. Scholars raise a valid concern that not every country has the capacity to absorb migrants in such a large numbers. The analyses of national responses suggest more localized solutions and responses to identify the specific needs of the displaced by change in the climate. The protection concerns raised in the instant discussion leads us to the next query: What are the options? Where will these climate refugees go? How can they be better protected?

CHAPTER 7

WHAT ARE THE OPTIONS?

7.1 INTRODUCTION

Regardless of the fact that there is no international consensus on the norms to assist climatic refugees, all agree that they deserve protection and support, and international collaboration for this purpose. Researchers use various terms and definitions, as there is no commonly accepted definition to describe the climate refugees. This thesis introduced term “Climatees” and its definition to fill in the definitional vacuum. The term Climatees represents all the phases of climatic movement.⁶⁴⁸ The Refugee Convention, the sole instrument dealing with the refugees at the international level, does not recognize climate refugees. The 1998 IDP Guideline is not specific on climate change displacement. Moreover, it is not a binding agreement among the nations; it merely provides the guidelines. Besides, it deals with internally displaced persons only. The climate change catastrophe will force a huge numbers of people across international borders. The climate change regime in the UNFCCC and Kyoto Protocol has no specific agreement on climate refugees’ protection.

The absence of a legal regime directly related to climate displacement on the international level raises a series of the questions. This chapter ponders all the options but the primary focus of the argument will be the commonly raised concerns: When, how, and where will these climate refugees go and how can they be better protected?

⁶⁴⁸ See chapter 3.3.6

7.2 PREVENTION AND PRE-EMPTIVE MEASURES

Following the common wisdom, “nothing defeats the prevention”, this chapter begins with preventive and preemptive measures and relocation for that purpose where it is indispensable. Migration should not be the solution of the last resort. Where human movement is unavoidable, relocation and settlement should be planned and facilitated as a first choice. Timely and well-planned relocation can reduce the risks of forced displacement.⁶⁴⁹ Adequate adaptation measures⁶⁵⁰ such as a progressive infrastructure for flood defense, an advance warning system and a timely evacuation can reduce forced displacement significantly. Preparedness and timely escape from disaster zones justify the ultimate preference in all climate change displacement policies. The phenomenon of pre-emptive migration needs to be taken as a principal coping measure. A few states are already taking such precautionary steps. Flow regulators along rivers have been installed by the Bangladesh government⁶⁵¹ and a 3.5-meter high wall built by the Maldives⁶⁵²

⁶⁴⁹ William Lacy Swing, IOM Director General, International Organization for Migration, Address to the High-level Negotiators at the Durban Climate Change Conference. Durban Must Pay Greater Consideration to the Consequences of Climate Change on Migration, International Organization for Migration, available at <http://www.iom.int/jahia/Jahia/media/press-briefing-notes/pbnAF/cache/offonce?entryId=31024> (last visited Dec. 17, 2011).

⁶⁵⁰ According to the World Disaster Report 2001, in highly developed nations, the average toll is just 22.5 people per reported disaster compare to in developing countries where each disaster claims on average 1,052 lives. This comparison highlights the importance of adapting to a changing climate and preparing for disasters. See WORLD DISASTER REPORT 2001. available at <http://www.grida.no/geo/GEO/Geo-1-012.htm> (last accessed Apr. 08, 2012).

⁶⁵¹ See Shardul Agrawala, et al., DEVELOPMENT AND CLIMATE CHANGE IN BANGLADESH: THE SUNDARBANS, ADAPTATION OPTIONS AVAILABLE FOR MANAGEMENT OF COASTAL FLOODING, COM/ENV/EPOC/DCD/DAC(2003)3/FINAL, 35 available at <http://www.oecd.org/dataoecd/46/55/21055658.pdf> (last visited Apr. 29, 2012).

⁶⁵² See Maldives Ministry of Environment, Energy and Water, NATIONAL ADAPTATION PROGRAMME OF ACTION (2007) available at (last retrieved Apr. 09, 2012). The Maldives is a chain of 1,200 coral islands, home to 300,000 islanders. More than 80% of the total land area is less than 1m above sea level, and the highest point is only 2.4m above sea level. More than 40% of the population, 70% of fisheries infrastructure, 80% of powerhouses and 99% of all tourist accommodation is within 100m of the coastline.

government built around Male⁶⁵³ are good example of such preventive measures to reduce the vulnerability of environmental hazards leading to forced displacement. In 2008, President Nasheed announced plans to create a fund from revenue generated by tourism, to be used to acquire land to relocate its population in countries such as India and Sri Lanka.⁶⁵⁴ In the developed countries, Netherland's Flooding Defense Act and a Coastal Defense Policy⁶⁵⁵ is a step forward towards preventive measures. In the Netherlands twenty-six percent of land is below sea level. The Netherlands' plan includes the building of higher storm surge barriers, controlling the expansion of the rivers into side channels and wetlands and regular safety reviews.⁶⁵⁶ Singapore is considering seeking help from Dutch manufacturers to build dikes on its coastline to avoid rising water and the displacement of its population.⁶⁵⁷

⁶⁵³ Marie O'Reilly, DEFINING ENVIRONMENTAL MIGRANTS, POLICY INNOVATIONS, available at http://www.policyinnovations.org/ideas/briefings/data/000161/pf_printable (last visited Apr. 29, 2012). "The Maldives capital city, Male, is surrounded by a 3.5 meter sea wall that was funded by the Japanese government after floods in 1987."

⁶⁵⁴ Maldives: Climate Change Threatens Right to Housing, Says UN Expert, UN NEWS CENTRE (Feb. 26, 2009) available at <http://www.un.org/apps/news/story.asp?NewsID=30026&Cr=housing&Cr1=climate> (last visited Apr. 09, 2012).

⁶⁵⁵ See Ecomare, available online at <http://www.ecomare.nl/en/ecomare-encyclopedie/man-and-the-environment/water-management/coastal-protection/coastal-defence-policy/> (last visited Apr. 09, 2012). "In 1996, the new Act for Flood Defenses went into force in the Netherlands. The purpose of the act is to maintain the safety that has been achieved since the Delta Works were completed. The third coastal note 'Tradition, trends and future' from 2002 elaborates this for the coastal defense. In the Fifth Note on Environmental Planning, a large amount of room has been reserved for extra coastal defense. The union of beach operators wants to establish a minimum beach width. Momentarily, it is not important how wide the beach is as long as the base coastline from 1990 is maintained."

⁶⁵⁶ ROOM FOR THE RIVER: A SAFER AND MORE ATTRACTIVE RIVERS REGION, available at http://www.ruimtevoorderivier.nl/files/48954/RvdRFactsheet_English.pdf. Also see, HOW TO: Build a flood-resilient city, IRIN, <http://www.irinnews.org/report.aspx?reportid=94319> (last visited Dec. 24, 2011). "In the Netherlands, where 26 percent of land is below sea level, cities with a high density of human and economic capital are designed to withstand a one-in-10,000-years flood, while inland, rural and sparsely populated areas are designed to withstand a one-in-1,250 years flood."

⁶⁵⁷ Wayne Arnold, Vulnerable to Rising Seas, Singapore Envisions a Giant Seawall, N.Y. Times (Aug. 29, 2007). Available at http://www.nytimes.com/2007/08/29/world/asia/29iht-Dikes.2.7301576.html?_r=1 (last visited Apr. 29, 2012).

It will be more rational to take all potential actions to prevent the need for forced migration. Preventive decisions, and actions taken by the countries, for example, not to establish or relocate human settlements in flood zones, early warning systems for floods and famine, and more stringent policies to reforest to avoid desertification, can help to minimize the impacts of the disasters and human displacement. Preparedness and timely escape are keys to managing displacement. It is rightly argued that in most areas evacuation can be avoided by strengthening the coastal defenses. As opposed to ad hoc emergency relief responses, planned and voluntary resettlement and reintegration will be a better choice.

7.3 RESETTLEMENT

WHO, WHEN, WHERE, AND HOW?

As predicted under challenging circumstances countless communities will be left with no alternative but to move.⁶⁵⁸ A significant portion of climatic displacement will remain within national borders. In certain situations refugees will have no choice but to spill over the side of international borders.⁶⁵⁹ Maldives and small-island states present a

⁶⁵⁸ The rapidly increasing climate change displacement is alarming. International Federation of Red Cross and Red Crescent Societies conclude in their World Disasters Report 2001 that more people were forced to leave their homes because of environmental disasters than war, see *supra* note 258.

⁶⁵⁹ In the result of coastal erosion, salination, rising sea levels, and more frequent storms and flooding some states may lose their entire territory and others may lose large proportions of land. In certain cases states may not lose all the land, but nonetheless remaining land affected by seawater seepage and other threats may not be able to support sustainable livelihoods. Small Island States constitute a particular challenge. As a consequence of rising sea levels, these islands would become uninhabitable. In extreme cases such states would disappear entirely or territory of the affected states could no longer be able to accommodate the whole population. The citizens of these states would be forced to migrate permanently to other countries. Present international law leaves such persons in limbo. See chapter 2.4 Where Will they Go?

precise example of settlement in a third country. The territory of Maldives and certain islands may become entirely uninhabitable leaving no option to resettle within the country.⁶⁶⁰ Bangladesh perfectly fits in the example of the situation where only part of the country will be uninhabitable but the remaining unaffected part of the territory will not be able to absorb the entire displaced population. The population of Dhaka, the largest city in the country, has dangerously swollen and the city is already experiencing health and security dilemmas. Reports confirm that it is overwhelmed with climate refugees.⁶⁶¹ Bangladeshis are swamping the city in search of new livelihoods after losing their homes in tidal surges. Experts state that Bangladesh is just a preview of the real episode yet to come.

Resettlement of millions of climate refugees over the course of the century should be the chore of the international community and customary organizations. This is important for those who would become stateless persons as defined in the international law. Current legal regimes are not adequate to address their very specific needs.⁶⁶² Policies must directly address the internal and external settlements beyond borders. Settlement policies concerning climate displacement need to be wide-ranging to contain intended and voluntary resettlement within a country if possible or in a third country if necessary. Policies must demonstrate the capability to bolster the different aspects of human movement prompted by environmental factors.

⁶⁶⁰ The Marshall Islands, the Maldives, Tuvalu and Kiribati, and the Federated States of Micronesia, Nauru and Tonga are predicted to be more at risk. See IPCC, *THE REGIONAL IMPACTS OF CLIMATE CHANGE: AN ASSESSMENT OF VULNERABILITY* 350 (1998); also see David Taylor, *Small Island States Threatened by Sea Level Rise*, *Vital Signs* 84 (2003).

⁶⁶¹ See *supra* note 566. WWF, *MEGA-STRESS FOR MEGA-CITIES: A CLIMATE VULNERABILITY RANKING OF MAJOR COASTAL CITIES IN ASIA*.

⁶⁶² The Climate Change Displacement Nexus (address by Prof. Walter Kälin, Representative of the UN Secretary General on the Human Rights of Internally Displaced Persons, to ECOSOC Humanitarian Affairs Segment, 16 July 2008).

Two disaster related large- scale resettlements in this decade, representing both the developed and developing worlds, demonstrate the necessity of making improvements in their response to future settlements. In 2010, Pakistan had to deal with the resettlement of twenty million displaced persons after heavy floods.⁶⁶³ The government of Pakistan was ineffective in providing early warnings, in providing a comprehensive evacuation strategy and in setting a resettlement plan.⁶⁶⁴ The government of Pakistan failed in its duties owed to its citizens: duty to minimize harm by collecting and providing early warning to the citizen living in the flood zone, its duty to take its citizens out of the danger zone promptly through comprehensive evacuation and its duty to arrange a resettlement plan in a timely fashion. The greater part of displaced citizens are still living under the sky waiting for rehabilitation and or resettlement.⁶⁶⁵ The bulk of displaced citizens remain without shelter waiting for their rehabilitation and/or resettlement. The government claimed its incapacity and helplessness. It blamed the lack of the technology and resources for not providing the early warning system, evacuation and resettlement arrangements. But why did the international community not play its role? All agree by signing the UNFCCC that climate change “is common but differentiated responsibility”. Article 4 of the Framework imposes a duty to help those who are more vulnerable. The UNFCCC states that, “the developed country Parties shall assist the developing country Parties that are particularly vulnerable to the adverse effects

⁶⁶³ See Congressional Research Service, Report No. R41424, FLOODING IN PAKISTAN: OVERVIEW AND ISSUES FOR CONGRESS (Nov. 18, 2010). available at <http://www.fas.org/sgp/crs/row/R41424.pdf> (last visited Apr. 29, 2012).

