

Climate Change and the Ageing Population: Enforcing the Rights to Life and Health Under Human Rights, Health and Climate Change Regimes

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ABSTRACT

This article explores potential methods of protecting the ageing population from the consequences of climate change. It discusses the enforcement of the "right to life" (the right to live a life free from environmental degradation) and/or health relating to the environment in protection of the ageing population. Many countries have codified the right to life and/or health in their constitutions. In order to enjoy this right, it is essential that a clean and healthy environment be secured.

Thus, this article assesses the consideration of climate change by international human rights and health regimes. It also examines whether climate obligations such as emissions reduction, climate impact assessment, mitigation and adaptation can be enforced through these regimes. The article suggests that expanding the purview of new international climate policies that address the public health of the ageing population will fill the absence of health policies under the climate regime. Finally, after proposing that climate litigation through human rights enforcement may reshape global responses to adverse effects of climate change on the ageing population, the article suggests additional ways to achieve such feats.

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I. INTRODUCTION

Most environmental literature on climate change focuses on the method of enforcement, comprehensive climate treaties, multilateral environmental agreements and so on, without exploring the interface between the ageing population and climate change. Hence, ageing in a changing climate has become one of the health and environmental issues facing this century because of its calamitous effects on the ageing population. The dearth of climate health policies and global climate health laws has contributed significantly to this phenomenon. The question that remains is: In the absence of international policies implemented specifically to protect the public health of the ageing population under the climate regime, are there any other international regimes which address this issue?

This article is divided into four parts. The first part introduces the interface between climate change and the ageing population. It further expounds on the concept of climate change by identifying its various impacts on the ageing population. Additionally, it explores the relationship between climate change, the ageing population and public health. The second part of this article investigates and discovers that there is no health policy implemented under the climate regime, and suggests that Emission Health Projects (EHP) should be created. The third part analyzes the enforcement of the rights to life and health under the climate, health and human rights regimes. While there is no global health regime, one can argue that linking health and human rights regimes to climate change enforces the rights to life and health through judicial institutions. Lastly, part four articulates that there is no specific international treaty which protects the ageing population against climate change. An emerging legal tool that could be used to protect and enforce the rights to life and health is human rights and enforcement of climate obligations through litigation. The article concludes that domestic and regional enforcement of human rights, health and climate obligations through litigation at the domestic courts are more feasible than international litigation at the international tribunals or courts. This suggests, therefore, that a global health regime should be created through laws and policies to protect the ageing population from climate change.

II. THE INTERFACE BETWEEN CLIMATE CHANGE AND THE AGEING POPULATION

Climate change affects both human beings and the environment. Recent climate disasters such as hurricanes, tsunamis, heat waves and many others are all indicators of climate change. If drastic actions are not taken to address this phenomenon, it may lead to a decrease in life expectancy and human development. However, the term "ageing population" as used in the context of this article does not generally mean elderly people; but rather, it encompasses the "actively ageing population." According to the World Health Organization (WHO), "active ageing" is defined as "the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age."¹ "Active" in this context means "continuing participation in social, economic, cultural, spiritual and civic affairs, not just the ability to be physically active or to participate in the labor force."² However, those people who qualify as part of the "ageing population" should be determined relative to each individual's country. Using the measurement of life expectancy for each country might be a useful tool because opinions about who should be considered "old" varies. For example, in Slovakia when respondents are asked what age they think people become "old," a majority said this age was 57.7 years.³ On average, among the countries in the European Union, people are not considered "young" once he/she is over 41.8 years old.⁴

¹ WORLD HEALTH ORGANIZATION, ACTIVE AGEING: A POLICY FRAMEWORK (2002), http://whqlibdoc.who.int/hq/2002/who_nmh_nph_02.8.pdf; *see also* WORLD HEALTH ORGANIZATION, INTERNATIONAL PLAN OF ACTION ON AGEING: REPORT ON IMPLEMENTATION (2004), https://apps.who.int/gb/ebwha/pdf_files/EB115/B115_29-en.pdf.

² ACTIVE AGEING: A POLICY FRAMEWORK, *supra* note 1.

³ European Commission, *Active Ageing*, 378 SPECIAL EUROBAROMETER 10 (2012), http://ec.europa.eu/public_opinion/archives/ebs/ebs_378_en.pdf.

⁴ *Id.* at 12.

The interface between climate change and ageing population one could aver that the connection between both is not farfetched.⁵ Growing old in the current era of climate change correlates with public's increasing helplessness in the face of continuous emissions of greenhouse gases (GHGs).⁶ Helplessness extends to those powerless to impact climate change, whether because the power of change rests in the hands of underproductive governments or because the negative effects are inevitable and/or beyond repair. Nevertheless, there are two questions which may be generated out of the context of growing old in a changing climate; first, in a country where the life expectancy is predicted to be 80 years, how is health protected from the catastrophic danger of climate change? Second, how do we protect the health of those aged 35 years and older from the current and imminent impacts of climate change under the international health and climate change regimes? This type of protection promotes adaptation while ignoring danger that may be deadly to the public's health.

In order to determine the average age of the ageing population, the life expectancy of each country should be used as a measurement, because in countries that have a low life expectancy, a 50-year-old person would be considered "old." Hence, because vulnerability to the elements increases with age, protection of the ageing population against climate change should be predicated on the circumstances of each country. However, despite a decline in life expectancy in the developing countries, the population of elderly

⁵ See Anthony J. McMichael et al., *Climate Change & Human Health: Risks and Responses, Summary*, WORLD HEALTH ORGANIZATION (2003), <http://whqlibdoc.who.int/publications/2003/9241590815.pdf>; see also Gary Haq, John Whitelegg & Mervyn Kohler, *Growing Old in a Changing Climate: Meeting the Challenges of an Ageing Population & Climate Change*, STOCKHOLM ENVIRONMENT INSTITUTE (2008).

⁶ Greenhouse gases include Carbon Dioxide (CO₂), Methane (CH₄), Chlorofluorocarbons (CFCs), Nitrous oxide (NO_x) and Ozone (O₃) which absorb heat radiation that should escape to space, thereby increasing the temperature of the atmosphere; see James Hansen, *Defusing the Global Warming Time Bomb*, 3 SCI. AM. 68, 72 (2004).

people is vastly increasing globally, with projected longevity in the developed countries.⁷ Meanwhile, it is pertinent to discover the extent of the climate change problem and whether it extends beyond human causes and control, and the law's power to protect the health of the ageing population.

A. THE CONCEPT OF CLIMATE CHANGE

Climate change is a realistic threat⁸ and is largely anthropogenic.⁹ It is defined as any form of change in the entire climate system which can be attributed directly or indirectly to human emission of substances regarded as GHGs, which enhance the "natural greenhouse effect." The consequences of

⁷ See Rep. of the Second World Assembly on Ageing, 2d Assembly, Apr. 8, 2002–Apr. 12, 2002, U.N. DOC. A/197/9, 6 (2002).

⁸ On the evidence that climate change is real, see generally various Reports of the Intergovernmental Panel on Climate Change which described in clear details the anthropogenic interference with the climate system. The Reports confirmed that recent changes were caused by human activity notably from period of Industrial revolution. See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Abdelkader Allali et al. eds., IPCC 2007). Similarly, both Climate Skeptics and Pro Human Climate Change share one belief that climate change is real but they differ on the causes. Climate skeptics claim that the recent changes can only be attributed to natural variability, while pro human climate change believe that human activity is the cause of the current and future likely climate change. See generally John Cook, *Skeptical Science*, <http://www.skepticalscience.com/posts.php?u=1>.

⁹ See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 8; see also Richard B. Alley et al., *Summary for Policymakers*, in A REPORT OF WORKING GROUP I OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (Susan Solomon et al. eds., IPCC 2007).

such changes include global warming and cooling.¹⁰ The twenty-first century changes in the climate system have been globally considered as man-made due to the historical accumulation of GHGs.¹¹ This global phenomenon is due to frequent deforestation, combustion of fossil fuels and other related forms of energy that are needed as a result of the rapid increase in the human population and consumption demands.¹² Increases in the human population and consumption demands are fuelling the fastest change in climate observed in the latter part of human civilization and development.¹³

The accumulation of substances regarded as greenhouse gases—such as carbon dioxide (CO₂), methane, nitrous oxide and a host of other greenhouse gases and their precursors—have been responsible for the warming or cooling of the globe and other related climate changes.¹⁴ However, few steps have been taken in addressing the deleterious effects at the global level. The establishment of the Intergovernmental Panel on Climate Change (IPCC), an intergovernmental scientific body, and various reports published by the IPCC have put credence to the global consensus that climate change is largely

¹⁰ See United Nations Framework Convention on Climate Change art. 1, 1771 U.N.T.S. 107; S. TREATY DOC. NO. 102-38; U.N. DOC. A/AC.237/18 (Part II)/Add.1; 31 I.L.M. 849 (entered into force Mar. 21, 1994); see also ROBERT WATSON, CLIMATE CHANGE 2001: SYNTHESIS REPORT: A CONTRIBUTION OF WORKING GROUPS I, II, AND III TO THE THIRD ASSESSMENT REPORT OF IPCC (Cambridge Univ. Press 2002).

¹¹ See Alley et al., *supra* note 9.

¹² *Id.*

¹³ See generally WORLD HEALTH ORGANIZATION, PROTECTING HEALTH FROM CLIMATE CHANGE—WORLD HEALTH DAY 2008 (2008), http://www.who.int/world-health-day/toolkit/report_web.pdf [hereinafter PROTECTING HEALTH FROM CLIMATE CHANGE].

¹⁴ See generally Alley et al., *supra* note 9 (the enhancement of Natural Greenhouse Effect may result in warming or cooling of the globe).

anthropogenic.¹⁵ As climate change has been regarded as anthropogenic (man-made) it translates that the solutions lie with international cooperation among comity of nations. Addressing climate change requires global participation in emission reductions and other measures to combat climate change. The climate change regime was developed to address the emission of GHGs. This particular regime was modelled after the Ozone climate regime.¹⁶ The Ozone climate regime has been regarded as a success because of the drastic reduction in substances that deplete the ozone layers.¹⁷

While climate change continues to generate economic and political discourse about various modes of enforcement, the existing regime has adopted market-based mechanisms to stabilize the levels of emissions. The present consequences of climate change have been attributed to developed countries' damaging industrialization.¹⁸ In response, there is a strong emphasis on mitigation through the economic reduction of emissions, however these

¹⁵ INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 8.