⁶⁶⁴ Oxfam Warns That Pakistan Has Failed to Learn Lessons of Floods, volume?? TELEGRAPH (Jul. 26, 2011, 12:30PM). available at <http://www.telegraph.co.uk/news/worldnews/asia/pakistan/8661652/Oxfam-warns-that-Pakistan-has-failed-to-learn-lessons-of-floods.html>

⁶⁶⁵ Id. See OXFAM REPORT, "Ready or Not", Jul. 26, 2011, available at www.oxfam.org/...oxfam.../bp150-ready-not-pakistan-resilience-disasters-floods-260711-summ-ar.pdf - According to the report 37,000 people were still in camps in Sindh, and 800,000 families nationwide were without proper homes one year on.

of climate change in meeting costs of adaptation to those adverse effects.”⁶⁶⁶ If the international community could not help to resettle twenty million internally displaced people then what will happen when these numbers will grow to hundreds of millions and perhaps a billion?⁶⁶⁷

Now let us see an example of displacement in the developed world. In 2005 New Orleans⁶⁶⁸ became a scene of disaster.⁶⁶⁹ One million residents were displaced.⁶⁷⁰ Besides losing homes,⁶⁷¹ at least 1,836 people lost their lives.⁶⁷² Thousands of citizens were trapped for hours and many of them could not wait for help.⁶⁷³ In all three phases of a disaster, early warning,⁶⁷⁴ timely evacuation⁶⁷⁵ and prompt settlement,⁶⁷⁶ the government

⁶⁶⁶ United Nations Framework Convention on Climate Change, 1771 U.N.T.S. 107, [UNFCCC] art.4§4.

⁶⁶⁷ Christian Aid, HUMAN TIDE: THE REAL MIGRATION CRISIS 2007, Christian Aid estimates that environmental migrants will eventually number a billion. See chapter 2. 3 How Many?

⁶⁶⁸ New Orleans is a major city in the state of Louisiana, in United States, one of the most if not the most developed nations in the world.

⁶⁶⁹ See infra note 667

⁶⁷⁰ William P. Quigley, Obstacle To Opportunity: Housing That Working And Poor People Can Afford In New Orleans Since Katrina, 42 WAKE FOREST L. REV. 393-419 (2007) Available at <http://lawreview.law.wfu.edu/files/2011/01/issue.42.393.pdf> (last accessed Dec. 23, 2011)

⁶⁷¹ Id. At 394, “In New Orleans, more than 150,000 homes were severely damaged, with another 50,000 seriously damaged across Louisiana”

⁶⁷² Bruce Katz, HOUSING FAMILIES DISPLACED BY KATRINA: A REVIEW OF THE FEDERAL RESPONSE TO DATE A1 (2005), available at http://www.brookings.edu/metro/pubs/20051114_Cost of Housing.pdf. Hurricane Katrina made landfall on August 29, 2005, along the coast of Louisiana. Sustained winds of 115 to 130 miles an hour pushed a storm surge as high as twenty-seven feet along the gulf coast. Levee failures in New Orleans put eighty percent of the city under water. Over 93,000 square miles were touched by the storm across the region, an area larger than Great Britain. Nearly 300,000 homes were destroyed or made uninhabitable. William P. Quigley, Obstacle To Opportunity: Housing That Working And Poor People Can Afford In New Orleans Since Katrina, 42 WAKE FOREST L. REV. 393-419 (2007) at footnote 1, citing, Molly Garber et al., Hurricane Katrina’s Effects on Industry Employment and Wages, Monthly Lab. Rev. 22-23 (Aug. 2006). Available at <http://lawreview.law.wfu.edu/files/2011/01/issue.42.393.pdf> (last accessed Dec. 23, 2011)

⁶⁷³ Id.

⁶⁷⁴ G.M. Filisko, What Did Katrina Teach Us?, ABA J. (Jul. 1, 2011 4:49 CDT), available at http://www.abajournal.com/magazine/article/what_did_katrina_teach_us/ (last visited Apr. 29, 2012). “Efforts were made. Initially, New Orleans Mayor Ray Nagin urged residents to flee.”

⁶⁷⁵ Narayan Sastry, DISPLACED NEW ORLEANS RESIDENTS IN THE AFTERMATH OF HURRICANE KATRINA: RESULTS FROM A PILOT SURVEY UNIVERSITY OF MICHIGAN AND RAND CORPORATION (2008). Available at <http://www.psc.isr.umich.edu/pubs/pdf/rr08-640.pdf> (last visited Dec. 23, 2011). (The entire population of New Orleans was forced to move out and there was no source of representative information on people’s whereabouts, well-being, or their plans to settle in a new location or return to the city.)

⁶⁷⁶ Residents were not able to return home once the storm had passed. As a matter of fact, five years after

fell far short of expectations.⁶⁷⁷ As posted in New York Times, the population of the New Orleans shrunk twenty-nine percent in the last decade.⁶⁷⁸ Of course one cannot suggest making New Orleans an example to follow for future resettlements but study of its coping efforts can offer us a lot to learn and serve as a reminder to plan more efficiently to prepare, evacuate and resettle affected people.

The protection of climate refugees necessitates across-the-board, long-standing and well-planned resettlement programs for displaced people, within their own country of habitual residence or in a third country when they have crossed an international border. In recent years some states initiated resettlement programs to combat climate change impacts.⁶⁷⁹ The Vietnamese government launched the “living with floods” program to resettle the twenty thousand landless and poor households living in regularly flooded areas to nearby but less endangered areas.⁶⁸⁰ In Harris County, Texas, USA formed a “voluntary home buyout” program to relocate households living in flood plains.⁶⁸¹

It is not an easy decision to leave home, but at the same time it is not a straightforward task to settle those who are forced out of their homes. There are various

the storm, some of those who remain in New Orleans are still in temporary lodgings. See American Housing Survey (AHS) Data.

⁶⁷⁷ In November 2009, a federal judge found that poor maintenance of a major navigation channel led to some of the worst flooding after the hurricane. See the New York Times, Hurricane Katrina, available at http://topics.nytimes.com/top/reference/timestopics/subjects/h/hurricane_katrina/index.html (last visited Dec. 23, 2011).

⁶⁷⁸ Campbell Robertson, Smaller New Orleans after Katrina, Census Shows, N.Y. TIMES (Feb. 3, 2011). Available at http://www.nytimes.com/2011/02/04/us/04census.html?_r=1&ref=hurricanekatrina (last visited Dec. 23, 2011).

⁶⁷⁹ These resettlement programs are limited within national borders and are criticized as destroying the social link of displaced people.

⁶⁸⁰ Benoit Mayer, The International Legal Challenges of Climate-Induced Migration: Proposal for an International Legal Framework, 22 Colo. J. Int'l Env'tl. L. & Pol'y available at http://www.cjielp.org/documents/cjielp_art177.pdf (last accessed Apr. 09, 2012).

⁶⁸¹ Voluntary Home Buyout, Harris County Flood Control District, [http://www.hcfcd.org/buyout.asp? flash =yes](http://www.hcfcd.org/buyout.asp?flash=yes).

hurdles to overcome, depending on the territories. In some jurisdictions the variations in property laws, regimes, compensation and other policies can be obstacles to resettlement. The right to self-determination and participation in cultural life⁶⁸² need to be observed in the process of settlement. Also social links to displaced people and more specifically the indigenous peoples' rights to land and rights to maintain their distinctive spiritual relationship with traditional lands and waters requiring minimal separation of persons from their cultural area must be considered in resettlement policies.⁶⁸³

Settlement has its own problems especially for both settlers and host state. In most cases resettlement will impact the environment of the host state. It will increase health and security issues. It may cause food shortages or at least increases in food prices. Chances are the receiving city may become more vulnerable to conflicts. At the same time refugees or settlers may face the risk of discrimination and cultural shocks in the refugee settlements. It seems a justifiable fear that climate refugees will encounter underlying racism and xenophobia in other countries.

And finally resettlement should be taken as a transformative process, not a one-time relocation job. Issues like impoverishment risks, reconstitution of the communities and their rehabilitation should be given serious attention. Appropriate livelihoods for Climatees are very critical in settlement planning. Priority must be given to the development, funding, and implementation of projects necessary to provide a decent

⁶⁸² The ICESCR recognizes the rights of self-determination and participation in cultural life. See Tuvalu's Prime Minister statement; "Tuvalu is a nation with a unique language and culture" and "[r]esettlement would destroy the very fabric of [its] nationhood and culture." Apisai Ielemia, *A Threat to Our Human Rights: Tuvalu's Perspective on Climate Change*, 44 U.N. CHRON. 18 (2007). Cited by Benoit Mayer *supra* note 679.

⁶⁸³ See Hodgkinson *supra* note 505. In keeping with these forms of recognition, the Hodgkinson Group has incorporated the rights-based principles of proximity.

living to Climatees with in their new surroundings.

7.4 WHO WILL PAY?

Financial and technical assistance is requisite for both preventive measures, and for preemptive relocation or settlement followed by a forced displacement. Developing countries lack the financial and technical capability to cope with such a large- scale displacement. Needed preventive actions to avert the human movement are only feasible with fiscal and technological assistance from developed nations.⁶⁸⁴ The massive displacement set off by the climate change is a challenge for international community. The IPCC reports make it very clear that much of the displacement will take place in regions where people have less capability to muddle through the massive dislocation.⁶⁸⁵ Governments of the developing countries lack the financial capabilities and technical support. Their deficient organizational structure is not proficient to manage Climatees without external assistance. Developing countries maintain that developed countries are mainly responsible for climate change so it is their duty and obligation to help those that suffer because of it.⁶⁸⁶ A vast majority of climate displacees will remain within their national borders. International support for concerned governments, distressed communities, and national agencies to protect the troubled people within their own territories is inevitable. The protection and resettling of Climatees involves technical

⁶⁸⁴ Indeed climatic displacement is an issue of international concern and responsibility. The international community has an obligation to prevent climate change related arbitrary displacement. “Common but differentiated responsibility”, Art 4, UNFCCC

⁶⁸⁵ See IPCC, *THE REGIONAL IMPACTS OF CLIMATE CHANGE: AN ASSESSMENT OF VULNERABILITY* 350 (1998). See also, *supra* note 660

⁶⁸⁶ See detailed discussion in chapter 2 and chapter 4.

support and funding for domestic resettlement programs in the affected states. No one country has the capability and capacity to finance, manage or take such a huge influx of Climatees. Displacement and resettlement on such a sizeable scale demands a global financial structure to support the needs for planned migration and required settlements.

The present climate regime does not adequately address the issue of the international financial support and fails to allocate the sources of financing necessary to assist the developing countries to cope with climate change impacts.⁶⁸⁷ Adaptation programs, such as the Adaptation Fund and Green Climate fund created for adaptation by the climate change regime are anticipated to include funding for Climatees. Historically international community's pace to take on the dilemma of Climatees is not very encouraging. No reportable progress at the international or regional level has been made until very recently. In 2009, in the sixth session of the AWG-LCA meeting under the Convention in Bonn, provisions related to the protection of this new population of concern were adopted as part of the revised negotiating text after Bangladesh called for provisions and financing mechanisms related to the protection of climate refugees.⁶⁸⁸ The

⁶⁸⁷ Several multilateral climate-change related funds have been established under the UNFCCC, the World Bank, and the GEF. But these funds are voluntary and have limited resources. To date the total disbursed funds for climate change initiatives, both within and outside of the UNFCCC, add up to only \$2.3 billion. See Council on Foreign Relations, *THE GLOBAL CLIMATE CHANGE REGIME* available at <http://www.cfr.org/climate-change/global-climate-change-regime/p21831> (Apr. 29, 12).

⁶⁸⁸ SUBMISSION OF BANGLADESH IN THE SIXTH SESSION OF THE AD HOC WORKING GROUP ON LONG-TERM COOPERATIVE ACTION UNDER THE CONVENTION (Bonn, June 2009). UNFCCC, Ad Hoc Working Group on Long-Term Cooperative Action under the Convention, FCCC/AWGLCA/2009/INF.1 22 June 2009, available at <http://unfccc.int/resource/docs/2009/awglca6/eng/inf01.pdf> (last visited Dec. 24, 2011).

European Refugee Fund⁶⁸⁹ initiated the funding of projects investigating environmental degradation as possible causes of forced migration to EU Member States.

7.4.1 THE INTERNATIONAL FUNDS

Presently no special forum for financial and technical support for climatic displacement exists at the international level. The UNFCCC established the Adaptation Fund and the Green Climate Fund to address and grant access to the sources of financing needed to help developing countries to cope with climate change. Some pledges of funds for adaptation and mitigation were made and creation of these funds has taken place in the COP meetings. These funds are primarily tailored for climate mitigation and adaptation in general and not for climate related displacement particularly. Besides UNFCCC there are few other climate related international funds available for climate adaptation.

7.4.2 THE UNFCCC ADAPTATION AND THE GREEN FUNDS

The Adaptation Fund was established under the UN Framework Convention on Climate Change's Kyoto Protocol to finance tangible adaptation projects and programs in vulnerable developing countries.⁶⁹⁰ Populations and Human Settlement is included in its

⁶⁸⁹ The European Refugee Fund, available at http://ec.europa.eu/home_affairs/funding/refugee/funding_refugee_en.htm (last visited Dec. 23, 2011).

⁶⁹⁰ UNFCCC, Adaptation Fund, http://unfccc.int/cooperation_and_support/financial_mechanism/adaptation_fund/items/3659.php (last visited Dec. 2011). It was established to finance concrete adaptation

qualifying projects list. The Adaptation Fund is financed from the share of proceeds from the clean development mechanism project activities and other sources of funding.⁶⁹¹ The key aspect of the Adaptation Fund is that developing countries will have direct access to the Fund. The Adaptation Fund Board has developed specific direct-access procedures for this purpose. The estimated funds from Certified Emissions Reductions (CER) are three hundred and sixty million by 2012.

The Fund serves the parties to the Kyoto Protocol and countries particularly vulnerable to the adverse effects of climate change to finance concrete adaptation projects and programs.⁶⁹² The Adaptation Fund became fully operational in January 2011 and in slightly over a year period, the Adaptation Fund Board has approved seventeen projects for funding amounting to more than \$108 million.⁶⁹³

The Adaptation Fund is not solely for climatic displacement and none of the projects funded by the Adaptation Fund deals with human mobility.⁶⁹⁴ Besides, available funds are not enough to handle the hundreds of million refugees worldwide. Moreover,

projects and programs in developing countries that are Parties to the Kyoto Protocol. The history of adaptation fund goes back to the Marrakesh climate summit of 2001 but the Fund's actual work only began after the Bali climate summit in 2007. Also see, Adaptation Fund, available at, <http://www.adaptation-fund.org/page/faq> (last time visited Dec. 25, 2011). The Adaptation Fund Board currently meets four times a year in Bonn, Germany except when meeting in conjunction with sessions of the CMP or the subsidiary bodies of UNFCCC. The AFB is composed of 16 members and 16 alternate members. The Adaptation Fund members meet twice a year. Its board members do the management part of the Adaptation Fund.

⁶⁹¹ Id. The share of proceed amounts to 2% of certified emission reductions (CERs) issued for a CDM project activity and from private donors, for which the EU proposed in Bali that the World Bank and the Global Environmental Facility (GEF) be responsible.

⁶⁹² About Adaptation Fund, for more information see Adaptation Fund website, available at, <http://www.adaptation-fund.org/about> (last visited Feb 24, 2012).

⁶⁹³ Adaptation Fund Board Approves Second Direct Access Project, Accredits Three Implementing Entities (2011-12-22 09:54). Available at, <http://www.adaptation-fund.org/media/adaptation-fund-board-approves-second-direct-access-project> (last visited Feb. 23, 2012).

⁶⁹⁴ Id.

the CER market is quite volatile, so the revenue stream is neither as predictable nor as reliable as needed.

Pledges made by industrialized countries to provide \$100 billion by 2020 in Copenhagen were well taken politically. The concept of a Green Climate Fund (GCF) generated in Copenhagen⁶⁹⁵ was put into place in COP 16 meeting in Cancun⁶⁹⁶ and finally was created at the UNFCCC, meeting in Durban, South Africa.⁶⁹⁷ The GCF would provide an immediate injection of financial assistance of around thirty billion U.S. dollars until 2012.⁶⁹⁸ A mixed response from climate change experts and negotiators of the GCF is reported.⁶⁹⁹ National Adaptation Programs of Actions for the least developed countries (LDCs) was created under the supervision of the UNFCCC.⁷⁰⁰ The program is funded by

⁶⁹⁵The Copenhagen Accord Emphasizes “that the Copenhagen Green Climate Fund shall be established as an operating entity of the financial mechanism of the Convention to support projects, programs, policies and other activities in developing countries related to mitigation including REDD-plus, adaptation, capacity-building, technology development and transfer.” Additionally, developed countries, which would provide an immediate injection of financial assistance of around thirty billion U.S. dollars until 2012, and long-term financing of one hundred billion dollars a year by 2020 to developing countries.” See Copenhagen Accord, The Conference of the Parties (Dec. 18, 2009), available at <http://unfccc.int/resource/docs/2009/cop15/eng/l07.pdf>.

⁶⁹⁶ UNFCCC, TRANSITIONAL COMMITTEE FOR THE DESIGN OF THE GREEN CLIMATE FUND, http://unfccc.int/cooperation_and_support/financial_mechanism/green_climate_fund/items/5869.php (last visited Dec. 27, 2011). “At COP 16 held in Cancun, Mexico, the COP adopted decision 1/CP.16 in which it decided to establish a Green Climate Fund, to be designated as an operating entity of the financial mechanism of the Convention under Article 11, with arrangements to be concluded between the COP and the Green Climate Fund to ensure that it is accountable to and functions under the guidance of the COP. The Green Climate Fund will support projects, programs, policies and other activities in developing country Parties using thematic funding windows.”

⁶⁹⁷ United Nations, DURBAN CONFERENCE DELIVERS BREAKTHROUGH IN INTERNATIONAL COMMUNITY’S RESPONSE TO CLIMATE CHANGE, <http://www.un.org/wcm/content/site/climatechange/pages/gateway/the-negotiations/durban>

⁶⁹⁸ The concrete funding streams for The Green Climate Fund have yet to be materialized. In Durban The Green Fund moved one step further but still have a long way to go. Farrukh Iqbal Khan, a member of forty-two-member committee for The Green Climate Fund and chair of The Adaptation Fund criticized the Durban in these words, “the international cooperation is more to save their banks than biosphere.” He further added that, “a post dated check has been handed over in Durban talks. I am not sure it will be honored.”

⁶⁹⁹ See *id.* Some experts consider GCF a critical step forward but many others are not so excited.

⁷⁰⁰ Least Developed Countries Portal, UNFCCC, available at, http://unfccc.int/cooperation_support/least_developed_countries_portal/items/4751.php. (last visited Dec. 24, 2011).

an ad hoc voluntary trust fund administered by the Global Environment Facility.⁷⁰¹ So far very little financial aid is offered for the adaptation projects.⁷⁰²

7.4.3 OTHER AVAILABLE CLIMATE CHANGE FUNDS

Besides UNFCCC, other major international organizations such as the UNDP, the OECD, the ADB, and the World Bank have initiated programs to encourage adaptation. The World Bank acknowledges the importance of human settlement and allocates appropriate funds to address human movement in development projects. The Bank is an international financial source for development projects and the calamity of Climatees is an issue of human rights and humanitarian laws.

In 2010 the head of the International Monetary Fund proposed a plan for the world's governments to pool together to raise money needed for climate change adaptation.⁷⁰³ Strauss-Kahn said, "We all know that (carbon taxes and other fundraising methods) will take time and we don't have this time."⁷⁰⁴ He proposed that "countries adopt a quota system similar to the one the Fund uses to raise its own money, which could bring in money faster than proposals to increase carbon taxes or other fundraising

⁷⁰¹ See *id.* The GEF is a trust fund and administers three trust funds, the Global Environment Facility Trust Fund (GEF); Least Developed Countries Trust Fund (LDCF); Special Climate Change Trust Fund (SCCF); the Nagoya Protocol Implementation Fund (NPIF) and provides secretariat services, on an interim basis, for the Adaptation Fund. See, The Global Environmental Facility, available at <http://www.thegef.org/gef/node/2042>. (last visited Dec. 24, 2011).

⁷⁰² Noted that all of these four funds administered by GEF have an annual budget reaching three billion dollars, which is the sole cost of the Dutch "Room for the River Program" that consists of improving the security around rivers in the Netherlands alone.

⁷⁰³ Tom Maliti, Climate Change Funds: The IMF has Ideas for Combating Climate Change, HUFF POST GREEN (March 8, 2010 03:43 PM ET). Available at, http://www.huffingtonpost.com/2010/03/08/climate-change-funds-the-_n_489680.html (last visited Feb. 26, 2012).

⁷⁰⁴ *Id.*

methods.”⁷⁰⁵ Both the World Bank and the IMF face strong opposition from environmentalists for their funding in the projects responsible for the climate change. Global financial support is necessary to avert and manage growing climate displacement. There is no exclusive fund exist for climatic displacement only. The expectations are that adaptation funds will provide the funds for Climatees. New and exclusive funds need to be made considering the scale of the displacement. Meanwhile as existing funds are not created solely for climate displacement a major amount in the funds need to be allocated for human mobility.

7.4.4 NATIONAL RESOURCES

Very limited financial support has been offered by climate change and other international regime so far.⁷⁰⁶ Considering the pace of international negotiation on climate change and needed funds for developing countries,⁷⁰⁷ climate displacement related projects should not depend solely on international funds. Moreover, trends in the global economy suggest that more efforts should be made now to mobilize national resources to address the needs of climate change displaced persons. Farrukh I qbal Khan, a lead climate change negotiator for Pakistan, chairperson for the Adaptation Fund, and a key member of the committee responsible for structuring of the Green Climate Fund said

⁷⁰⁵ See id.

⁷⁰⁶ The Adaptation Fund only funded small projects in 2011. The total amount adds up to US Dollar fifty million. Adaptation Fund Board, Ethics and Finance Committee, ANNUAL PERFORMANCE REPORT (2011). See Adaptation Fund Board, Ethics and Finance Committee, Seventh Meeting, Durban, Dec. 12, 2011, available at http://adaptation-fund.org/sites/default/files/AFB.EFC_7.4.Rev_2%20Annual%20Performance%20Report.pdf

⁷⁰⁷ Statement by Farrukh Iqbal Khan. See *supra* note 698.

correctly, “There should be no doubt that we need to do more at home rather than depending on the outcome of international negotiations. International cooperation is vital but there is a lot that must exist at home. In fact, solutions are available at home not abroad.”⁷⁰⁸ Nations must plan to resolve displacement issues domestically. There is a need for state strategies focused on domestic sources. Projects based in some states already initiated the resettlement and relocation process. Vietnam has moved communities from riverbanks to areas further back. Mozambique has promoted voluntary resettlement from flood plains to higher ground and in the Maldives, the Government promotes resettlement from outer islands to principal islands.⁷⁰⁹ Where possible small projects based on community help should be encouraged. Building strategies on traditional coping mechanisms and using traditional methods to cope with displacement can cost less and results will be more acceptable to local communities. Self-financing is more practical for vital projects but not nearly enough in poor countries.

7.5 CONCLUSION

It remains a challenge how the problem of Climatees should be envisaged and addressed. Concerned states and the international community do not find many options to manage increasing numbers of Climatees. In certain cases, displacement can be averted or at least minimized by adequate adaptation measures. Where displacement is

⁷⁰⁸ See supra note 698.

⁷⁰⁹ See generally Assessing Displacement and Resettlement due to Climate Change Mitigation and Adaptation Projects IAIA Symposium on Climate. Report Change and Impact Assessment, Nov. 15- 16 2010, www.iaia.org/iaia...dc/.../33_deSherbinin_IAIASymposium_nov2010.pdf (last time visited Apr. 29, 2012).

unavoidable, preemptive and precautionary actions including settlement of the displaced is needed.

A vast majority of the most vulnerable communities and nations lack the financial and technical capabilities to cope with the crisis of such a large-scale of Climatees. Intrinsically the most vulnerable regions are the poorest of all. Given the extensive costs associated with addressing displacement-related aspects of climate change, developed nations must allocate the financial resources required to provide the financial aid necessary to cope with the dilemma of Climatees. Much more needs to be done to augment global funds (the Adaptation Fund and The Green Climate Fund). Existing international financial institutions (World Bank and International Monetary Fund) are criticized for their funding of projects that have generated the current climate crisis that we face today (like coal plants). At present climate related human movement calls for answers to basic and very critical questions: How much will preventive measures and resettlement of the displaced cost? How to generate an adequate and predictable flow of funds? How should these funds be channeled so that they reach those most in need?

Meanwhile the states at jeopardy must explore other options including self-financing, as time is not on their side. Timely preventive and preemptive actions cost less and can avert forced migration, which would lead to bigger losses including of human life. This discussion helps us to conclude that displacement will take place and logically it will require resettlement. The discussion in the next chapter will address the core issues interrelated to resettlement: the right to resettle if any, building the resilience to minimize

resettlement and to reduce the stress and degradation on the host country's environment.

CHAPTER 8

RESETTLEMENT: THE CORE ISSUES

8.1 INTRODUCTION

Climatic displacement is not a straightforward dilemma with effortless solutions. It is a multifaceted issue with diverse dimensions. Scholars with more rational approach propose a resolution based on multiple actions. In the preceding chapters this thesis examined the various forms of legal and available operational protection for both internal and cross border climate motivated displacement. Many issues are being debated among scholars and technocrats. A major disagreement is on the numbers and timing of displacement but there is a logical agreement that a resettlement will be needed sooner or later. Resettlement related to the climate change has many characteristics. It has substantive connections to many issue areas, including development, finance, public health, energy, security, and legal and human rights.