¹⁶ See generally Martti Koskenniemi, *Breach of Treaty or Non-Compliance? Reflections on the Enforcement of the Montreal Protocol*, 3 Y.B. INT'L ENVTL. LAW 123 (1992) (explaining the concept of breach of treaty or non-compliance as adopted under Montreal Protocol).

¹⁷ See UNEP, BACKGROUND: BASIC FACTS AND DATA ON THE SCIENCE AND POLITICS OF OZONE PROTECTION (Aug. 2003), <http://www.unep.org/ozone/pdf/Press-Backgrounder.pdf>. The Ozone Climate regime has been regarded as a success because of participation between developed and developing countries despite their challenges. The Montreal Protocol on Substances that Deplete the Ozone Layer has been regarded as most successful international environmental treaty during its 20th anniversary in 2007. However, the consumption of the substances that deplete the ozone layer have not been totally phased out but drastically reduced. For reports on the 20th Anniversary of the Montreal Protocol—A Landmark Environmental Treaty, see EPA, http://www.epa.gov/ozone/downloads/MP20_Backgrounder.pdf.

¹⁸ Alley et al., *supra* note 9.

measures disregard the imminent hazards posed to the environment and human health.¹⁹

B. CLIMATE CHANGE, THE AGEING POPULATION AND PUBLIC HEALTH

Climate change has adverse effects on public health, human rights, international trade, and the marine environment. The hazardous impacts of climate change on human health cannot be overstated. A robust (young and old) population's political and economic viability should not be undermined by anthropogenic factors. Sustainable development is a principle of climate change, with population-wide health being one of its central goals.²⁰ Law and policy should be predicated on this central goal. However, human health may be affected socially, psychologically and physically as a result of changing patterns in the climate system.

Climate change largely affects the qualities and quantities of food, water and clean air, rendering the developing countries increasingly vulnerable.²¹ Increasing droughts and other changes in weather patterns have resulted in poor qualities and quantities of food, water and clean air. The persistent droughts in countries such as Chad, Niger and Kenya have been attributed to

¹⁹ See David Freestone, *The International Climate Change Legal and Institutional Framework: An Overview* 1–22 (George Washington Univ. Law Sch. Working Paper No. 38, 2009).

²⁰ INTERNATIONAL PANEL ON CLIMATE CHANGE, *CLIMATE CHANGE 2007: IMPACTS, ADAPTATION AND VULNERABILITY* (Martin Parry et al. eds., Cambridge Univ. Press 2007), available at http://www.ipcc.ch/publications_and_data/ar4/wg2/en/ch8s8-1.html#8-1-1.

²¹ *Id.*; see also PROTECTING HEALTH FROM CLIMATE CHANGE, *supra* note 13.

adverse effects of climate change.²² For example, a lack of rainfall and inability to have proper irrigation contributed significantly to shortages of food which led to loss of livestock, spread of diseases and the deaths of young and old people.²³ More frequent heat waves are consistently responsible for long droughts in Niger, Kenya²⁴ and other developing countries. Developing countries are most vulnerable to the adverse effects of climate change because of their low adaptation capacity. Changes in their weather patterns, such as the increased frequency of storms, heat waves or extreme cold spells, would lead to the death of thousands and the displacement of millions.²⁵

However, even in the developed countries, extreme climate patterns have had adverse effects. In 2003, extreme heat waves in Europe led to more than 35,000 deaths. Elderly people were disproportionately affected by the heat wave because there were no protective measures in place to adequately respond to emergent needs of this sensitive population.²⁶ The changing

²² See generally Food and Agriculture Organization of the United Nations, *Global Information and Early Warning System*, <http://www.fao.org/giews/english/index.htm>.

²³ Meera Selva, *Drought and Locust Plague Leave Niger on the Brink of Famine*, THE INDEPENDENT (July 20, 2005), http://www.worldministries.org/prophecynnewsarticles/niger/050720_Drought_locust_plague_leave_Niger_on_brink_of_famine_niger.html; see also Serigne T. Kandji, *Drought in Kenya: Climatic, Economic and Socio-Political Factors*, NEW STANDPOINT (Nov.-Dec. 2006), at 18, <http://www.worldagroforestry.org/downloads/publications/PDFs/NL06291.pdf>.

²⁴ *Id.*

²⁵ See generally PROTECTING HEALTH FROM CLIMATE CHANGE, *supra* note 13.

²⁶ See PROTECTING HEALTH FROM SCIENCE CHANGE, *supra* note 13; see also Janet Larsen, *Record Heat Wave in Europe Takes 35,000 Lives: Far Greater Losses May Lie Ahead* (accessed July 20, 2011), http://www.earth-policy.org/index.php?plan_b_updates/2003/update29).

weather patterns also include extreme periods of decreased temperatures and increased frequency of damaging storms.²⁷ In the United Kingdom, climate change caused an abnormally cold winter that led to the deaths of thousands of elderly people.²⁸ In 2006, Scotland recorded the death of more than 2,500 people aged 65 and above from cold-related illness. Thousands more suffered the effects of the freezing weather.²⁹ In 2010, Britain recorded one of the worst winters in 30 years while Scotland recorded 1,506 deaths in the first week of January.³⁰

While life expectancy has increased in the developed countries due to the improvement of medical and social care services, developing countries have been less fortunate. According to WHO records, there has been a general decline in life expectancy in the developing countries for the past 20 years.³¹ For example, in a developing country such as Nigeria with a population of over 150,000,000 people, life expectancy has been estimated at 48.41 years for females and 46.76 years for males.³² As Nigeria's average life expectancy falls below 65 years, Nigerians are highly vulnerable at the age of 35. Such countries with low life expectancies have failed to form public health policies and social care services for their ageing population. This inability to accurately determine the average age of an ageing population will expose that population to the adverse effects of climate change, eventually

²⁷ *Id.*

²⁸ John Bingham, Andrew Hough & Claire Carter, *Britain's cold weather: deaths soar as winter takes its toll*, THE TELEGRAPH (Jan. 16, 2010), <http://www.telegraph.co.uk/topics/weather/6997427/Britains-cold-weather-deaths-soar-as-winter-takes-its-toll.html>.

²⁹ *Elderly Warned Over Winter Deaths*, BBC NEWS (Sept. 12, 2006), <http://news.bbc.uk/2/hi/scotland/5339614.stm>.

³⁰ *See* Bingham, Hough & Carter, *supra* note 28.

³¹ *See* PROTECTING HEALTH FROM CLIMATE CHANGE, *supra* note 13.

³² UNICEF, *At a Glance: Nigeria*, http://www.unicef.org/infobycountry/nigeria_statistics.html (last updated Feb. 24, 2011).

reducing their life span.³³ Some developing countries have even failed to identify the median age of their ageing population, thus the health issues of people who reach 65 years are not taken into consideration. No health policies have been implemented to protect this cross-section of people during periods of harsh weather caused by changes in weather patterns.³⁴

Undeveloped and developing states, small island states, coastal, polar, and mountainous regions are more vulnerable than other countries.³⁵ Additionally, floods, droughts and contaminated waters are exacerbated by climate change and pose a great risk to spread of diseases. Similarly, rising temperatures and changing patterns of rainfall cause malnutrition.³⁶ Such elements are also more likely to destroy communities and lives, displacing large groups of people and affecting the economy of these states.³⁷ However, not all the effects of climate change threaten human survival. For instance, potential evolution of a cold climate region into a temperate climate may boost tourism and improve the health of elderly people. Nevertheless, climate change poses an emerging challenge in the control of infectious diseases. For example, deadly diseases which are spread by insect vectors, such as malaria and contaminated food or water, are highly sensitive to extreme weather and

³³ Countries with low life expectancy at birth include: Afghanistan, male: 48.45 years, female: 51.05 years; Chad, male: 47.61 years, female: 49.82 years; South Africa, male: 50.34 years, female: 48.45 years and many others. *The World Fact Book*, CENT. INTELLIGENCE AGENCY, <https://www.cia.gov/library/publications/the-world-factbook/fields/2102.html> (last visited Sept. 5, 2012).

³⁴ A larger part of their population live below the poverty level because per capital income annually is extremely low. *See Poverty and Equity*, THE WORLD BANK, <http://povertydata.worldbank.org/poverty/home>.

³⁵ *Id.*

³⁶ PROTECTING HEALTH FROM CLIMATE CHANGE, *supra* note 13, at 6.

³⁷ McMichael et al., *supra* note 3.

other climatic conditions. Thus, climate change threatens to halt the progress made in the fight against these infectious diseases.³⁸

It is apparent that global changes will continue to affect the ageing population, the most vulnerable of which are children, women, disabled and elderly people in both developed and developing countries.³⁹ Since climate change is a threat to the survival of the ageing population, it is essential to evaluate several global health and climate policies for efficiency.

III. GLOBAL HEALTH POLICIES UNDER INTERNATIONAL CLIMATE REGIME

The development of an international climate regime through Multilateral Environmental Agreements (MEAs) is a welcome development and remains one of the formidable ways of combating climate change through policies, principles and laws.⁴⁰ MEAs have brought both developing and developed countries together, with each country acting according to its differentiated responsibility and respective capacity as opposed to shared responsibility in emission reduction.⁴¹

³⁸ WORLD HEALTH ORGANIZATION, *The World Health Report 2008—Primary Health Care* (Mar. 20, 2012), <http://www.who.int/whr/2008/en/index.html>.

³⁹ Hansen, *supra* note 6; PROTECTING HEALTH FROM CLIMATE CHANGE, *supra* note 13.

⁴⁰ Robin R. Churchill & Geir Ulfstein, *Autonomous Institutional Arrangements in Multilateral Environmental Agreements: A Little Noticed Phenomenon*, 94 AM. J. INT'L L. 623, 659 (2000); *see generally* Anne Daniel, *Civil Liability Regimes as a Complement to Multilateral Environmental Agreements: Sound International Policy or False Comfort?*, 12 REV. EUR. COMMUNITY & INT'L ENVTL. L. 225 (2003).