Voluntary resettlement can be a preemptive and precautionary measure to avoid forced displacement or to accommodate people affected by post disaster displacement. It may take place voluntarily however, when only slow onset migration occurs due to livelihood failures or it can be sought when evacuation is mandatory from a disaster prone area. Resettlement (both voluntary and forced) can take place within the national borders or in another country beyond the international borders.⁷¹⁰ This can be the result

⁷¹⁰ The majority of environmentally displaced persons will be displaced internally. The citizens of disappearing islands will have to cross the international borders. K. K. Moberg, *Extending Refugee Definitions to Cover Environmentally Displaced Persons Displaces Necessary Projection*, 94 IOWA L. REV. 1132 (2009). also see D. Keane, *The Environmental Causes and Consequences of Migration: A Search For*

of a temporary or permanent displacement. It can be for a small group or community or the entire state.⁷¹¹ Every aspect of settlement is discussed in the previous chapters but the instant chapter will examine the issue of resettlement from diverse angles; what are the legal and environmental aspects of the resettlement? Do the developed nations owe a duty to assist in resettlement to those in need? Can it be avoided? And do those who resettle owe a duty to the receiving country's environment? Is there a human right to resettle? What does it include? Is it just a right to housing? Do we need to reevaluate the actions to build the resilience? What does sustainable development means in the term of human migration?

8.2.1 IS THERE A HUMAN RIGHT TO RESETTLE? WHAT DOES IT INCLUDE?

IS IT JUST A RIGHT OF HOUSING?

Large-scale resettlement is undoubtedly one of the biggest challenges facing many nations and international community. This thesis argues resettlement is a basic human right and that the international community owes a duty of setting up international resettlement programs for migrants including the displaced by climate. The argument starts with a definition of involuntary resettlement by African Development Bank, quoted in its Involuntary Resettlement Policy “Involuntary resettled are thus people of all ages,

the Meaning of “Environmental Refugees”, 16 GEO. INT’L. ENVTL. L. REV. 213 (2004).

⁷¹¹ See supra notes 659-660. In the result of coastal erosion, salinization, rising sea levels, and more frequent storms and flooding some states may lose their entire territory and others may lose large proportions of land. In certain cases states may not lose all the land, but nonetheless remaining land affected by seawater seepage and other threats may not be able to support sustainable livelihoods. The citizens of these states would be forced to migrate permanently to other countries.

outlooks and capabilities, many of whom have no option but to give up their assets.”⁷¹²

The Bank’s definition is in the context of development related settlement. From the refugees’ perspective, resettlement is defined as, “the selection and transfer of refugees from a State in which they have sought protection to a third State which has agreed to admit them – as refugees with permanent residence status”⁷¹³ A definition of settlement followed by a disaster can be more related to our discussion.

This thesis argues that an individual’s right to resettle is a human right. Article 13, of Universal Declaration of Human Rights, of 1948 advocates freedom of movement and a right to return, “Everyone has the right to freedom of movement and residence within the borders of each State. Everyone has the right to leave any country, including his own, and to return to his country.”⁷¹⁴ Article 12, of the International Covenant on Civil and Political Rights of 1966 advances the argument, “Everyone lawfully within the territory of a State shall, within that territory, have the right to liberty of movement and freedom to choose his residence.” Article 12 further guarantees the right “to leave any country, including his own.”⁷¹⁵ This thesis argues that the international community has an obligation to protect and respect the right of human mobility and its related rights. Article 11, International Covenant on Economic, Social and Cultural Rights of 1966 makes it

⁷¹² African Development Bank, African Development Fund, INVOLUNTARY RESETTLEMENT POLICY, Glossary 27, available at <http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/10000009-EN-BANK-GROUP-INVOLUNTARY-RESETTLEMENT-POLICY.PDF> (last visited Jan. 12, 2012).

⁷¹³ Leah K. Clarke, Making Meaning of Refugee Resettlement Experiences: The Acculturation Attitudes of Liberian Women, available at http://libres.uncg.edu/ir/uncg/f/Clarke_uncg_0154D_10296.pdf (last visited JAN. 16, 2011). Also see, UNHCR, 2005, p. 2.

⁷¹⁴ Article 13, of Universal Declaration of Human Rights, 1948. Also see People’s Movement for Human Rights Learning, INTERNATIONAL HUMAN RIGHTS STANDARDS ON POST-DISASTER RESETTLEMENT AND REHABILITATION, WORKING DOCUMENT, in collaboration with the United Nations Special Rapporteur on Adequate Housing, Prepared by: Bikram Jeet Batra, Shivani Chaudhry August 2005, 78, 84, available at PDHRE website <http://www.pdhre.org/HIC-PDHRE.pdf> (last visited Jan. 16, 2012).

⁷¹⁵ See id.

clear that international community has a duty to provide such rights. Article 11 reads, “The States Parties to the present Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions. The States Parties will take appropriate steps to ensure the realization of this right, recognizing to this effect the essential importance of international co-operation based on free consent.”⁷¹⁶

This thesis argues that the right of resettlement is not just a right of housing. Article 11, International Covenant on Economic, Social and Cultural Rights, of 1966 quoted above supports the argument that the right of resettlement is not just a right for housing. It includes the “adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions.”⁷¹⁷ When people get displaced not only do they lose their homes but their livelihoods as well. Largely, resettlement projects provide living quarters to displacees but not livelihoods. All predictions and projections indicate climate change will displace the poorest of the poor. Poor communities living in suburban coastal settings in developing countries are the most vulnerable. These climate victims have very limited education and technical skills. They may have no savings and no seed money to start their lives at a new place. Settlement, which just provides new living quarters in a new location, will not suffice.

In general, displaced people after resettlement do not feel as well as prior to their displacement. Critics claim that often migrants are left economically, culturally and

⁷¹⁶ See *id.* Article 11, International Covenant on Economic, Social and Cultural Rights, of 1966.

⁷¹⁷ *Id.*

emotionally devastated. Various resettlement projects around the world offer an opportunity to learn the exact needs for resettlement. The most recent and large-scale resettlement took place in China. The construction of the Three Gorges Dam, the world's largest hydroelectric dam displaced more than one million people.⁷¹⁸ The Government of the China resettled a majority of the displacees in newly built resettlements in various parts of the country. These development-induced resettlements may not qualify as a “model” for the future climate related resettlements but offer a good blue print to start with.⁷¹⁹ The majority of the Three Gorges Dam settlers have one primary concern, “no appropriate livelihood”.⁷²⁰ The second major complaint was about the new social set up. They grieve for their separated families in the settlement process.⁷²¹

To advance the arguments this thesis will examine another definition of resettlement. The term “resettlement” is defined in the Resettlement Plan prepared by the government of Peoples Republic of China (PRC) according to its Laws and Regulations of PRC and those of Ningxia Hui Autonomous Region, as well as the involuntary resettlement policy of Asia Development Bank. Resettlement is defined as, “The term resettlement includes: a) the relocation of living quarters; b) finding acceptable new employment for those whose jobs are lost or severely affected; c) restoration (or

⁷¹⁸ About 1 million people will be relocated due to the construction of the Three Gorges Dam. See, Embassy of the People Republic of China in the United States of America, THE THREE GORGES PROJECT: A BRIEF INTRODUCTION <http://www.chinaembassy.org/eng/default.htm> (last visited Jan. 14, 2012). On December 14, 1994, the construction of the, Three Gorges Dam started and the whole project was completed in 2009. The total investment for the project will amount to US \$28 billion.

⁷¹⁹ During my visit (July 2011) to a state built resettlement city of for the Three Gorges Dam displacees, I observed that development in the new cities is quite modern with many amenities. My research assistant and translator, who herself along with her family was displaced by the dam construction confirmed the Chinese government's claim that new development is much better than their former homes in terms of quality of their construction. We interviewed a few settlers including a taxi driver, a storeowner, and a person on the dole who was hesitant to reveal his personal identity.

⁷²⁰ Id.

⁷²¹ Id. During an interview, a Migration officer explained that the preference was given to unite families where possible.

compensation) affected productive resources such as land, workplaces, trees and infrastructure; d) restoration of other adverse effects on APs' living standards (quality of life) through land acquisition, indirect resettlement impacts or other project impacts; e) restoration of or compensation for affected private and public enterprises; f) restoration of adversely affected on cultural or common property.”⁷²² As stated, the above definition is in the context of development resettlement. Article 25, Universal Declaration of Human Rights of 1948, provides, “everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control”⁷²³

Definitions and human rights principles as set forth above are either from a development aspect or are from a human rights perspective. This thesis argues that in the absence of direct legal definitions and international instruments the above definitions and principles can be correlated to climate change resettlement. The climate change related resettlement is a basic human right and besides the housing it includes the livelihoods and protection of all related rights listed above.

⁷²² RESETTLEMENT PLAN, OBJECTIVES OF RESETTLEMENT PLAN AND DEFINITION OF RESETTLEMENT TERMINOLOGY, available at, Asia Development Bank, http://www.adb.org/Documents/Resettlement_Plans/PRC/Ningxia/ningxia_chap01.pdf

⁷²³ See Article 25, UNIVERSAL DECLARATION OF HUMAN RIGHTS OF 1948.

8.2.2 BUILDING THE RESILIENCE

REEVALUATION OF THE ACTIONS - IS IT ENOUGH?

Glacial melt, sea level rise, floods, and desertification impact livelihoods of habitats in many regions, which intensify displacement and migration patterns. Cities and communities in the vulnerable zones need to be made more resilient to adjust to environmental changes and climate variability. What is climate change resilience? What can cities do to be resilient against a variety of shocks and slow-onset changes?

Resilience is defined as “A capability to anticipate, prepare for, respond to, and recover from significant multi hazard threats with minimum damage to social well-being, the economy, and the environment.”⁷²⁴ An Intergovernmental Panel on Climate Change (IPCC) special report defines resilience in a similar manner.⁷²⁵ Resilient cities are characterized precisely by the Asian Cities Climate Change Resilience Network (ACCCRN) in, “Responding to the Urban Climate”: “Resilient cities create, enable, and sustain the services and institutions required for basic ongoing survival and are

⁷²⁴ FEDERAL ACTIONS FOR A CLIMATE RESILIENT NATION, PROGRESS REPORT OF THE INTERAGENCY CLIMATE CHANGE ADAPTATION TASK FORCE Oct. 28, 2011. Available at http://www.whitehouse.gov/sites/default/files/microsites/ceq/2011_adaptation_progress_report.pdf (last visited Jan. 15, 2012). Also see, The Resilience Alliance: <http://www.resalliance.org/whatisresilience.html>. (last visited Jan. 15, 2012). Resilience denotes the capacity of a system to tolerate disturbance without collapsing into a qualitatively different state. It prepares communities to withstand shocks and rebuild themselves when necessary.

⁷²⁵ “The ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions.” See, C.B. Field, et al., eds., IPCC, 2011: SUMMARY FOR POLICYMAKERS. IN: INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE SPECIAL REPORT ON MANAGING THE RISKS OF EXTREME EVENTS AND DISASTERS TO ADVANCE CLIMATE CHANGE ADAPTATION, (2011) available at http://www.ipccwg2.gov/SREX/images/uploads/SREX-SPM_Approved_HiRes_opt.pdf (last retrieved Jan. 29, 2012). (

The Summary for Policymakers of the Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX) was approved on Nov. 18, 2011 in by member governments of the Intergovernmental Panel on Climate Change (IPCC).)

characterized by their ability to generate new opportunities for their residents. They avoid relying on solutions that depend on anticipating specific hazards, and instead take a broader, integrated approach. A resilient city is able to withstand a variety of challenges because the following elements are incorporated into urban systems and the ways in which people construct and maintain those systems.”⁷²⁶

Definitions of resilience and resilient cities suggest that vulnerability and resilience are interrelated. Adaptation measures are a means for reducing vulnerability, and increasing resilience and preparing to acquire the prospects posed by climate change. The question is how it is related to the human mobility? People move only when not only their homes but also their livelihoods are gone. The best solution is not always merely to escape. When people relocate, a new chain of concerns is triggered. After migration beyond the geographic territory not only do people face new places they have to tackle an array of social, health, economic and security issues. Migration past the community should take place when it is the only option for survival. Relocation can cause cultural dislocation, loss of dignity, stress, and chronic health problems, not to mention a number of intangible migration impacts.

Resilience can aid to minimize the effects of displacement. It can also facilitate the settlers to adjust with the changed environments where resettlement is inevitable. The building of resilience or the increase in the ability to respond to vulnerabilities can moderate the risks of climate impacts on their lives and livelihoods. Improving social, economic, and technical capacities could increase the resilience of a community. The

⁷²⁶ Asian Cities Climate Change Resilience Network, RESPONDING TO THE URBAN CLIMATE CHALLENGE (2009). available at, <http://www.i-s-e-t.org/images/pdfs/accrn%20cop15%20nov09.pdf> (last visited Jan. 15, 2012).

desired resilience can be aided by policies that aim to ensure that development is sustainable. The most fragile and vulnerable states call for help to prepare for the anticipated impacts of climate change. To build resilience to climate change impacts, including flooding, droughts and water scarcity would decrease the need for displacement and more importantly minimize human suffering and loss of life.

So, how to do this? One way is that international and national organizations build climate change resilience hard solutions (such as the modification of existing infrastructure), and soft solutions (such as improved emergency preparedness plans, public education, and new maintenance and operations procedures) to promote the resilience.⁷²⁷ Plan for adaptation must collect detailed information on climate impacts and prioritize the risks communities face as a first step. Risk assessment of the adaptation policy and planning is the next step. The integration of climate concerns into planning and operations must be the ultimate priority. A very strong coordination is needed among climate professionals, elected officials, and residents to take action on climate resilience. More community-based efforts are required in coastal cities, where residents might resist being relocated from flood-prone areas, or refuse to rebuild their homes in ways that could accommodate flooding. Coordination among governmental and private organizations that share responsibility for dealing with the community's day-to-day operation is important. Climate change related resilience involves more than one sector and success of a resilience program relies on the whole system, not just one agency. In 2006 the Government of the Singapore launched a "Community Engagement Programme (CEP)", which successfully engages the various sectors of the community, including the

⁷²⁷ Id.

business sector, religious and community leaders, and grassroots organizations among others to bolster community resilience and preparedness.⁷²⁸ Active involvement and preparedness of all private and public institutions including utilities, telecommunications, and transportation companies is vital.

To bolster their resilience, communities need to revise their emergency response plan and take measures such as building on higher elevations and refurbishing infrastructure, construction of walls and structure, to cope with sea level rise, flooding, and to deal with storm water management. A plan is also needed to deal with new disease, drought, food security, and increase in population as a result of influx from climate-displaced immigrants.

A universal problem nearly all cities and communities face is the availability of adequate resources and funds to implement such adaptation projects. In the absence of the international funds, private sector should be involved as much as possible⁷²⁹ and the education and involvement of major stakeholders, civil society, and increase in corporate responsibility is crucial. Private funding for small community based projects from local financial institutions should be explored. Bilateral donors and regional cooperation can offer another solution as some climate risks are common for the whole region and

⁷²⁸ Singapore's Minister for Home Affairs, stated in response to a question that Singapore formulated a National Climate Change Strategy in 2007 that lays out ongoing measures and future plans in the area of adapting to climate change and in mitigating CO2 emissions. Under an on-going Community Engagement Programme (CEP) launched in 2006, the Government engages various sectors of the community, including the business sector, religious and community leaders, and grassroots organizations among others to bolster community resilience and preparedness.

⁷²⁹ IRIN, HOW TO: BUILD A FLOOD-RESILIENT CITY, <http://www.irinnews.org/report.aspx?reportid=94319> (last visited Dec. 24, 2011). Stressing on the importance of the involvement of the private sector Jerry Velasquez, senior regional coordinator for UNISDR Asia Pacific says, "What we need from them is not only corporate social responsibility and money, but their active involvement. It can be as simple as building a dyke around their factories, choosing the right locations to build factories and coming up with disaster contingency plans."

regional projects significantly bolster resilience for all.

In 2009 the World Bank with the Asia Development Bank issued a report after performing a Pilot Program for Climate Resilience in Tajikistan. The report addressed the resilience issues directly related to Tajikistan but it can offer a guideline to the vulnerable communities in other countries, especially those with similar climate change conditions. The report recommends building institutional and human capacity in areas relevant to climate resilience. It further recommends the implementation of a strategic program for climate resilience at the country, sectorial, and at the community and local levels.⁷³⁰

The World Bank Report on Tajikistan and other scholarly and policy works on adaptation and resilience lead us to conclude that it is essential to build resilience in climate vulnerable zones. It can help to avoid the relocation and to prepare to adjust with the changed environment. To achieve the goal to make the cities and habitats more resilient, involvement of the local community and participation of vulnerable groups, particularly the rural poor and minorities is necessary.

Climate change is a crosscutting issue across several sectors of a country's economy, agriculture and food security, water resource management, transport, and energy security. Resilience is a local issue and it serves better to all community actors. Without the participation of both the public and private sectors and involvement of utility companies, other consumer based businesses, and financial institutions' goal of resilient communities and cities cannot be achieved.

⁷³⁰ World Bank, Pilot Program for Climate Resilience - Tajikistan, JOINT MISSION REPORT 12 - 22 (Oct. 2009). available at http://siteresources.worldbank.org/TAJIKISTANEXTN/Resources/PPCR_JM_Report_Final_English.pdf (last visited Jan. 15, 2012).

8.2.3 SUSTAINABLE RESETTLEMENT DEVELOPMENT POLICIES, AND PLANNING FOR RISK REDUCTION AND RESETTLEMENT: WHAT DOES SUSTAINABLE DEVELOPMENT MEAN IN THE CONTEXT OF MIGRATION?

No ideal choice of sustainable resettlement of climate displacees exists to follow but nations' experiences of involuntary resettlement as a result of development or disaster can provide guidance on future sustainable climate resettlements. The World Bank has provided a checklist of dos and do nots for involuntary resettlement due to development related resettlement.⁷³¹ This refers to both physical displacement (for example, relocation or loss of shelter) and to economic displacement (for example, loss of access to resources for income generation or means of livelihood). Are these policy guidelines central for climate-induced displacement? Prior to discussion on that question, exploration of sustainable development's meaning is needed. Sustainable development is best defined in the Brundtland Report.⁷³² The report reads, "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social

⁷³¹ THE WORLD BANK POLICY ON INVOLUNTARY RESETTLEMENT, available at web.worldbank.org/.../0,,content MDK:20486717~menuPK:1242266~pagePK:148956~piPK:216618~theSitePK:410235,00.html (last accessed Apr. 09, 2012).

⁷³² REPORT OF THE WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT: OUR COMMON FUTURE, Transmitted to the General Assembly as an Annex to document A/42/427 - Development and International Co-operation: Environment UN Documents Gathering a body of global agreements, The report is available as UN document at, <http://www.un-documents.net/wced-ocf.htm> (last retrieved Jan. 16, 2011). Our Common Future commonly known as the Brundtland Report was published in 1987 and is the outcome of the work by the World Commission on Environment and Development. The report laid out the concept of sustainability as containing environmental, economic and social aspects.

organization on the environment's ability to meet present and future needs."⁷³³ The key concept of a sustainable development definition related to the instant discussion is “the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given.”⁷³⁴ Several international organizations have done work on both involuntary resettlement and sustainable development. The World Bank, heavily involved in development projects globally, made serious efforts to capture the spirit of “essential needs” as a prerequisite of sustainable development in its resettlement guidelines. The World Bank Report says, “... Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits... Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to beginning of project implementation, whichever is higher.”⁷³⁵ Protecting Persons Affected by Natural Disasters – IASC Operational Guidelines on Human Rights and Natural Disasters,⁷³⁶ also offers guiding principles on how to handle the displacement aspects of climate change. Based on the World Bank reports, reactions from the settlers⁷³⁷ and critics who are long

⁷³³ World Commission on Environment and Development, OUR COMMON FUTURE 43 (1987) cited in INTERNATIONAL INSTITUTE OF SUSTAINABLE DEVELOPMENT (available on line at <http://www.iisd.org/sd/> (last visited Jan. 16, 2012).

⁷³⁴ Id.

⁷³⁵ World Bank, OP 4.12 - INVOLUNTARY RESETTLEMENT, POLICY OBJECTIVES, available at, <http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/EXTPOLICIES/EXTOPMANUAL/0,,contentMDK:20064610~menuPK:64701637~pagePK:64709096~piPK:64709108~theSitePK:502184,00.html> (last visited Jan.18, 2012).

⁷³⁶ Inter-Agency Standing Committee, PROTECTING PERSONS AFFECTED BY NATURAL DISASTERS – IASC OPERATIONAL GUIDELINES ON HUMAN RIGHTS AND NATURAL DISASTERS (2006).

⁷³⁷ The author recalls his meetings with settlers of Three Gorges Dam who were settled in the city of China. The author observed that resettlement complex offered very modern housing but their expectations after their displacement were way beyond the better abode. They just wanted their livelihoods and social and cultural set up back. More simply they just wanted to return to their homes. See supra notes 719-721.

working on this issue, it can be precisely articulated that resettlement is not simply building new houses. (Based on reports from the World Bank, settlers and experts it can accurately be said that resettlement is not only building new house.) It involves migrants' livelihoods and their economic and social concerns. The resettlements must be planned on appropriate sites. Their feasibility should be based on socially and culturally appropriate factors rather than their economic viability. Stakeholders and community involvement are vital to the planning process. All those displaced, regardless of their reasons for displacement desire to return to their homes and to continue their lives as they were prior to displacement.

A resettlement project based on the principles of sustainable development will provide green jobs and decent work to support the communities and livelihoods of settlers. It will provide the work opportunities needed for Climatees. Amber Barh, (International Labour Organization office of the United Nations) notes the benefits of renewable development: "the ILO is firmly convinced that a green economy and green jobs present a significant opportunity to overcome poverty and inequality by creating more and better jobs, including for women and youth, at all levels and various sectors such as in agriculture, waste management, and pro-poor tourism."⁷³⁸ The ILO supports green jobs.⁷³⁹ Settlement plans should be based on the tools and methodologies developed by the ILO. The World Bank suggests that involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs.⁷⁴⁰

⁷³⁸ Statement by Amber Barth, ILO Officer to the United Nations, Opening Session, UNCSD 2012-Rio+20, Initial Discussion of the Zero Draft, New York, 25-27 January 2012, available at,

⁷³⁹ Id.

⁷⁴⁰ World Bank, OP 4.12 - INVOLUNTARY RESETTLEMENT, POLICY OBJECTIVES, available at, <http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/EXTPOLICIES/EXTOPMANUAL/0,,conte>

But where it is unavoidable the priority should be land-use planning better construction of buildings, implementing early-warning radars, and re-zoning the coastal areas and job creations.

Craig Johnstone, Deputy High Commissioner of UNHCR, rightly said we failed in our obligation to prevent climate change but we need to prepare for the human consequences of climate change (human displacement being considered the key consequence).⁷⁴¹ All effort must be made to prevent the many dangers of poor resettlement. International standards now support the rights of disaster-affected populations to return to and recover their former homes and lands if feasible should they so wish. Permanent relocation should never result in homelessness again.

8.3 CONCLUSION

Resettlement is not as easy a move as it may sound. It involves many agonies. As Tarita Holm of the Palauan Ministry of Resources and Development noted, “[i]t is about much more than just finding food and shelter. . . . It is about your identity.”⁷⁴² Increasing resilience by taking appropriate adaptation measures such as improving social, economic and technical resilience and increasing flexibility to adjust with the changed environment

ntMDK:20064610~menuPK:64701637~pagePK:64709096~piPK:64709108~theSitePK:502184,00.html (last visited Jan.18, 2012).

⁷⁴¹ Craig Johnstone, *The Future Is Now*, FORCED MIGRATION REV. 47 (2008). Available at http://www.terveilm.net/files/325_FMR31_ClimateChangeDisplacement.pdf (last retrieved Apr. 29, 2012).

⁷⁴² Neil MacFarquhar, *Islanders Fearing Climate Change Press a U.N. Debate*, N.Y. Times A4 (May 29, 2009), cited by, Elizabeth Burleston, *ESSAY CLIMATE CHANGE DISPLACEMENT TO REFUGE*, JOURNAL OF ENVIRONMENTAL LAW AND LITIGATION available at <http://www.law.uoregon.edu/org/jell/docs/251/burleson.pdf> (last visited Dec. 25, 2011).

could minimize displacement and resettlement.⁷⁴³ Where resettlement is unavoidable it must take place in a sustainable fashion based on humanitarian principles. The influx of migrants can degrade the environment of host cities and receiving communities. All resettling planning must consider the impacts of resettlement on the environment of the host cities and receiving communities. The right to resettle and right to return⁷⁴⁴ is a human right. Resettlement policy should be based on guidelines and internationally recognized human rights. The introduction note in a Habitat International Coalition “Working Document” (January 2006) prepared in collaboration with the United Nations Special Rapporteur on Adequate Housing captures the essence; “The rehabilitation process gives us the opportunity not only to provide relief to the survivors, but also to create a sustainable human rights culture that produces visible results.”⁷⁴⁵

And at the end, the phenomenon of climate induced displacement and its resettlement demands multiphase solutions and involvement of every concerned actor, not just the government. A quote from O’Riordan says it all, “Every human society exhibits a tension between a desire to exploit and an obligation to protect. Some turn to the gods to help them, some to more natural orders, and others to science, technology and managerial ingenuity.”⁷⁴⁶ In the scenario of climate displacement, we need them all.