⁴¹ *See* Duncan French, *Developing States and International Environmental Law: The Importance of Differentiated Responsibilities*, 49 INT'L & COMP. L.Q. 35 (2000).

The international legal commitment to emission reduction by developed countries, known as "Annex 1 parties," is a positive step. However, despite the development of renewable energy and other machineries put in place to mitigate climate change, these international commitments are not sufficient in lights of the current volume of global emissions.⁴² Professor Orts, of the Wharton School of Business at the University of Pennsylvania, argues that a comprehensive global treaty usually reached through MEAs is not a solution for the climate change regime. For example, the negotiation of the 2009 Copenhagen Accord should be considered a failure as it did not lead to a legally binding protocol to reduce emissions.⁴³ As result, Professor Orts argued that due to the "dynamic nature" of climate change, a good climate regime should involve legal, economic, and political agreements between many institutions.⁴⁴ These institutions, according to Professor Orts, would not only include treaties adopted by states but also "regional and municipal governments, non-profit organizations (including educational, religious, and environmentalist groups), business firms, and consumer groups."⁴⁵ Consistent with his argument, in order to protect the ageing population, it is important to enforce obligations beyond the climate regime. This is because the "efforts to build a comprehensive regime are unlikely to succeed"⁴⁶ in light of failures to

⁴² For detailed discussion on global responses to emissions reduction, see Sharon Beder, *Trading the Earth: The Politics Behind Tradeable Pollution Rights*, 9 ENVTL. LIAB. 152 (2001).

⁴³ For detailed discussion on weaknesses of MEAs to solve environmental problems, see Eric W. Orts, *Climate Contracts*, 29 VA. ENVTL. L.J. 197 (2011); for discussion on failure of Copenhagen Climate Accord, see Meinhard Doelle, *The Copenhagen Climate Talks: The End of the Road for the UNFCCC or a Step Forward in the Evolution of the Regime?*, 2 AMSTERDAM L.F. 71 (2010).

⁴⁴ See Orts, *supra* note 43.

⁴⁵ See *id.* (listing detailed suggestions on how to use non-state actors to combat climate change).

⁴⁶ *Id.*

reach legally binding climate deals to unilaterally reduce emissions adopted under Copenhagen 2009 and Cancun 2010 Climate Accords.

However, Robert Keohane, professor of International Affairs at Woodrow Wilson School of Public and International Affairs, and David Victor, professor at the School of International Relations and Pacific Studies, argues that climate change regime is complex because "there is no integrated regime governing efforts to limit the extent of climate change."⁴⁷ Due to the lack of an integrated regime, efforts to address climate change have faced difficulty in achieving global cooperation to arrive at legally binding emissions reduction targets. Differences in fulfilment of climate obligations between developed and developing countries have presented obstacles. Despite different measures and mechanisms to implement the climate treaties, climate change generally has only been able to achieve modest reductions in emissions. Several climate policies, non-compliance procedures, national reporting on GHGs, and other obligations have fragmented the implementation of entire climate regime. Yet no adequate health policies exist either under the United Nation Framework Convention on Climate Change or its Kyoto Protocol.

**A. HEALTH POLICIES UNDER THE UNITED NATIONS
FRAMEWORK CONVENTION ON CLIMATE CHANGE
(UNFCCC)**

The United Nations Framework Convention on Climate Change (UNFCCC) remains the basic convention for the entire climate change regime. It serves as a framework convention for climate protocols and other compliant international legal instruments. While the convention does not contain any legally binding commitment to reduce emissions, it encompasses climate change principles, concepts, objectives and implementation

⁴⁷ See David Victor & Robert O. Keohane, *The Regime Complex for Climate Change* (2010) (discussing climate change regime complex, adaptability and flexibility), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1643813.

mechanisms. The fundamental objective of the UNFCCC is emission stabilization, which is aimed at preventing human interference with the climate system: specifically, the concentration of GHGs in the atmosphere.⁴⁸ This goal would be achieved within a specified period known as a commitment period, to allow the ecosystems to acclimate to the changes which have already occurred. Emission stabilization would also sustain the current economic development and production of food.⁴⁹

While the UNFCCC adopts sustainable development as one of its principle goals, it does not make it an obligation for its parties. The UNFCCC only provides that "the Parties have a right to, and should, promote sustainable development."⁵⁰ Similarly, the convention encourages parties to protect the climate system in the interest of the existing and unborn generation of humankind. This principle of "intergenerational equity" is also not an obligation. However, population-wide health remains one of the central goals of the concept of sustainable development, though no reference is made specifically for the protection of human health under the UNFCCC. No human health policies have been adopted to mitigate the adverse effect of climate change on the human population, specifically to the global ageing population. While parties are encouraged to adopt measures and policies at the international, regional and national levels, nowhere does the UNFCCC encourage its parties to adopt human health policies. Most of the measures and policies which parties are encouraged to adopt are predicated on sheer economic interests alone. This begs the question of whether the protection of human health is one of the primary objectives of the UNFCCC. Although Article 4(1)(e) obligated all parties to be committed to "... [c]ooperate in preparing for adaptation to the impacts of climate change; develop and elaborate appropriate and integrated plans for coastal zone management,

⁴⁸ See United Nations Framework Convention on Climate Change art. 2, *opened for signature* June 20, 1992, 1771 U.N.T.S. 165 (entered into force Mar. 21, 1994) [hereafter UNFCCC].

⁴⁹ *Id.*

⁵⁰ *Id.* at art. 3.

water resources and agriculture, and for the protection and rehabilitation of areas, particularly in Africa, affected by drought and desertification, as well as floods.”⁵¹ This provision nevertheless encourages the formulation of policies or measures to protect human health generally. Another possible way of interpreting the provision could elicit the idea that Article 4(1)(e) creates an obligation among members to cooperate in assisting developing countries in Africa. Only few projects or programs have been instituted in Africa and Asia under the international climate regime to combat adverse effects of climate change.⁵²

B. HEALTH POLICIES UNDER THE KYOTO PROTOCOL

It is worth considering whether the Kyoto Protocol (KP),⁵³ which is linked to the UNFCCC, has any provision for the implementation of health policies under the climate regime. The KP is a legally binding instrument that compels Annex I parties⁵⁴ to reduce volumes of emission by setting targets for them. The KP adopts a market based mechanism to assist parties in national reduction of GHGs in cost effective ways during the first commitment period from 2008 to 2012. It aims to commit parties to reduce the level of emission below the 1990 level, on average, by 5%. However, international politics and economic interests undermine the effectiveness of the KP in emission reduction. For instance, the United States has decided not to ratify the protocol despite signing it. The United States remains the world's

⁵¹ *Id.* at art. 4(e).

⁵² See generally *Data on Global Adaptation Projects*, GLOBAL ENVIRONMENT FACILITY, http://www.thegef.org/gef/gef_projects_funding.

⁵³ "The Kyoto Protocol was adopted in Kyoto, Japan, on 11 December 1997 and entered into force on 16 February 2005. The detailed rules for the implementation of the Protocol were adopted at COP 7 in Marrakesh in 2001, and are called the "Marrakesh Accords." Kyoto Protocol, UNFCCC, http://unfccc.int/kyoto_protocol/items/2830.php.

⁵⁴ Kyoto Protocol, Dec. 10, 1997, U.N. DOC. FCCC/CP/1997/7/Add.1, 37 I.L.M. 22.

largest emitter of CO₂ per capita, while China remains the world largest emitter of CO₂ on the aggregate at a per capita measurement.⁵⁵ Current emissions data does not justify the principle of differentiated responsibility between the developed and developing countries because developing countries such as China and India are among the world's largest emitters of CO₂. Would it be equitable to set internationally binding targets for some developing countries that have increased the levels of emission at large volumes despite the fact that they are not historically responsible for the current consequences of climate change? No. Binding targets in emissions reduction should be a shared responsibility between developed and developing countries; an approach that has been advocated by the U.S. Thus, developed countries such as the U.S. would not have any reason for failing to ratify the KP.⁵⁶ Including the U.S. in international mitigation and adaptation strategies would go a long way in addressing global climate change.

The IPCC reports have established the projected climate change-related exposures that are likely to affect the health status of millions of people, particularly those with low adaptive capacity in the developing countries. It also formulated methodologies that countries should adopt in mitigation and adaptation processes. When fulfilling the parties' binding commitments under the KP, the parties should implement policies and measures dependent on

⁵⁵ E.g., John Vidal & David Adam, *China Overtakes U.S. as World's Biggest CO₂ Emitter*, THE GUARDIAN (June 19, 2007), <http://www.guardian.co.uk/environment/2007/jun/19/china.usnews>; see also Elisabeth Rosenthal, *China Increases Lead as Biggest Carbon Dioxide Emitter*, N.Y. TIMES, June 14, 2008, <http://www.nytimes.com/2008/06/14/world/asia/14china.html?ref=elisabethrosenthal>.

⁵⁶ The position of the U.S. from time is that the developing countries should be included in emission reduction plans. *Kyoto Protocol and the United States*, THE ENCYCLOPEDIA OF EARTH (Cutler J. Cleveland ed., Encyclopedia of the Earth 2006), http://www.eoearth.org/article/Kyoto_Protocol_and_the_United_States.

their national circumstances.⁵⁷ In addition to a national commitment to reduce emissions, the KP provides additional ways of meeting the target through the Kyoto mechanisms.⁵⁸ The Kyoto mechanisms are composed of three market-based mechanisms:⁵⁹ Emissions Trading (ET),⁶⁰ Clean Development Mechanism (CDM)⁶¹ and Joint Implementation (JI).⁶²

⁵⁷ Kyoto Protocol art. 4, Dec. 10, 1997, U.N. Doc. FCCC/CP/1997/7/Add.1, 37 I.L.M. 22.

⁵⁸ *Id.*

⁵⁹ Cameron Hepburn, *Carbon Trading: A Review of the Kyoto Mechanisms*, 32 ANN. REV. ENV'T & RESOURCES 375 (2007).

⁶⁰ *See generally* Kyoto Protocol arts. 6, 12, and 17, Dec. 10, 1997, U.N. Doc. FCCC/CP/1997/7/Add.1, 37 I.L.M. 22. The ET for instance allows parties to the KP to sell their excess of Assigned Amount Units (AAUs) from their assigned emissions within the first commitment period from 2008 to 2012. Every Annex B party are allowed level of emission to sustain themselves economically, so if a party exhausts its assigned amount of emission such a party may buy from another party which has excess either from AAUs or emission units realized from its CDM or JI or Land Use, Land-Use Change and Forestry (LULUCF) projects.

⁶¹ *Id.* at art. 12. The CDM is only emission reduction projects which should be located and executed in the developing countries by Annex B parties under the KP in order to gain what is called Certified Emission Units (CER) which is equivalent to one tones of CO₂. It can be traded under the ET among Annex B parties or be used to offset their emission deficit having exhausted their AAUs in meeting their Kyoto targets. For in-depth analysis of CDM particularly its performance and reforms, see Charlotte Streck & Jolene Lin, *Making Markets Work: A Review of CDM Performance and the Need for Reform*, 19(2) EUR. J. INT'L L. 409 (2008).

⁶² The JI is a form of emission removal or reduction projects which must be executed in Annex B Parties country(s) by another member which make them to gain from transfer of technology and foreign investment. Although, the central goal is to allow Annex B parties meet their Kyoto targets through technology transfer and foreign investment in cost effective ways. *See*

1. CREATING AN EMISSION HEALTH PROJECT MECHANISM UNDER THE KYOTO REGIME

There is no doubt that the KP mechanisms aim to assist parties in meeting their emissions reduction targets under the climate regime in mostly economical ways, but it is unfortunate that none of the projects exemplify health-related objectives. If a reduction in emission is to mitigate climate change so that the ecosystems can adapt, it is questionable why human beings who form part of the ecosystem could not have adaptation or environmental health projects executed in protecting their health. Of course, if the tenets of Kyoto mechanisms are to assist the developed countries in reducing emissions and assist the developing countries in adapting to the adverse effects of climate change, there is no reason why developing countries cannot execute health protection projects and programs. There is no evidence that also including health-related objectives would prohibit meeting emission reduction goals.

It is not enough to argue that some of the Kyoto projects already have positive impacts on health, because health-related projects must be specific to protect the public health. Specific health projects should target the health interests of the most vulnerable people such as children, women, the physically challenged and the elderly. In order for health-related projects to continue to satisfy the Kyoto standard—that such projects have the capacity to reduce emissions and "realize units" (units are gains realized from adaptation projects), health projects should be converted to Certified Emission Units (CEUs) to be categorized under the Clean Development Mechanism (CDM) or to Emission Reduction Units (ERUs) if under the Joint Implementation (JI).

Creating Emission Health Projects (EHP) under the Kyoto flexible mechanisms is essential. These types of projects may be executed under the three market based Kyoto mechanisms—namely Emissions Trading (ET),

generally Kyoto Protocol art. 6, Dec. 10, 1997, U.N. Doc. FCCC/CP/1997/7/Add.1, 37 I.L.M. 22.

CDM and JI so as to bring equity between developed and developing countries. Emission units realized from the EHP should be traded in the carbon market. JI projects are only carried out between Annex I parties in the form of foreign investment and technology transfers while at the same time meeting Kyoto targets. Therefore, the Kyoto health project in Annex I country(s) may be executed by another Annex I party(s) like a JI project. On the other hand, since there is an existing mechanism in place requiring that CDM projects be located in developing countries, health projects protecting the ageing population may be executed under this mechanism.

Wherever emission health projects are located, they should be able to attract double Certified Emission Units (CEU) or Emission Reduction Units (ERUs) to two tons of CO₂. This will encourage the developed countries to carry-out health projects in both developed and developing countries. Additionally, the EHP may become the fourth Kyoto mechanism which Annex I parties can employ in meeting their Kyoto targets. Equal distribution of emission health projects is attainable by way of a quota system. Thus, distributing EHP might be subject to the emergent needs of a particular country, instead of concentrating projects in a region or country simply because it is very cheap or convenient to do so. While the creation of EHP might be effective to address the threats of climate change on the ageing population, the implementation may be undermined by poor funding. Since funding may be an impediment to the implementation of the EHP, it is worth considering whether climate adaption funds may be used for its implementation.

C. CLIMATE ADAPTATION FUNDS AND GLOBAL HEALTH POLICY

In order for countries to assess adaptation funds under the climate change regime, the country must be a party to the KP and UNFCCC. Additionally, the country must be a developing or developed country.⁶³

⁶³ See Kyoto Protocol art. 11, Dec. 10, 1997, U.N. DOC. FCCC/CP/1997/7/Add.1, 37 I.L.M. 22. See U.N. OFFICE OF THE HIGH REPRESENTATIVE

Adaptation funds can be used to finance not only projects, but programs on adaptation.⁶⁴ Under the climate change regime, many adaptation fund mechanisms are established through the UNFCCC and the KP—each specifying a mode of application and types of projects to be executed or climate programs to be run.⁶⁵ For instance, UNFCCC adaptation fund mechanisms include the "Special Climate Change Fund" (SCCF) and "Least Developed Countries Fund" (LDCF). The KP adaptation financial scheme only includes the Adaptation Fund (AF). The operations of these financial mechanisms are assigned to the Global Environment Facility (GEF).⁶⁶ The funding of these financial adaptation mechanisms has been voluntary by the developed countries to assist the developing countries who are suffering or are likely to suffer the imminent adverse effects of climate change. But in the case of the Kyoto Adaptation Fund, the funding is being realized from the proceeds of CDM projects at the rate of 2%, and sources of money other than

FOR THE LEAST DEVELOPED COUNTRIES, LANDLOCKED DEVELOPING COUNTRIES AND SMALL ISLAND DEVELOPING STATES: THE CRITERIA FOR THE IDENTIFICATION OF THE LDCs, <http://www.un.org/special-rep/ohrlls/ldc/ldc%20criteria.htm> (accessed May 9, 2012).

⁶⁴ For full details on adaptation programs and projects, see *Adaptation Fund*, CLIMATE FUNDS UPDATE, <http://www.climatefundsupdate.org/listing/adaptation-fund> (last visited June 17, 2011).

⁶⁵ UNFCCC (1992), http://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf.

⁶⁶ See *Global Environmental Facility*, UNFCCC, http://unfccc.int/cooperation_support/financial_mechanism/guidance/items/3655.php (last visited June 17, 2011). ("The relationship between the Conference of Parties to the UNFCCC and the GEF Council was agreed in a memorandum of understanding (MOU) contained in decision 12/CP.2 and decision 12/CP.3. As outlined in the MOU and pursuant to Article 11(1) of the Convention, the COP provides regular guidance to the Global Environment Facility (GEF), as an entity entrusted with the financial mechanism of the Convention, on policies, programme priorities and eligibility criteria for funding.").

from the proceeds of CDM projects.⁶⁷ In 2010, under the Kyoto Adaptation, only \$201.11 million have been generated, including 2% of the proceeds generated from the CDM projects.⁶⁸

It is questionable whether such an amount of available funds would be sufficient to cater to the adaptation challenges faced by developing countries, specifically to the ageing population. The manager of the adaptation fund, Marcia Levaggi, announced in September 2010 that there were shortages in the fund.⁶⁹ Additionally, decisions to award certain projects to a particular region or country has received criticism for a lack of transparency, which led to the discussion during the Adaptation Fund Board's twelfth meeting in December 2010.⁷⁰ Nevertheless, at the COP16/CMP6, the 16th edition of Conference of the Parties of the United Nations Framework Convention on Climate Change (COP) and the 6th Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) in Cancun 2010, a decision was adopted which established the Green Climate Fund (GCF), a scheme "designated as an operating entity of the financial mechanism of the Convention under Article 11."⁷¹ While the Green Climate Fund will be used in supporting various projects, activities, policies and programs in developing countries through "thematic funding windows," it is unclear if health projects will be included.⁷² That aside, the funding mechanism was approved during

⁶⁷ UNFCCC, *About CDM*, <https://cdm.unfccc.int/about/index.html> (last visited May 7, 2012).

⁶⁸ *Adaptation Fund*, *supra* note 64.

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ 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.

⁷² *Id.*

COP17/CPM7 Session in December 2011, but no substantial contribution has yet been made.⁷³

There is no provision in the UNFCCC that expresses or implies that adaptation projects should not be executed in the developing countries to address the health concerns of their ageing populations. Such projects must have the potential of mitigating the effects of climate change and must necessarily comply with the requirements as provided in the climate regime.⁷⁴ There is also the availability of accessing funds outside the climate regime which may be used to fund adaptation projects.⁷⁵ These funds are also instrumental in national and global adaptation and mitigation strategies.⁷⁶ Climate adaptation projects and programs must have the capacity for the adaptation and mitigation of climate change, which may include health projects and programs for the global ageing population in developing countries.

Because only developing countries have access to adaptation funds under the climate change regime,⁷⁷ the National Health Adaptation Fund

⁷³ See also *Info. Note: Launching the Green Climate Fund*, GREEN CLIMATE FUND INTERIM SECRETARIAT (Feb. 7, 2012), available at http://unfccc.int/files/parties_and_observers/notifications/application/pdf/information_note_launching_of_the_green_climate_fund.pdf (This funding scheme has been approved but no substantial contribution has been made; it was only recently that an interim Secretariat was launched in April 2012.).

⁷⁴ See *Adaptation*, UNFCCC, <http://unfccc.int/adaptation/items/4159.php> (last visited May 7, 2012) ("highlight[ing] the range of issues that are being addressed by Parties under the various Convention bodies").

⁷⁵ *Id.*

⁷⁶ See Kyoto Protocol art. 11, Dec. 10, 1997, U.N. Doc. FCCC/CP/1997/7/Add.1, 37 I.L.M. 22.

⁷⁷ *Funding for Adaptation*, UNFCCC, http://unfccc.int/adaptation/implementing_adaptation/adaptation_funding_interface/items/4638.php (last visited May 7, 2012).

protects ageing populations in both developed and developing countries. This type of funding mechanism would not be administered using adaptation procedures of UNFCCC or KP because the funds would be used solely to fund health projects and programs. In addition, there should be a concentration on projects that would improve the health status of the ageing population.