⁷⁴³ Resettlement may be the only option for low-lying states, such as Bangladesh, and small island states, such as Tuvalu. See *supra* footnotes 659-660.

⁷⁴⁴ “No one shall be arbitrarily deprived of the right to enter his own country.” Commission on Human Rights, Principle 12, GUIDING PRINCIPLES ON INTERNAL DISPLACEMENT (1998).

⁷⁴⁵ Minar Pimple and Joseph Schechla, Introduction, in INTERNATIONAL HUMAN RIGHTS STANDARDS ON POST-DISASTER RESETTLEMENT AND REHABILITATION xi-xii (Jan. 2006), available at <http://www.hic-sarp.org/Post-Disaster%20Compilation.pdf> (last visited Feb. 23, 2012).

⁷⁴⁶ O’Riordan, T., Major Projects and the Environment, 156 Geo. J. 141-148 (1990). Cited in URBAN RESETTLEMENT AND SUSTAINABLE DEVELOPMENT, COMPARATIVE CASE STUDY IN THE CITY OF HYDERABAD, available at, <http://www.ehs.unu.edu/file/get/3724> (last retrieved Jan. 16, 2012).

CHAPTER 9

CONCLUSION

9.1 INSUFFICIENT ATTENTION TO CLIMATE MIGRATION

Climate change in general and its related human movement in particular are not given sufficient attention. Climate change impacts human movement directly (sea-level rise, extreme hydrological events and droughts) and indirectly (impacts on human lives such as health, food, and water).⁷⁴⁷ Climate change and its impacts are based on scientific projections and predictions.⁷⁴⁸ The numbers of those displaced by climatic displacement will be much higher than projected because of the increase in world population, the trends of human movement towards the big cities, some of which are swelling in human settlements in the flood plains of Asia and Africa and are already highly vulnerable.⁷⁴⁹ However, the exact numbers of displacees will depend on the level of investment, planning, and available resources to cope with climate change.⁷⁵⁰ The latest predictions suggest that we may face the climate change impacts much earlier than predicted. The world is already experiencing climatic catastrophes (in 2005 Katrina in US and 2010 floods in Pakistan). In both climatic disasters (Katrina and floods in Pakistan) the governments failed to avert displacement and minimize impacts on human lives. All three phases of displacement measures (preemption, evacuation and resettlement) were

⁷⁴⁷ See chapter 2

⁷⁴⁸ See chapter 1

⁷⁴⁹ See chapter 6.2

⁷⁵⁰ Supra note 7 THE STERN REVIEW at “the exact number who will actually be displaced or forced to migrate will depend on the level of investment, planning and resources.”

criticized for flawed management.⁷⁵¹ In the case of floods in Pakistan international help was much less than needed. In both instances displacement was confined internally and involved fewer international concerns in this regard than other catastrophes but predictions indicate that many future displacements will spill over the international borders. And the scenarios where the entire population will be forced to migrate when their country will become inhabitable will pose unique and unprecedented challenges in international law.⁷⁵²

There is no major disagreement that international help is inescapable in the climate change displacement but there is no consensus on how the international community will play its role in providing the needed protection. International environmental and climate change regimes provide no specific guidelines. The only palpable option for Climatees⁷⁵³ at this instant is to search for their protection in human rights and humanitarian law. The fact is that human rights treaties are non-binding and were formed long before the threats of climate change were known. The undefined nature of the Climatees' rights generates the questions for discussion: Is migration to avoid the climate harm is a right? Do the Climatees have an absolute, inalienable and individual human right to leave and return to their original homes and country? Article 13 of the

⁷⁵¹ See discussion in 7.3 Resettlement, Who, When, Where, and How?

⁷⁵² See supra notes 659-660. In the result of coastal erosion, salinization, rising sea levels, and more frequent storms and flooding some states may lose their entire territory and others may lose large proportions of land. In certain cases states may not lose all the land, but nonetheless remaining land affected by seawater seepage and other threats may not be able to support sustainable livelihoods. The citizens of these states would be forced to migrate permanently to other countries

⁷⁵³ See chapter 3.3.6 definition of the term "Climatees".

Universal Declaration provides that each person has the right to return to his country.⁷⁵⁴

But what will happen if the land in the person's own country disappears?

This thesis probes the question of how governance should extend human rights, humanitarian rights and sustainable development recovery for protection to climate change migrants. This thesis concludes that current regime and laws (international, environmental and human rights law) fail to address the issue adequately. The mechanisms of various instruments such as the 1998 Guiding Principles on Internal Displacement, Refugee Convention of 1951, UNFCCC, International Humanitarian Law, Human Rights Law, Refugee Law regimes and instruments are insufficient to cope with the dilemma of Climatees.⁷⁵⁵ Whereas state laws are concerned, with the exception of only a few, national laws of the states do not open the doors for these ill-fated migrants forced out from their customary domicile.⁷⁵⁶

The citizens of the world owe a duty to preserve the environment and the wellbeing of humankind.⁷⁵⁷ The UNFCCC states as its motivation the “protection of current and future generations of mankind”.⁷⁵⁸ Displacement triggered by global warming

⁷⁵⁴ Article 13, of Universal Declaration of Human Rights, of 1948 affords freedom of movement and a right to return, “Everyone has the right to freedom of movement and residence within the borders of each State. Everyone has the right to leave any country, including his own, and to return to his country.” See chapter 8.2.1

⁷⁵⁵ None of the international human rights instruments discussed in this thesis explicitly guarantee a human right to an ecologically healthy environment. Some “soft” law instruments specify a substantive right to the environment. See chapters 5 and 6

⁷⁵⁶ The Pacific Access Category (PAC) agreement establishes a special quota for citizens of Tuvalu, Kiribati, Fiji, and Tonga to be granted residence in New Zealand annually. EU countries and US. Offer temporary and complimentary migration programs for victims of the disasters. For discussion see chapter 6.

⁷⁵⁷ See WORLD CHARTER FOR NATURE, A/RES/37/7 available at <http://www.un.org/documents/ga/res/37/a37r007.htm> (last accessed Apr. 29, 2012).

⁷⁵⁸ 193 UN members have ratified the treaty since its introduction in 1992. A protocol to the treaty known as The Kyoto Protocol to the UNFCCC treaty was adapted in 1997 and ratified by 184 countries. US ratified the UNFCCC but rejected the Kyoto Protocol. Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, 37 I.L.M. 22(1998). Available at,

is not only a local crisis with local causes. Such a dire displacement must be a concern for international community. From the legal aspect the most difficult task is to establish a right to reside in a territory other than one's own. How can a state could be bound or obliged to allow the constituents of another geographical unit a reasonable access into its territory? It is not an easy goal to achieve without a binding legal instrument and regime to implement. The prevailing regime does not provide adequate protection for climate refugees. The Refugee Convention of 1951, the only regime that addresses refugees, fails to provide any protection to climate refugees because they do not fit precisely in the definition of refugees provided in the convention. Further, most of those displaced by climate change are expected to remain within their home states. They will not even find themselves outside their country of origin as required by the 1951 Convention to qualify as refugee.⁷⁵⁹

The new predictions make extraordinary demands on nations. Emerging numbers and increasing needs of Climatees make it clear that we must search for solutions beyond the current conventional capacities of existing humanitarian and refugee instruments and climate change regimes.

9.2 THE WAYS FORWARD

This thesis examined the mechanisms of various international legal instruments such as the 1998 Guiding Principles on Internal Displacement, Refugee Convention of

http://unfccc.int/kyoto_protocol/items/2830.php, (last visited Oct. 25, 2011).

⁷⁵⁹1951 Refugee requires that a person must be outside the country to claim asylum. See chapter 4.5

1951, UNFCCC, International Humanitarian Law, Human Rights Law, Refugee Law regimes and instruments offering complementary and temporary protection in certain jurisdictions. This thesis concludes that none of above provides an absolute or specific protection to Climatees. The question arises that if current national and international laws are inadequate to cope with the dilemma of climatic displacement then what are the ways forward for the protection of Climatees?

The inconsistencies and confusion in the prevailing refugee protection instruments surfaced as the proposals were made for new legally binding international instruments either as a protocol under the UN Framework Convention on Climate Change or a stand-alone convention to protect climate refugees. It is widely believed that a need for a new legally binding instrument identifying and protecting Climatees including individuals as well as entire nations is essential. The most noteworthy proposals for new conventions and protocol have come from, Frank Biermann and Ingrid Boas, Docherty and Giannini of Harvard Law School, Michel Prieur, and Tess Burton, and David Hodgkinson.⁷⁶⁰ These proposals (creation of a new convention or a protocol to the Refugee Convention or UNFCCC Framework) are backed by a number of researchers while some advocacy groups oppose these. Jane McAdam, a leading opponent of the new convention for climate change refugees, disagrees that a global convention or treaty is the solution to the climatic displacement problem. She argues that such new treaty proposals may divert the attention from the more immediate, alternative and additional responses.⁷⁶¹

⁷⁶⁰ See chapter 4

⁷⁶¹ Id. See Jane McAdam, *Swimming against the Tide: Why a Climate Change Displacement Treaty is Not*

A new climate change agreement to deal with climate-induced displacement demands a significant amount of resources. This thesis concludes that the international community lacks the political will and determination to create such treaty. The debate on the contents of proposals is of a lesser concern at this point. The main apprehension is how and when will it happen? Treaty creation is a lengthy process. The question arises that do we have enough time to prepare ourselves to save our drowning residents and neighbors? Studies illustrate that the occurrence of disasters and their effects are already intensifying. A United Nations Development Programme (UNDP) report notes, “Over the last quarter century, the number of reported natural disasters and their impact on human and economic development worldwide has been increasing yearly.”⁷⁶² Moreover, the same communities suffer from repeated disasters.⁷⁶³ In some cases people will have no place to return, because the whole territory will submerge under water or will become uninhabitable. The lingering process of creating an international treaty raises these concerns: Will climate refugees have to wait to find a shelter or return back to their homes until a treaty is signed, ratified, come into force and implemented in the national legal systems? Climate displacement demands immediate attention to the policy issues and human security concerns that emerge from accelerating global climate change.

This thesis concludes that “one-size fits all” solutions will not be adequate to help to cope with the climate-induced catastrophes effectively. The growing numbers of

the Answer, 23 INT’L J. REFUGEE L. 1, 4 (2011).

⁷⁶² United Nations Development Programme Bureau for Crisis Prevention and Recovery, A GLOBAL REPORT, REDUCING DISASTER RISK, A CHALLENGE FOR DEVELOPMENT 11. available at http://www.undp.org/cpr/whats_new/rdr_english.pdf (last visited Jan. 24, 2012).

⁷⁶³ Pakistan Battles New Floods as Monsoon Rains Swamp Sindh Province, THE GUARDIAN (Sep. 12, 2011) available at <http://www.guardian.co.uk/world/2011/sep/12/pakistan-floods-monsoon-sindh-province> (last visited Apr. 09, 2012). “Still reeling from last year’s epic floods, Pakistan is battling monsoon rains that have affected 5 million people and killed 200, a toll that is likely to rise with fresh downpours forecast for the coming days.”

Climatees and the resources of recovery available to assist them have a huge gap. The Cancun Adaptation Framework recognized that displacement would take different forms and require action at different levels.⁷⁶⁴ Displacement and migration will take place in various regions of the world. Each region or state is unique in the term of geography, resources, financial, and technical capabilities. The level of development, living conditions, livelihoods, institutional capacity, and States' strength are also quite diverse. A comparison of two mega climatic disasters and their management in two different states (developed and developing) illustrates the arguments. Hurricane Katrina in the United States displaced almost one million people. All evacuation was done without significant international help. Three hundred thousand settled outside New Orleans but seven hundred thousand evacuees returned back to their homes after rebuilding the city. The process of evacuation and rebuilding incurred much political criticism internally for not conducting it in a seamless manner, but the US government still handled it without any significant help from outside. In many ways actions involved in rehabilitation and resettlement due to Katrina were a combination of individual efforts and governmental actions. Much of the evacuation and temporary settlement took place with the financial help of governmental agencies but permanent settlements outside of New Orleans took place on individual bases.⁷⁶⁵ But it must be observed that the United States had for greater resources to cope with this disaster than developing countries.