Lack of adequate funding and transparency in the distribution of adaptation projects and programs, specifically to the ageing population, might protract dangers faced by a large portion of the global population. The rights to life and health are fundamental, and as such, every country should provide a clean and healthy environment for its citizens. Generally, the concept of the right to life as used in this article to mean the right to live a life free from environmental harm, such as the negative effects of climate change on human health; while it is understood that the right to life in the U.S. could have a generic meaning, such as the state-granted legal right for women to have an abortion, this article does not intend such meaning but discusses the right to life in the context of the right to healthy environment. Since every country has the obligation to protect the dignity of life, such obligation could be extended to provide healthy environment where people can live peacefully without the threat of climate change. The next step, therefore, is to consider potential enforcement of rights to life and/or health in the international legal instruments of human rights, health and climate change.

IV. RELATION AND ENFORCEMENT BETWEEN INTERNATIONAL HEALTH, HUMAN RIGHTS REGIME AND CLIMATE CHANGE

Adaptation and mitigation remain the basic groundwork for the entire climate regime, but the laws, policies and mechanisms adopted to address them have been short-changed by the mode of enforcement. International legal instruments are negotiated and adopted because of challenges facing the global community on issues of importance, such as climate change and public health. One of the impediments to making effective treaties, conventions and protocols, is the issue of enforcement. The mode of enforcement mechanisms

adopted under a treaty may determine the success of that treaty. However, the judicial method of enforcement is hardly adopted in recent international regimes due to gaining global participation and ratification through multilateral environmental agreements.⁷⁸ For instance, under the climate regime, there is an Enforcement Branch (EB) established to enforce non-compliance by a party to the KP. The EB has the power to suspend a party from participating in the Kyoto mechanisms (ET, CDM or JI) and to make up for non-compliance in the next commitment period by adding an additional rate of 30%.⁷⁹ Ironically, a party may avoid being sanctioned by the EB by simply withdrawing, without incurring any sanctions for doing so. Furthermore, Article 18 of the KP, entailing the binding consequences of non-compliance, has not been adopted by the Conference of the Parties of the United Nations Framework Convention on Climate Change (COP) and the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol. Adopting the procedures will give it a binding force, but no recent amendment has been made.⁸⁰

The absence of effective judicial enforcement of international climate change laws forces non-state actors, in particular at regional and national levels, to revert to climate litigation. Additionally, the on-going success of climate litigation at the national level is forcing international environmental

⁷⁸ See PROTECTING HEALTH FROM CLIMATE CHANGE, *supra* note 13.

⁷⁹ See UNFCCC, The Marrakesh Accords, 7th Sess., U.N. DOC. FCCC/CP/2001/13/Add.2 (2002); see also *Compliance: Background*, UNFCCC, http://unfccc.int/kyoto_protocol/compliance/items/3026.php (accessed June 17, 2011).

⁸⁰ See Kyoto Protocol art. 18, Dec. 10, 1997, U.N. DOC. FCCC/CP/1997/7/Add.1, 37 I.L.M. 22; see also Anita Halvorssen & Jon Hovi, *The Nature, Origin and Impact of Legally Binding Consequences: The Case of the Climate Regime*, 6 INT'L ENVTL. Agreements 157 (2006) (arguing the legal consequences of Article 18).

pundits, researchers, scholars, lawyers, and NGOs to clamour for international climate litigation.⁸¹

Under the international legal regime, international law is generally classified as either hard or soft law. The concept of hard law means that such law is legally binding and enforceable under international law, such as: treaties, conventions, and protocols. Whereas soft laws are generally not legally binding, but are effective in achieving global acceptance and implementation in a particular area of international concern. For example, the Universal Declaration of Human Rights was not adopted in the first instance as a treaty, but rather as soft law. Its global acceptance and codification in

⁸¹ For detailed discussions on efficacy and legal implications on climate change litigation, see generally WILLIAM C.G. BURNS & HARI M. OSOFSKY, *ADJUDICATING CLIMATE CHANGE: STATE, NATIONAL, & INTERNATIONAL APPROACHES* 1–30 (Hari M. Osofsky ed., Cambridge Univ. Press 2009); see Navraj Singh Ghaleigh, *'Six Honest Serving-Men': Climate Change Litigation as Legal Mobilization & the Utility of Typologies*, 1 CLIMATE L. 31 (2010), available at <http://ssrn.com/abstract=1574928>. For efficacy of domestic climate litigation, see Jacqueline Peel, *The Role of Climate Change Litigation in Australia's Response to Global Warming*, 24 ENVTL. & PLAN. L. J. 90 (2007). For detailed discussion on arguments on legal implication of climate litigation, see David B. Hunter, *The Implications of Climate Change Litigation for International Environmental Law-Making*, American University WCL Research Paper No. 2008-14 (2007), available at <http://ssrn.com/abstract=1005345>; see James E. Salzman & David B. Hunter, *Negligence in the Air: The Duty of Care in Climate Change Litigation*, 156 U. PA. L. REV. 101 (2007). For detailed discussion on provisions of the constitution and environmental litigation, see James May, *The Intersection of Constitutional Law & Environmental Litigation*, in ENVIRONMENTAL LITIGATION: LAW & STRATEGY 359 (Cary R. Perlman ed., 2009). For detailed discussion on climate compensation through litigation, see Daniel A Farber, *Basic Compensation for the Victims of Climate Change*, 55 U. PA. L. REV. 1605 (2007). For overall efficacy of climate litigation, see Hari M. Osofsky, *The Continuing Importance of Climate Change Litigation*, 1 CLIMATE L. 3 (2010).

domestic constitutions has caused it to become legally binding.⁸² In order to explore potential legal instruments to enforce the right to life and/or health regarding protection of the ageing population against climate change, the subject must be discussed within the context of the hard and soft law regime.

A. THE HARD LAW REGIME AND THE RIGHT TO LIFE AND HEALTH

The rights to life and health have long been codified in international human rights hard and soft laws, and many countries have ratified these laws in their national constitutions.⁸³ The applications of these laws have gained prominence in both domestic and international judicial institutions. Enforcing these rights at the international level has been very difficult because of the associated theoretical, economic and political factors.⁸⁴ However, the application of the laws will be discussed in light of treaties and soft legal regimes to determine whether enforcement would protect the right to life and health of the ageing population. In the human rights regime, the right to life remains prominent in securing what is known as fundamental human rights.⁸⁵ However, human rights and health laws are fragmented, which means there are many legal instruments covering diverse areas that could serve as protection against the ageing population against climate change. An

⁸² See generally Antônio Augusto Cançado Trindade, *Universal Declaration of Human Rights*, UNITED NATIONS AUDIOVISUAL LIBRARY OF INTERNATIONAL LAW 1–4 (2008), http://untreaty.un.org/cod/avl/pdf/ha/udhr/udhr_e.pdf.

⁸³ See Universal Declaration of Human Rights, G.A. Res. 217(III), U.N. GAOR, 3d Sess., Supp. No. 13, U.N. DOC. A/810 (1948); see also International Covenant on Economic, Social and Cultural Rights, G.A. Res. 2200 (XXI)A, U.N. GAOR, Supp. No. 21 (vol. 16), U.N. DOC. A/6316 at 52 (1966).

⁸⁴ Stephen Gardbaum, *Human Rights as International Constitutional Rights*, 19 EUR. J. INT'L L. 749 (2008).

⁸⁵ See Article 3 of the UDHR.

understanding of these legal instruments could form the basis for legal theories and evidence that could be used for enforcement in protection of ageing population in domestic courts or international tribunals.

1. ICESCR AND THE RIGHT TO HEALTH

The International Covenant on Economic, Social and Cultural Rights (ICESCR) plays a significant role in protecting the health status of the older population at the global level.⁸⁶ The ICESCR is a treaty that has binding force on its ratifying states. Although there is no specific reference to the rights of the ageing population, this does not imply that they cannot enforce the rights therein.⁸⁷ The ICESCR was adopted during a period when the ageing population was not obviously affected by the impacts of climate change. Nevertheless, Article 12 provides that: “The States Parties to the present Covenant recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.”⁸⁸ This provision obligates member states to provide the highest attainable standard of health. The ICESCR does not only enshrine the right to health, but also the rights to social security, family life, adequate standard of living, free education, and cultural life.

While some countries have not ratified the ICESCR, the few that have, have done so with reservations. For instance, Egypt regards the provisions of the Covenant as binding, provided they are not in conflict with Sharia laws.⁸⁹ The U.S. for instance, has not ratified the Covenant despite signing it in 1979 for political reasons. In fact, the United Nations Convention on the Law of

⁸⁶ See International Covenant on Economic, Social and Cultural Rights, G.A. Res. 2200 (XXI) A, 21 U.N. GAOR, Supp. No. 16 at 49, U.N. DOC. A/6316 (1966).

⁸⁷ *Id.*

⁸⁸ *Id.* at art. 12.

⁸⁹ EVA BREMS, HUMAN RIGHTS: UNIVERSALITY AND DIVERSITY 273 (Kluwer L. Int'l 2001).

the Sea (UNCLOS) has suffered the same fate as the Kyoto Protocol and has yet to be ratified by the U.S. This inaction exhibits the U.S.'s reluctance to ratify international documents. Non-ratification of the ICESCR coupled with domestic interpretation by some countries, may undermine the efficacy of the Covenant.

However, domestic codification of the right to health has been remarkable in national jurisdiction. For example, Article 19(8) of Constitution of the Republic of Chile makes provisions for "[t]he right to live in an environment free from contamination." This provision indicates that every person in Chile has the right to live in a healthy and clean environment. This is an obligation put upon the state to ensure that everyone lives in an environment free from contamination. In fact, Article 19(8) continues to provide that "it is the duty of the State to watch over the protection of this right and the preservation of nature." Moreover, Article 19(9) of the Chilean constitution also provides for "the right to protection of health." Similarly, Article 24 of the Constitution of the Republic of South Africa of 1996, provides that everyone has the right to an environment "that is not harmful to their health or well-being." The provision goes on to protect the interests of present and future generations to a clean and healthy environment and sustainable development and use of natural resources "through reasonable legislative and other measures."