Displacement of more than twenty million Pakistanis after floods in 2010 offers

⁷⁶⁴ UNFCCC, CP 16, Outcome Of The Work Of The Ad Hoc Working Group On Long-term Cooperative Action Under The Convention (2010).

http://unfccc.int/files/meetings/cop_16/application/pdf/cop16_lca.pdf#page=3, para 14(f)

⁷⁶⁵ See discussion in 7.3 Resettlement, Who, When, Where, and How? Federal government's disaster relief funds provide money to rebuild homes and infrastructure. The Federal Emergency Management Agency (FEMA) is the agency responsible for coordinating relief efforts.

another illustration of evacuation, rebuilding and settlement actions following a large-scale climate disaster.⁷⁶⁶ The 2010 Pakistan floods, which created the worst natural disaster the country has faced in its history, resulted from heavy monsoon rains in the Khyber Pakhtunkhwa, Sindh, Punjab, and Balochistan regions of Pakistan. World Bank reports, “.... About 1.6 million homes have been destroyed, and thousands of acres of crops and agricultural lands have been damaged with major soil erosion happening in some areas.”⁷⁶⁷ The United States and other governments provided \$1.3 billion in emergency assistance. Refugee International reported that even after one year of disaster millions of displacees are still without permanent shelter and are struggling for food. It further noted, “Despite Pakistan’s extreme vulnerability to floods, droughts and other natural disasters, little had been done in terms of preparedness. The country’s national, provincial and district-level disaster response authorities still lack capacity and resources.”⁷⁶⁸ According to the UN Office for the Co-ordination of Humanitarian Affairs (OCHA), 80,000 displaced by 2010 floods are still living in camps and settlements in Sindh province alone.⁷⁶⁹

The above examples lead to the conclusion that financial capability and resources of the state and individual citizens as well as numbers of the displaced will have an impact on displacement management including resettlement. In certain cases, developed nations will face shortfall and failures to cope with climate change disasters because of limited resources and capabilities. In the developing states, displaced people will vastly

⁷⁶⁶ Id. Clearly the ability of Pakistan, to deal with more frequent floods is vastly different than that of US.

⁷⁶⁷ World Bank, Pakistan Floods 2010: Preliminary Damage and Needs Assessment, Executive Summary, available at, http://siteresources.worldbank.org/PAKISTANEXTN/Resources/293051-1264873659180/6750579-1291656195263/Exe_PakistanFloodsDNA_December2010.pdf (last visited Jan. 24, 2012).

⁷⁶⁸ See chapter 7.3

⁷⁶⁹ See UN Office for the Co-ordination of Humanitarian Affairs (Ocha).

outnumber their governments' limited technical and financial resources. The severe floods that occurred in Bangkok in December 2011 illustrate the importance of management, sources and technical ability to cope with natural disasters. The catastrophe in Bangkok is estimated to cost forty billion US dollars. More than eight hundred people died and seven hundred thousand people lost their jobs as close to one thousand factories were shut down.⁷⁷⁰ This thesis concludes that each situation demands a unique but more practical and just solution suitable to the affected population.

This thesis concludes that nations cannot depend on a single action to cope with climatic displacement. Actions pertinent to climate displacement include: long-term and short-term actions and national and international actions. Long-term actions include adequate mitigation and adaptation measures to avert or at least minimize displacement. Other long-term actions embrace the establishment of a new treaty or a protocol to the existing climate change treaty (UNFCCC) creating a specific binding regime to implement the laws for the protection of Climatees.⁷⁷¹

Global financial support is necessary to avert and manage growing climate displacement. No exclusive fund exists for relief of climatic displacement only.⁷⁷² New and exclusive funds need to be created considering the scale of the displacement. At present the establishment of an international fund for the Climatees for their preventive measures, preemptive relocation, and their resettlement after their displacement appears to be a long-term action. Adaptation measures, a new convention or protocol to existing

⁷⁷⁰ United Nations International Strategy for Disaster Reduction (UNISDR), Disaster Risk Following Economic Development Pathways in Thailand, statement by UNISDR Chief, available at <http://www.unisdr.org/archive/24766>(last retrieved Jan. 24, 2012).

⁷⁷¹ See chapter 5

⁷⁷² See chapter 7.4.1

climate treaty, and establishment of an exclusive international fund for Climatees offer protection tools to deal with climatic displacement. International agreements and funding of international climate displacement are well needed and should not be delayed by a lengthy configuration process.

The developing countries lack financial and technical capabilities to handle climate change crises. Establishment of a new exclusive fund solely for Climatees, especially in developing countries, is inevitable. But making all adaptation planning and Climatee assistance contingent upon international funds is not the most feasible way to move. Instead, short-term actions, including ad hoc humanitarian responses with the ability to determine the character and extent of protection on a situation-by-situation basis are more practical. As no international fund exists exclusively for the Climatees and establishment of such a new exclusive fund for Climatees is a long-term action, an interim allocation of a major amount in the adaptation funds for the human mobility is needed. Also, meanwhile, the states in jeopardy must explore other options including self-financing, as time is not on their side. Timely preventive and preemptive actions cost less and can avert forced migration, which would lead to bigger losses including of human lives. People should not have to wait for international help until their homes are flooded or blown away by the disasters.

This thesis concludes that national actions should include more localized solutions and responses to identify the specific needs of the displaced by change in the climate. No national law addresses climate change related internal or international migration particularly. Long-term national actions should include sustainable planning and

development and adaptation measures to increase resilience in vulnerable communities. Short-term national response must be based on preparedness and communities' resilience to cope with disasters. Early warning systems and proper education and training of rescue teams should be top priorities. Where possible, national governments must encourage community based local projects.

This thesis concludes that soft laws and guidelines are the most practical transitional tools in providing the protection against climate change displacement. It seems that the international community will resist accepting its responsibility for climate change for various reasons including the trends in the shifting global economy. In the present global situation, Roger Zetter suggests: "The 1998 Guiding Principles are not just a fundamental starting point in their own right, but also a model for the process of aggregating and adapting the norms and principles from a wide range of international instruments to protect the rights of the environmentally displaced".⁷⁷³ Amendments in the 1998 guideline to include the people displaced by climate change in the definition of Internally Displaced Persons (IDP), inclusion of refugees beyond international borders and providing for slow onset migration in the guidelines can steer nations in building their displacement policies. They will not oblige the international community as they just provide the guidelines, but they will encourage the nations to incorporate the IDP Guiding Principles into their national legislation to expand implementation and increase accountability. No doubt Climatees are a global phenomenon and international help is essential, but an immediate solution lies in national and community based actions.

A humane response on both national and international level is needed to cope

⁷⁷³ See chapter 4.7

with such potentially massive and disastrous dilemmas. Displacement on such a large scale is unprecedented in human history. Actions and national policies denying access to refugees from other countries are very callous: George W. Bush, as U.S. President declared to turn back a boat carrying Haitian refugees in 2004.⁷⁷⁴ Australia turned away a rescue ship carrying asylum seekers from Indonesia. India is building a 2100-mile fence along its border with Bangladesh. The United States has constructed fences, walls, and vehicle barriers on 1,952-mile long boundary between United States and Mexico since the 1990s.⁷⁷⁵ Such immigration policies need to be reviewed. It is important that governments of all nations recognize and act upon their responsibilities. If the issue of climate migration is not handled promptly it may raise security concerns in the neighboring countries. In Africa, climate change is a major driver for migration, which sparked conflicts between neighboring countries.

The consideration that climate is the responsibility of the international community suggests that all states bear certain obligations toward the people affected by climate change. In the case of cross-border displacement, despite the seriousness of trends, there is no binding international agreement to recognize climate refugees. The question may arise: what are the implications for bilateral agreements? At present, bilateral agreements are also not likely to happen. The Pacific Access Category (PAC), an agreement between

⁷⁷⁴ See discussion in chapter 6.5

⁷⁷⁵ Id. U.S.-Mexico Border, NAT'L GEO. <http://ngm.nationalgeographic.com/2007/05/us-mexican-border/bowden-text> (last visited Jan. 19, 2012). "In San Diego, nine miles (14 kilometers) of a double-layered fence have been erected. In Arizona, the state most over run with illegal crossings, 65 miles (105 kilometers) of barriers have been constructed already."

New Zealand and Tuvalu,⁷⁷⁶ is the only example of a bilateral agreement to accommodate the Climatees as described in chapter six.

Jordan has settlements of Palestinian displaced persons, which is unique in terms of the numbers of refugees and “length of their residency”. (After 1948 Arab-Israeli war Palestinian refugees were forced to flee. So they are not climate refugees) More than two million⁷⁷⁷ Palestinians are registered in Jordan as refugees. Almost 140,000 Palestinians (classified as displaced persons in the UN General Assembly Resolution 2252 of July 04, 1967) originally from the Gaza Strip, have only temporary status in Jordan.⁷⁷⁸ They are not entitled to full citizenship rights such as the right to vote and employment with the government. The long-term temporary residency of displaced Palestinians in Jordan raises the concerns for climatic displacement: Is that a prelude for what climate refugees will face?

As discussed Climatees do not fit in the definition of refugees as defined by the refugee convention and states are hesitant to assume responsibility by expanding the definition to include climate refugees as a new category. A major technical obstacle is identification of climate refugees. In most cases, environmental issues may not be the only factor driving people away from their homes.⁷⁷⁹

⁷⁷⁶ Tuvalu is comprised of nine island atolls totaling an area of 26 square kilometers. It is located in the Pacific Ocean and is one of the world’s lowest lying countries. Eleven thousands residents of Tuvalu are in serious danger from the ongoing threat of global warming and rising sea levels.

⁷⁷⁷ There are no reliable figures as to the exact number of Palestinians in Jordan. See Forced Migration, available at, <http://www.forcedmigration.org/research-resources/expert-guides/palestinian-refugees-in-jordan/fmo025.pdf> (last time visited Mar. 05, 2012).

⁷⁷⁸ Almost 140,000 refugees living in Jordan are originally from the Gaza Strip, which up to 1967 was administered by Egypt. See, United Nations Relief and Works Agency for Palestine Refugees, <http://www.unrwa.org/etemplate.php?id=66> (last visited Mar. 5, 2012)

⁷⁷⁹ Oliver-Smith argues,” To wipe out the validity of the entire category because there may be other causes

In chapter 3 the thesis proffers a new term “Climatee” which equally represents the diverse categories of climatic displacement. It embraces all phases of internal climatic displacement and refugees across the borders. The term Climatee also includes those who leave their homes temporarily or permanently, voluntarily or involuntarily. It provides protection both to the sudden and slow on-set migration including preventive and precautionary resettlements.⁷⁸⁰ This thesis suggests that all international instruments dealing with climate refugees or displacees adopt the proposed definition to warrant the needed protection for Climatees.

This thesis concludes that internal displacement within the state’s jurisdiction remains the primary responsibility of the host state but, considering the numbers of the climates, international help is essential. UN Climate Framework Convention calls for the assistance of the international community. In the case of climate change, displaced people may be uprooted abruptly. People will move in massive groups and a majority will stay within their national borders. No single nation has the capacity to handle a catastrophe of such a large scale by itself. Humanitarian mechanisms need to be supported and strengthened to delegate nations to provide the necessary protection to internal and cross border migrants.

Nations ought not to expect help solely from outside. States need to fill existing legal and operational gaps in protecting people vulnerable to climate displacement. They must demonstrate serious efforts to resolve displacement issues domestically.

International human rights law declares that states should secure their population’s

involved is absurd.”

⁷⁸⁰ See “Climatees” definition in chapter 3.3.6 at page

fundamental rights. UNHCR has suggested that states establish alternative forms of protection. National actions are anticipated to cope with this monstrous phenomenon at this time.⁷⁸¹ This thesis concludes that state actions are not only needed to protect their own population but to accommodate the citizens of other nations who may not qualify as refugees under the refugee regime but their return is neither possible nor realistic due to circumstances in their home country.

This thesis concludes that states should immediately begin planning for displacement. They must identify what portions of their land and which of their human populations face risk from climate change. A comprehensive database on displacement will help in planning evacuation and resettlement. Information gathering processes such as numbers of people and how much area of land is vulnerable can help determine compensation and other policies as well. The national strategies should embrace a plan for land banking and expropriation.⁷⁸² Estimates and allocation of needed funds for relocation and resettlement should be incorporated in climate policies.

This thesis concludes that regional actions through the adoption of bilateral and multilateral agreements are more practical for immediate relief. These agreements, based on local and common interests, are much easier to negotiate, ink and implement. Bilateral agreements are more localized and directly address the needs of both host and migrating

⁷⁸¹ I always ask this question from my climate change class: what is the most common reaction of people in case of a fire at home? Does a homeowner sit and wait for the fire department and outside help to come or does he or she try to put out the fire himself or at least evacuate the house immediately with most valuables to mitigate the loss? I do not recall even a single answer from the class that proposed “sit and wait” in a burning house.

⁷⁸² Governments in the developing countries are structurally and financially unable to manage the land banking. Expropriation of land will require the states to review public land holdings and constitute related domestic legislation. This is not an easy task especially in the land-scarce regions where much of the land is held communally.

communities. These agreements represent social and cultural concerns such as the language, culture and heritage of the parties. States could give priority to the particular needs of the people most vulnerable to and the people most affected by climate change, including those already displaced as well as those at risk of displacement.

This thesis concludes that involvement of the citizens, community groups and private sector is essential. Programs to engage community stakeholders, such as religious and grassroots groups will help to promote resilience for the affected inhabitants. The involvement of citizens at the grassroots level develops a sense of responsibility for the community. Such involvement will increase the resilience to educate and prepare the people better to cope with displacement and its related problems. A direct engagement of the private sectors in relocation and resettlement management will increase in the coordination and recovery process.

This thesis concludes that national laws are vital to manage the crises of Climatees. Nations must adjust their national laws to provide the complimentary, temporary and transitory protection to climate refugees within their territories. States must invest in precautionary and preventive measures. They need to develop plans to mitigate any losses. The priority should be land-use planning and better construction of buildings, implementing early-warning radars, re-zoning the coastal areas and planning jobs for Climatees. Establishment of a financial system to fund resettlement projects and involvement of private funding institutions will encourage precautionary and preventive migration. The government of the Maldives has already established a fund to purchase land to relocate the population of its diminishing country.

Gender-based protection gap needs to be addressed as well. Historically, women are left behind in the migration option. Moreover, children, the elderly, the disabled, the chronically ill and households headed by single parents are also often ignored in qualified migration planning and resettlement. They have the most difficult experiences finding countries willing to take them in.⁷⁸³ The immigration agreement Pacific Access Category (PAC), ignores the protection of children and the elderly, as it includes only migrants between the ages of eighteen and forty-five.⁷⁸⁴

9.3 QUESTIONS FOR FURTHER RESEARCH

As with any evolving research topic, the instant discussion cannot draw to a close with a simple concluding note listing all apposite resolutions. The author concludes the thesis in this chapter but the research continues. The process of research will remain open to fill in the knowledge gaps with emerging issues of climatic displacement. It will determine the needed approach to plug the implementation gaps.

The forthcoming discussion could be extended in several ways to provide more insight into the dilemma of human movement influenced by the climate change. The new questions related to the issue of climatic displacement are emerging with the changing climate. Much more work could be done in this regard. Rising human mobility activated by both rapid-onset and slow-onset environmental changes raises a set of questions: How

⁷⁸³ Neil MacFarquhar, *Islanders Fearing Climate Change Press a U.N. Debate*, N.Y. Times A4 (May. 29, 2009). Cited in Elizabeth Burleson, *Essay Climate Change Displacement to Refuge*, available at <http://www.law.uoregon.edu/org/jell/docs/251/burleson.pdf> (last visited Dec. 25, 2011).

⁷⁸⁴ See *id.*

can climate induced displacement be avoided? How do we fill knowledge gaps and support decision making to relieve problems of human migration and displacement? How do we address the issues of human vulnerability and insufficient adaptation or coping capacity?

IPCCC and other scientific reports indicate that climate may change “faster than predicted”.⁷⁸⁵ Watercourses are changing and in many places rivers and streams are already flowing in new patterns. The recent disaster in the Philippines was unusual in certain respects. Experts are surprised with patterns of storms, which had never before occurred.⁷⁸⁶ These incidents suggest that disasters may arrive in unexpected manners. Floods, hurricanes, and tornados may occur beyond their expected normal courses and projections.

Until recently, environmental academia and national and international regimes paid scant attention to climate induced migration. In the COP 16 meeting held in Cancun in Dec. 2010, the idea of environmentally induced migration was formally introduced in the climate change regime’s process.⁷⁸⁷ Lately, a growing number of contributions on environmental migrants have focused on climate-induced displacement but much more needs to be done. The academic discourse has only just begun. Many experts suggest that more supporting research within affected areas ought to be conducted. Future challenges include encouraging both policymakers and scholarly communities to interact more consistently and effectively. More research is imperative to support policy in relation to climate change, and migration and displacement caused by it.

⁷⁸⁵ See chapter 1 and 2

⁷⁸⁶ Id.

⁷⁸⁷ See chapter 4.9

High-priority topics for future work include the urban population influx by migrants causing environmental degradation and damaging to the insufficient and already deteriorating infrastructure in receiving cities. The growing population influx to large cities necessitates a framework and a policy instrument to protect the receiving cities and neighborhoods as well as the immigrants. The members of receiving communities whose environment will be adversely affected by the large-scale migration demand attention from policy makers and researchers. In most places, existing environments are unable to support a new population influx. Impacts on receiving societies include: Social (forced to live with strangers with different background and culture) economic (food and living costs will increase with more demand and less availability along with diminishing livelihoods, at least with less earnings due to the presence of a larger available workforce, while mostly immigrants accept the jobs with comparably lower wages and more suitable terms to employer) but this may displace existing workers, health issues caused by increased pollution due to increased population, and pressure on the environment in general. In some cases, migrants may bring contagious diseases with them. Security concerns are the most burning issues stemming from mass migration. Cross-border unplanned migration can cause tension. Limited natural sources can cause conflicts. Nomads and villagers are already fighting over water and other scarce natural resources in the Darfur.⁷⁸⁸ When planning for the protection of climate refugees, this group (the receiving population) deserves equal consideration for their protection. Adaptation measures are one way to protect them.⁷⁸⁹ Receiving countries' environmental conditions

⁷⁸⁸ Elizabeth Burleson, MIDDLE EASTERN AND NORTH AFRICAN HYDRO POLITICS: FROM EDDIES OF INDECISION TO EMERGING INTERNATIONAL LAW, *supra* note 15, at 421;

⁷⁸⁹ Adaptation is a way of reducing vulnerability, increasing resilience, moderating the risk of climate impacts on lives and livelihoods.

and concerns should be included in adaptation measures. The resettlement planning must consider the migration impacts on the receiving environment and address the valid concerns of receiving communities.

Another group of people generally overlooked by the policy makers and researchers need consideration in future research. This group comprises the members of the affected communities who are left behind in the evacuation process or refused to migrate for various reasons such as their attachment with the land based on their religious and personal commitments. In some cases they are overlooked in rescue operations due to their geographic locations and/or political situations. In other cases they may stay behind for lack of information and their insufficient resources to migrate or because they do not have the ability to adjust in a new environment. Nonetheless, regardless of the reasons and motives for their stay in the disaster prone areas, they deserve help. A straightforward solution lies in strengthening the coastal defenses in disastrous areas but much more research work is needed for their inclusive protection.

The right to free movement is a basic human right. Does a right of free movement allow people to move into other countries crossing international borders? How much is it the responsibility of other states to facilitate the right of movement? If an emergency triggers this right, how will we determine a situation emergent enough to trigger the right of the movement beyond people's borders?

9.4 HUMAN RIGHTS AT THE CROSSROADS

The magnitude of the coming crises of Climatees is huge. It eventually will call into question what is the meaning of Universal Declaration of Human Rights? The violation of the right of free movement, the most basic human right, causes numerous problems and suffering. The right of free movement is inalienable and extends to all citizens of the world. It not only applies to immigrants, refugees and asylum seekers, but also has major ramifications on internally displaced persons and receiving communities.⁷⁹⁰

Due to the emerging phenomenon of the Climatees, the human right afforded in Article 13 of the Universal Declaration of Human Rights needs to be reformulated. It must now provide a clear protection to the Climatees. This thesis proposes amendment in Article 13 to accommodate Climatees. Article 13 should include: “ 3. Everyone who is affected by the climate change has the right to leave his home, community and country and return back to his home, community, and original country at any time for a better living and livelihood. Climatees and members of their families shall have the right and liberty of movement in their home state or in the territory of any other state and freedom to choose their residence there. Climatees and members of their families shall be free to leave any state, including their state of origin. The member states must facilitate their (Climatees) right to a standard of living adequate for the health and well being of the Climatees and their families, including food, clothing, housing and medical care. This right shall not be subject to any restrictions except those that are provided by law, are necessary to protect national security, public order, public health or morals or the rights

⁷⁹⁰ See chapter 8.2.1

and freedoms of others and are consistent with the other rights recognized in the Declaration.”⁷⁹¹

Climate change is evolving as a tragedy that would cause a systematic violation of the human rights of the poor and of future generations. Climate change impacts pose a significant threat to many of broadly recognized rights contained in the Universal Declaration of Human Rights and other international instruments. As signatories to these instruments, nations of the world have agreed and obliged to respect, protect and fulfill the rights contained within them. The member states have a positive obligation to be human rights compliant and therefore respond to the displacement of climate change accordingly.

At the national level all states need to adopt a progressive and long-term migration management system to provide complementary or temporary status in the host state for those who are unable to return to their native homes. The international community needs to work together to mobilize the available resources and to develop support and funding for adaptation efforts to avoid the need to move. United States and other developed countries must take the lead. Professor Burleson notes, “If the country with the largest economy struggles to humanely process the inflow of immigrants across borders, then it is unclear whether other countries will be able or willing to implement

⁷⁹¹ Instances of vulnerabilities have to be measured against the already developed norms to guarantee the fundamental rights of every human person. See Wolfgang Sachs, *Climate Change and Human Rights*, *World Economy & Development in Brief*, WDEV Special Report 1/2007, 5 (2007).

universal human rights thresholds.”⁷⁹²

The environment is as important as our national security. U.N. Secretary General Ban Ki-Moon has already declared climate change as large a threat to mankind as war.⁷⁹³ Now the leaders of the world must demonstrate their willingness to win this (climate change) war. It is not a battle involving one nation or poor nations only. It is a fight for humanity and for generations to come. Of course it demands a universal alliance to succeed. Nations must work together to fill in all gaps in the international legal and policy frameworks to cope with the emerging dilemma of Climatees.⁷⁹⁴

Climate change, by generating a mass population of Climatees, not only poses legal crises, it poses ethical concerns, as it is mounting risks for future generations. The problem is more political than legal. The solution to this calamity goes well beyond finding new homes for people who are losing their homes now or are close to losing their homes. The issue of Climatees demands the world to change its mindset. The nations must reformulate their national policies and their political priorities to help alleviate the emerging climate change displacement crisis. A human rights-based approach to policy development should be adopted. Accordingly, whether particular climate change

⁷⁹² See Burleson supra note 783. Essay Climate Change Displacement to Refuge, J. ENVTL. L. & LITIG. at footnote 31 (2009). available at <http://www.law.uoregon.edu/org/jell/docs/251/burleson.pdf> (last visited Dec. 25, 2011).

⁷⁹³ Climate Change is Our Top Priority, Says UN Chief, GUARDIAN (London), Mar. 2, 2007, <http://www.guardian.co.uk/environment/2007/mar/02/climatechange.climatechangeenvironment>

⁷⁹⁴ Naser, Mostafa Mahmud and Afroz, Tanzim Human Rights Implications of Climate Change Induced Displacement, 21 Bond L. Rev. (2009). Citing, AUSTRALIAN HUMAN RIGHTS AND EQUAL OPPORTUNITY COMMISSION REPORT 3. Available at: <http://epublications.bond.edu.au/blr/vol21/iss3/4> (last accessed Apr. 09, 2012). “The Australian Human Rights and Equal Opportunity Commission states that: As the major human rights treaties were developed before climate change was understood to be a looming threat to human security, the environmental dimension of these rights has not been extensively articulated and the precise connection between climate change and the international human rights law system is as yet undeveloped.”

responses relate to local communities in developing countries escaping environmental catastrophes or to immigration policies for people seeking refuge in the developed countries, a human rights-based approach to policy development could, and should, be adopted.

There is also a need to redefine the term “refugees” in national legal systems and “national interest” in international policies. Climate change crises demands that defense of our natural resources should be our “national interest”. As a member of Pakistan’s UNFCCC delegate in negotiation meetings in Durban (COP 17), Cancun (COP16) and Copenhagen (COP15), the author had the opportunity to participate actively in the international climate change negotiations. The author observed that every country’s negotiation strategy moves around its “national interest”. The author heard this phrase repeatedly from all the negotiators (from developed and developing countries). The author could never convince any one of them on one very simple point; national interests are relevant only if nations exist. No one is immune from climate change. The conception that only developing countries are on climate change’s “hit list” is wrong. Not only developing countries and communities with low income are vulnerable to climate extremes, developed countries and vicinities with higher income also can be equally vulnerable. Moreover, “sit and wait” approaches can be very costly in terms of human life and financial cost. The dilemmas of Climatees, if not solved amicably, I fear may spread in conflict from one part of the world to another like cancer. If Climatees are not handled with a humanitarian approach, the effects of climate change may spill over the neighboring and receiving countries, which may lead to unrest, violence and armed conflicts over the depleting resources in some areas.

The tragedy is that needs are clear and the remedies are available. What is lacking is the political leadership and will to tackle the climate and Climatee problems. We need more Gandhis, Mandelas and Martin Luther King Jrs to force action on these issues of future life on our planet.

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