In other jurisdictions where these rights are not expressly provided for, they may be implied in an existing provision of right to life. The ICESCR might be useful in enforcement of the right to health domestically and internationally because the right to health exists under international health law which is then linked to climate change.

2. THE RIGHT TO LIFE AND HEALTH UNDER IHR AND CLIMATE CHANGE REGIME

While there is an existing regime which addresses global climate change, there is no specific regime for global health law,⁹⁰ potentially because of the financial burden and obligations it would impose on the states. However, hints of global health law can be found in the International Health Regulations' (IHR) regime under the World Health Organization (WHO). The WHO, which is an agency of the United Nations, has been very active in providing mitigation and adaptation strategies for climate regime, as well as coordinating international public health activities. The organization was part of the IPCC team which reported grave impacts on human health made by climate change.⁹¹ The IHR remains the only legal instrument under the WHO that makes a significant contribution to global health security.

In 2007, IHR became effective as a legally binding instrument. The IHR compels state parties to develop a health regime for prevention of diseases and protections of the human rights of persons and travellers.⁹² Nevertheless, the basic objective of the IHR is "designed to prevent the international spread of disease" through aviation, ship, and other sources. There is no direct link between the IHR and climate change. It does not expressly provide for protection against environmental harm which may be caused by climate change. There is no express provision to the concept of environmental health in the IHR from which the right to life and/or health may be linked. However, the WHO has defined environmental health as "the physical, chemical, and biological factors external to a person, and all the related factors impacting

⁹⁰ See Lawrence O. Gostin & Allyn L. Taylor, *Global Health Law: A Definition and Grand Challenges*, 1 PUB. HEALTH ETHICS 53 (2008) (providing a detailed discussion on the creation of a Global Health Law regime).

⁹¹ See Alley et al., *supra* note 9.

⁹² WORLD HEALTH ORGANIZATION, INTERNATIONAL HEALTH REGULATIONS (2005) (2d ed. 2d prtng. 2008).

behaviours."⁹³ The definition also includes "the assessment and control of those environmental factors that can potentially affect health."⁹⁴ The concept of environmental health is "targeted towards preventing disease and creating health-supportive environments."⁹⁵ Despite the fact that the IHR could be linked to climate change, its provisions are implicit in environmental health.

A consequence of climate change has been an increase in the spread of diseases. Since the IHR provides for the prevention of diseases, it follows that the implied right to life and/or health may be enforced by linking it to climate change. While the IHR makes provisions that protect human health from disease, there are no policies implemented specifically to address the health issues of the ageing population. Most obligations in the IHR are imposed on state parties, which must comply with those obligations. There is no financial mechanism established under the IHR to assist developing countries in protecting against diseases, despite the obligations they have under the IHR. It would be burdensome for poor countries to implement the provisions of the IHR in the absence of a financial mechanism. Despite the fact that the IHR lacks funding mechanisms, it may play a vital role in addressing international risks to human health which the climate regime has failed to protect. There are no specific international laws or policies that are implemented to address the impacts of climate change on the health status of the ageing population. While the IHR and other human rights treaties may be interpreted to enforce the right to life or health, soft laws are also relevant in this context.

B. THE SOFT LAW REGIME AND THE RIGHT TO LIFE AND HEALTH

International environmental law, often expressed through treaties, consists of principles codified in the soft laws that have reshaped global

⁹³ *Environmental Health*, WORLD HEALTH ORGANIZATION, http://www.who.int/topics/environmental_health/en/.

⁹⁴ *Id.*

⁹⁵ *Id.*

responses in many environmental issues, such as sustainable development and climate change. Sometimes the provisions of these soft laws express the standards that are used for the implementation of rules of customary international law. In addition, they may serve as underpinnings to environmental treaties.⁹⁶ Soft laws influence states to be committed to the fulfilment of international obligations without legally compelling them to do so.⁹⁷ The soft legal regime is also significant in the protection of human health against environmental degradation. However, soft laws such as declarations and principles do not have binding force compared to conventions or protocols, and are therefore limited in application. Under the domestic judicial regime, soft laws have very strong persuasive effect before the courts because of their universal acceptance in international law.

1. "UNITED NATIONS PRINCIPLES FOR OLDER PERSONS"

The "United Nations Principles for Older Persons" may be regarded as soft law because of its non-binding force. The sole purpose of the principle is to encourage the governments of developed and developing countries to incorporate six core provisions into their national programs: independence, participation, care, self-fulfilment, and dignity.⁹⁸ Although the soft law provisions were adopted by the General Assembly of the United Nations in 1991 they are not often implemented.

⁹⁶ PATRICIA BIRNIE, ALAN BOYLE, & CATHERINE REDGWELL, *INTERNATIONAL LAW & THE ENVIRONMENT* 271–75 (Oxford Univ. Press 3d ed. 2009).

⁹⁷ *Id.*

⁹⁸ The Office of the United Nations High Commissioner for Human Rights (OHCHR), *United Nations Principles for Older Persons*, Adopted by General Assembly Resolution 46/91 of 16 Dec. 1991, available at <http://www2.ohchr.org/english/law/pdf/olderpersons.pdf>.

2. THE STOCKHOLM AND RIO DECLARATIONS

The Stockholm⁹⁹ and Rio Declarations¹⁰⁰ remain significant environmental soft laws because of their influential power in interpretation and application generally in the environmental regime as they provide good evidence of *opinio juris* (an opinion of law or necessity). Despite this status, they have not achieved binding force in environmental obligations. The principles of the Stockholm and Rio Declarations do not provide or make reference to the ageing population. The Proclamations in the Stockholm Declarations, however, do make reference to population and health. The Declaration proclaims in Paragraph 4 that: “The natural growth of population continuously presents problems for the preservation of the environment, and adequate policies and measures should be adopted, as appropriate, to face these problems. Of all things in the world, people are the most precious.”¹⁰¹ Similarly, Principle 1 provides that: “Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.”¹⁰² The soft law provisions will play prominent roles in the interpretation of climate treaties and public health. However, the provisions are not legally binding on states, so they may only be used as a standard for implementing rules of international law.

⁹⁹ United Nations Conference on the Human Environment, Stockholm, Swed., June 5–16, 1972, Stockholm Declaration on Human Environment, U.N. DOC. A/CONF.48/14 (June 16, 1972).

¹⁰⁰ United Nations Conference on Environment and Development, Rio de Janeiro, Braz., June 3–14, 1992, Rio Declaration on Environment and Development, U.N. DOC. A/CONF.151/26/Rev.1 (vol. I), Annex I (Aug. 12, 1992).

¹⁰¹ United Nations Conference on the Human Environment, *supra* note 99, ¶ 5.

¹⁰² United Nations Conference on Environment and Development, *supra* note 100, at Principle 1.

3. THE RIGHT TO LIFE UNDER UNIVERSAL DECLARATION OF HUMAN RIGHTS

The revolution of Human Rights enforcement started with the Universal Declaration of Human Rights (UDHR),¹⁰³ which has been incorporated into the domestic constitutions of many countries. The UDHR is not a treaty, but has been adopted under the Charter of the United Nations.¹⁰⁴ As a result, it has achieved legally binding force in international law. Many analysts agree that most of its provisions constitute customary international law, or what are regarded as civil and political rights of every individual in the world.¹⁰⁵ The application of the UDHR is crucial in any enforcement of human rights law, and this provision has been interpreted to encompass other human rights law. Particularly in environmental law, it has been interpreted to encompass the right to a healthy environment because of the concept that if there is no clean and secure environment, no form of human rights can be enjoyed.

In conclusion, there is no environmental regime where soft or hard laws make clear provisions for the protection of the ageing population. One of the potential solutions would be to invoke implied provisions of these laws, i.e. climate, health and human rights legal instruments. Such legal instruments could be found in domestic, regional, and international soft or hard laws linking to climate change. If these connections can be established, protecting the public health of ageing population may be attainable through litigation. Victims of climate change who are affected by the adverse effect of climate change may approach domestic courts or international tribunals for application, or enforcement, of some of the legal instrument explored above. Even where policies are not adopted or implemented by a state to protect the ageing population against climate change, a concerned citizen or legal entity

¹⁰³ Universal Declaration of Human Rights, G.A. Res. 217(III) A, U.N. DOC. A/RES/217(III) (Dec. 10, 1948).

¹⁰⁴ Trindade, *supra* note 82.

¹⁰⁵ Michael Ashley Stein, *Disability Human Rights*, 95 CAL. L. REV. 75, 94 (2007) (providing a discussion on civil and political rights).

could approach the courts for state inaction. Lawsuits against government authorities or the government could be instituted in a domestic court or an international tribunal where failures of the government to develop and implement proactive measures to protect its ageing population against climate change can be litigated. In order to achieve such an objective, various legal obligations must be used to support the legal theories. These legal obligations could be found in many international agreements which the state is a party or any domestic legislation in that regard.

V. CASE REVIEW OF HUMAN RIGHTS ENFORCEMENT, CLIMATE CHANGE AND PROTECTION OF THE AGEING POPULATION

Enforcement of human rights remains a formidable way of protecting the public health of the ageing population. Human rights enforcement, specifically through litigation, has become a tool in combating climate change. This approach may ultimately put pressure on state actors and other relevant authorities to act by adopting policies, laws, and programs that protect the public health of older people.¹⁰⁶ Since the emphasis has been placed on cost-benefit regulation, adequate protection of human health is more frequently neglected in the climate change regime.

The enforcement of human rights linked to climate change at the international level is manifested clearly in the case of *Social and Economic Rights Action Centre (SERAC) and the Centre for Economic and Social Rights (CESR) v. Nigeria*¹⁰⁷ before the African Commission on Human & Peoples' Rights (the Commission). The case concerned one's right to a clean and healthy environment, within the context of enjoying the right to life. It was filed on behalf of the people of Ogoniland (a community in the Niger-Delta of Nigeria) against the Federal Government of Nigeria (FGN) as a

¹⁰⁶ See generally *Massachusetts v. EPA*, 549 U.S. 497 (2007).

¹⁰⁷ African Comm'n on Human & People's Rights, *The Social and Economic Rights Action Center and the Center for Economic and Social Rights v. Nigeria*, Comm. No. 155/96 (2001).

result of perpetual environmental degradation. The FGN is involved in joint ventures with the Shell Petroleum Development Company (SPDC). Environmental degradation of Ogoniland occurred as a result of oil and gas explorations by the SPDC that were conducted without exploration procedures. The Commission held that Nigeria violated various provisions of the Articles 2, 4, 14, 16, 18(1), 21 and 24 of the African Charter on Human and Peoples' Rights (ACHPR).¹⁰⁸ Hence, the activities of SPDC, working in compliance with the government of Nigeria, affected the Ogoni peoples' right to life, food, health and property.¹⁰⁹ Nigeria has yet to enforce the decisions of the Commission or the decision of the domestic court against Shell.¹¹⁰

The Ogoniland case is not merely a climate change case, but rather it links the rights of people to environmental pollution and degradation of any form. In spite of the fact that Nigeria was held to be in violation of the ACHPR, other environmental degradation activities by multinational oil companies continue in the Niger-Delta of Nigeria and are responsible for militancy and piracy in the Gulf of Guinea.¹¹¹ In addition, the Commission lacks power to enforce its decisions on member countries, therefore making its decisions less effective in establishing a global precedent in upholding peoples' rights.

¹⁰⁸ *Id.*; see generally African Comm'n on Human & People's Rights, *African (Banjul) Charter on Human and Peoples' Rights*, OAU DOC. CAB/LEG/67/3/Rev. 5 (June 27, 1981).

¹⁰⁹ Climate Justice Programme, *Shell Fails to Obey Court Order to Stop Nigeria Flaring, Again* (2007), available at <http://www.climatelaw.org/media/2007May2>.

¹¹⁰ *Id.*

¹¹¹ See generally Geoffrey Chapp-Jumbo, *Unending Sea Piracy in the Gulf of Aden and Guinea (1)*, ALLAFRICA (Jan. 19, 2011), <http://allafrica.com/stories/201101200391.html>; Geoffrey Chapp-Jumbo, *Unending Sea Piracy in the Gulf of Aden and Guinea (2)*, ALLAFRICA (Jan. 20, 2011), <http://allafrica.com/stories/201101210264.html>.

As a result, Nigeria requested that the United Nations Environmental Program (UNEP) to conduct an environmental assessment of Ogoniland due to severe environmental pollution in the community. The report was submitted to the FGN in 2011,¹¹² but the review and implementation of the report has been delayed.¹¹³ UNEP recommended that Ogoniland receive environmental rehabilitation, which could take up to 30 years to conduct. In order to finance the rehabilitation projects, the FGN and SPDC would have to make an initial contribution of \$1 billion. The action of the FGN in requesting UNEP to carry such a project might have been prompted as a result of previous environmental litigation against SPDC and FGN. Decades of perpetual environmental pollution of Ogoniland has given the country a bad image among comity of nations. Requesting UNEP to carry out the environmental assessment might be a political gimmick to tell the world that Nigeria is working in the interest of restoring Ogoniland to its past glory.¹¹⁴

Another notable human rights case linking climate change to health is the petition by the Inuit people of the U.S. and Canada to the Inter-American Commission on Human Rights.¹¹⁵ The Inuit people alleged that U.S. climate change policies violated the Inuit peoples' rights to use and enjoy traditional

¹¹² UN Development Programme (Emergency Response Division), *Environmental Assessment of Ogoniland Report* (2011). The full EA Report is available at <http://www.unep.org/nigeria/>.

¹¹³ See summary discussion of review and implementation of UNEP Environmental Assessment report on Ogoniland; see Saheed Alabi, *Recent Developments in the Niger Delta of Nigeria*, 1 IUCNAEL EJOURNAL, 162 (2012), <http://ssrn.com/abstract=1966057>.

¹¹⁴ *Id.* at 162.

¹¹⁵ See generally Inuit Circumpolar Council (Canada), *Inuit Petition Inter-American Commission on Human Rights to Oppose Climate Change Caused by the United States of America*, INUIT CIRCUMPOLAR COUNCIL (Dec. 7, 2005), <http://www.inuitcircumpolar.com/index.php?Lang=En&ID=316>.

heritage and to preserve their health.¹¹⁶ They claimed in the petition that unchecked emissions emanating from the territory of the U.S. will continue to undermine their existence because the U.S. is one of the largest emitters of GHG in the world.¹¹⁷ Climate change has been responsible for the massive loss of sea ice in the arctic which is essential to the Inuits' transportation between communities and for travel to hunting and harvesting grounds.¹¹⁸ Other problems include unpredictable weather pattern, change in quality and quantity of snow, coastal erosions caused by the rise of the sea level.¹¹⁹ However, the petition was dismissed because the Commission felt that it would be unrealistic to hold the U.S. accountable because of the global nature of causation.¹²⁰ The Inuit petition has contributed immensely to the development of intellectual discourse on the potential connection between human rights and climate change.¹²¹ It has also motivated non-state actors to use human rights violations to influence negotiation over climate agreements. In

¹¹⁶ *See id.* at 79, 85.

¹¹⁷ *See id.* at 68–69.

¹¹⁸ *See id.* at 35–64.

¹¹⁹ *Id.*

¹²⁰ Letter from Ariel E. Dulitzky to Paul Crowley (Nov. 16, 2006), available at <http://graphics8.nytimes.com/packages/pdf/science/16commissionletter.pdf>.

¹²¹ *See generally* John H. Knox, *Linking Human Rights and Climate Change at the United Nations*, 33 HARV. ENVTL. L. REV. 477 (2009) (discussing an OHCHR report examining the relationship between climate change and human rights); Lavanya Rajamani, *The Increasing Currency and Relevance of Rights-Based Perspectives in the International Negotiations on Climate Change*, 22 J. ENVTL. L. 391 (2010) (discussing human rights based approaches to climate change issues); Daniel Bodansky, *Introduction: Climate Change and Human Rights: Unpacking the Issues*, 38 GA. J. INT'L & COMP. L. 511 (2010) (discussing questions raised by human rights based approaches); Hunter, *supra* note 81 (discussing the arguments on legal implications of linking climate change to human rights).

fact, during the Cancun climate negotiation in Mexico in 2010, there was a report submitted by a non-state actor representing the interest of Inuit people seeking to influence negotiations.¹²²

Only a few cases have been initiated at the regional level to supra-judicial institutions such as the Ogoniland case and Inuit petition. International climate law is evolving, creating an understanding of the connection of human rights to climate change. Therefore, enforcement at the international tribunals cannot be discounted.

**A. RESHAPING GLOBAL RESPONSES TO PROTECTION OF
AGEING POPULATION THROUGH HUMAN RIGHTS AND
CLIMATE LITIGATION**

Renowned environmental international law professionals, Professors Birnie, Boyle and Redgwell, noted that human rights could not be categorized because one could view them in three different perspectives.¹²³ These scholars first suggest that human rights are "civil and political rights," that may provide opportunities "compelling governments to meet minimum standards of protection for life, private life, and property from environmental harm."¹²⁴ Alternatively, they suggest human rights could be considered "economic or

¹²² See Terri Hansen, *Arctic and Small Island Nations Join Forces Against Climate Change*, MOTHER EARTH JOURNAL (Dec. 6, 2010), <http://mother-earth-journal.com/2010/12/06/03-arctic-and-small-island-developing-states-fight-against-climate-change/> (discussing Inuit contributions to U.N. climate summit). See generally Eric Dannenmaier, *The Role of Non-State Actors in Climate Compliance*, in PROMOTING COMPLIANCE IN AN EVOLVING CLIMATE REGIME 149 (Jutta Brunnée, Meinhard Doelle & Lavanya Rajamani eds., 2011) (describing the role of non-state actors in negotiation of agreements and enforcement).

¹²³ BIRNIE, *supra* note 96, at 271–72.

¹²⁴ *Id.* at 271.

social rights,"¹²⁵ which could lead to treating a "decent, healthy or sound environment as economic or social right."¹²⁶ This approach would make environmental quality a value, which would be comparable in status to other economic and social rights. The last perspective is that human rights could be considered a "collective and solidarity right."¹²⁷ This perspective is vested in a community instead of an individual, granting individuals a right to know how to protect the environment and manage natural resources.¹²⁸ These perspectives are not mutually exclusive; recent climate cases which link human rights and climate change are predicated upon these perspectives. For example, the Inuit petition may be categorized under the first and second perspectives, while the Ogoniland case may be categorized under the third perspective for espousing collective and solidarity rights. However, the category of human rights in which climate litigation could succeed is not important. What is significant is the relative outcome of climate change cases.

Nevertheless, whether at the domestic, regional or international level, one of the mediums of interpreting and seeking enforcement of laws, customs, and policies is through the established judicial institutions. While litigation is seldom utilized by countries against one another because they are culpable of related matters, it remains the formidable legal tool of enforcing constitutional (human) rights at the domestic courts. However, under the

¹²⁵ *Id.* at 272.

¹²⁶ *Id.*

¹²⁷ *Id.*

¹²⁸ *Id.*; see generally U.N./ECE Convention on Access to Info., Pub. Participation in Decision-Making and Access to Justice in Env'tl. Matters, *The Aarhus Convention: An Implementation Guide*, June 25, 1998, U.N. DOC. ECE/CEP/72 (2000), available at <http://www.unece.org/fileadmin/DAM/env/pp/acig.pdf> (describing and analyzing U.N. perspectives on public involvement in environmental policy-making); see Andrew L. Strauss, *The Legal Option: Suing the United States in International Forums for Global Warming Emissions*, 33 ENVTL. L. REP. 10185 (2003) (analyzing public participation in environmental governance).

climate regime, one of the basic objectives of the KP is to facilitate national reductions of GHGs. It is thus implied that in enforcing climate obligations through the court, both domestic and international litigation must continue. It is less significant to separate domestic climate litigation from international climate litigation because separating them might weaken the efficacy of climate litigation. More importantly, cases that might seem impossible at the international level may be possible at the domestic level. Human activity responsible for emissions takes place within the national boundaries of each state, and largely by non-state agents. Instead of strictly invoking the doctrine of state responsibility, it would be more effective if litigation is strongly developed at the national level so that the actions and inactions of private actors can also be checked. As a result, compensatory awards may be feasible. Therefore, it is significant that in reshaping global responses to protect the ageing population against climate change, the courts seek the enforcement of obligations, both at the national and international judicial institutions. Simultaneous pursuit of climate litigation will safeguard the future of the global ageing population, which must be immune to politics and economics.

However, litigation is an enforcement mechanism for the human rights regime due to universal practices, while climate change litigation is an evolving area of environmental law. Climate litigation "is the body of case law that uses court or tribunal processes with the aim of securing emission reductions (or some other 'climate change good') or stymies attempts to do the same."¹²⁹ This implies that climate change encompasses any form of positive consequences that climate litigation may achieve although it does not elaborate on the concept of "climate change good."

"Climate change good" is a concept that entails any form of justice that may be derived from enforcing obligations under the climate change and other compatible regimes. Such "good" is not limited to climate justice (substantial and procedural) or adequate climate policies, but also the enjoyment of human rights to life and healthy environment. However, it

¹²⁹ Ghaleigh, *supra* note 81.

pinpoints one of the basic objectives of climate change mitigation: securing emission reduction. However, it fails to shed light on potential benefits of litigation such as adaptation, compensation and protection of public health.

B. PROTECTION OF THE AGEING POPULATION BY ENFORCING CLIMATE OBLIGATIONS AND HUMAN RIGHTS THROUGH INTERNATIONAL, REGIONAL AND DOMESTIC JUDICIAL INSTITUTIONS

The central goal of the climate change regime is to reduce national emissions. Continuous domestic litigation of issues relating to the protection of the ageing population through linking climate change laws might strengthen domestic climate governance. Nevertheless, such actions will add to what can be achieved at the international level. Engaging in climate litigation at the international level is also imperative because of transnational causation, so that a group of countries may be held accountable for their contribution to global climate change. For example, member countries of the Organisation for Economic Co-operation and Development (OECD), and the European Union (EU) are responsible for climate compensation and the enforcement of emission reductions beyond Kyoto Limits. However, bringing developed or developing countries under the same International Organization may make groups of countries equally liable if any decision is made against them.

Furthermore, instituting climate change cases against international organizations may be effective where it is impossible to sue a particular country. For instance, the U.S. is not a party to the KP and UNCLOS despite being a signatory to them.¹³⁰ In theory, in order to target the U.S., sue an international organization of which the U.S. is a member. One of the primary arguments against litigation is that it is "largely concerned with affording reparation as a response to violations of international law rather than

¹³⁰ Strauss, *supra* note 128, at 10188.

preventing environmental harms before it happens."¹³¹ Apart from reparation benefits, litigation could be used to achieve other results, such as emissions reduction, implementation of adaptation policies against climate, and compensation or award of damages. Therefore, climate litigation may be defined as any form of judicial activity targeting judicial review, enforcement of climate change law and policies, and compatible legal instruments before a domestic court or international tribunal.

Climate litigation is divided into two classifications—domestic and international. First, under domestic litigation, climate cases integrating human rights to enforce climate laws and protect the public health of the ageing population are instituted. This form of litigation is helpful to challenge various public health policies of governments at various levels. A group of people or individuals may institute domestic climate cases on behalf of themselves and others. The state and non-state actors may institute domestic climate cases as well. Interestingly, domestic climate litigation has been very active in many countries, targeting remedial, compensatory and emissions reduction outcomes. For example, in Nigeria there is litigation before the local courts challenging gas flaring by multinational oil companies in the Niger-Delta. The outcomes of these cases are significant, though they are inevitably undermined because of inadequate enforcement.

The case of *Jonah Gbemre v. Shell Petroleum Development Company Nigeria Ltd, Nigerian National Petroleum Corporation and Attorney-General of the Federation*¹³² clearly showed the efficacy of climate litigation in a domestic court. The plaintiff on behalf of himself and the Iwherekhan Community averred that the activity of flaring gas during oil exploration

¹³¹ BIRNIE, BOYLE & REDGWELL, *supra* note 96, at 211.

¹³² See *Gbemre v. Shell Petroleum Dev. Co.*, (2005) EHC/B/CS/53/05, FHCNLR (Nigeria), available at [http://books.google.com/books?id=Bj1CsTqezIMC&lpg=PR15&ots=iYJY4w1rAz&dq=Gbemre%20v%20Shell%20Petroleum%20Development%20Company%20Nigeria%20Limited%20and%20Others%20\(2005\)%20AHRLR%20151&pg=PA151#v=onepage&q&f=true](http://books.google.com/books?id=Bj1CsTqezIMC&lpg=PR15&ots=iYJY4w1rAz&dq=Gbemre%20v%20Shell%20Petroleum%20Development%20Company%20Nigeria%20Limited%20and%20Others%20(2005)%20AHRLR%20151&pg=PA151#v=onepage&q&f=true).

violated the plaintiff's fundamental right to life and dignity as codified in the federal constitution of Nigeria, as well as the right of his people to a healthy environment.¹³³ The plaintiff also claimed that the activity of gas flaring contributed to global climate change.¹³⁴ The Court granted the plaintiff full relief, holding that the defendants violated the plaintiff's right to life and dignity, which encompasses the rights to a "clean, poison-free, pollution-free healthy environment"¹³⁵ as guaranteed in the constitution.¹³⁶

Similarly, the Philippines case *Oposa v. Factoran*,¹³⁷ involved the questions of standing, intergenerational equity, and constitutional rights. This case was brought by minors and their parents on behalf of themselves and generations yet unborn. They sought to prevent deforestation by requesting that all existing contracts by the government be revoked. They claimed that as tax payers, they were entitled to full benefit, use, and enjoyment of natural resources. This case was unique because of the protection of the rights of unborn generations, which of course confirms the principle of intergenerational equity under the climate change regime. Furthermore, the case aimed to stop deforestation, which is one of the human activities allegedly responsible for climate change from a human rights and taxation perspective.

¹³³ *Id.*

¹³⁴ *Id.*

¹³⁵ *Id.*

¹³⁶ *Id.* at 155.

¹³⁷ *Oposa v. Factoran*, G.R. No. 101083 (S.C., July 30, 1993) (Phil.), available at <http://elibrary.judiciary.gov.ph/decisions.php?doctype=Decisions%20/%20Signed%20Resolutions&docid=12634358551689041955#sam>.

There are numerous climate cases in the U.S.,¹³⁸ Australia,¹³⁹ and India¹⁴⁰ linked to human rights at the domestic level that challenge the actions and inactions of both state and non-state actors. Considering the facts of these cases and their novelty, it might be feasible to bring domestic climate or human right cases challenging activities and policies of the public and private agents to protect the health interest of the ageing population.

The second type of litigation is international climate litigation, which can be further divided into global and regional litigation. This type of litigation may exclusively target state actors, compelling them to establish a global health regime that would formulate policies protecting the ageing population and hold them accountable by invoking various principles, doctrines, customs and international law. The Ogoniland case and the Inuit petition endeavour to link human rights to climate change, by aiming to protect individual and collective interests. Similarly, Article 11 of the 1988 San Salvador Protocol to the American Convention on Human Rights in the Area of Economic, Social, and Cultural Rights states, "everyone shall have the right to live in a healthy environment and to have access to basic public services."¹⁴¹ This regional protocol, like the African Charter of Human Rights

¹³⁸ Michael B. Gerrard & J. Cullen Howe, *Climate Change Litigation in the U.S.*, ARNOLD & PORTER LLP (Sept. 4, 2012), www.climatecasechart.com.

¹³⁹ Jacqueline Peel, *Climate Change Law: Australian and Overseas Developments* (Sept. 1, 2011), THE UNIVERSITY OF MELBOURNE, http://blogs.unimelb.edu.au/peel_climatechange/category/case-law/australian-climate-change-litigation/.

¹⁴⁰ See Arindam Basu, *Climate Change Litigation in India: Seeking A New Approach Through the Application of Common Law Principles*, 1 ENVTL. L. & PRACTI. REV. 34 (2011), <http://www.nalsar.ac.in/pdf/Journals/ELPR-Vol.1.pdf> (discussing climate litigation and cases in India).

¹⁴¹ Organization of American States, Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and

and Peoples Rights, contributed immensely to the emergence of substantive environmental rights.

Furthermore, the European Court of Human Rights (ECHR), through a regional court, creates jurisprudence on environmental rights (substantive and procedural).¹⁴² The proliferation of these cases are present in extensive legal literature. For example, in *Lopez Ostra v. Spain*,¹⁴³ the plaintiff claimed that emissions from a factory purifying and treating water near her home violated her to right private and family life under Article 8, and degrading treatment under Article 3 of the European Convention on Human Rights. The European Commission found out that only Article 8 was breached by Spain. The case therefore was filed by the European Commission before the European Court on Human Rights. The decision of the European Commission was upheld. The Court held that Article 8 was violated because serious consequences of environmental degradation may affect an individual's well-being so as to deprive him of the enjoyment of his private and family life, and public authorities must take necessary measures to protect the rights to private life, home, and family.¹⁴⁴ However, the Court decided that Article 3 was not breached because the condition suffered did not amount to degrading treatment. While there was no express provision detailing a violation of environmental or climate rights in the European Convention of Human Rights, the Court interpreted the right to private and family life to include environmental rights.

Cultural Rights ("Protocol of San Salvador") art. 11, A-52 (Nov. 16, 1999), available at <http://www.unhcr.org/refworld/docid/3ae6b3b90.html>.

¹⁴² See generally EUROPEAN COURT OF HUMAN RIGHTS, <http://www.echr.coe.int> (Providing Decisions, Judgments and Case-Law Analysis).

¹⁴³ *Lopez Ostra v. Spain*, 20 Eur. Ct. H.R. 277 (1994).

¹⁴⁴ For detailed discussion and analyses on the case, see Judith Hippler Bello & Richard Desgagne, *Lopez Ostra v. Spain*, 89 AM. J. INT'L L.AW 788–91 (1995).

Also, in *Guerra v. Italy*,¹⁴⁵ a fertilizer production factory emitted "large quantities of inflammable gas" which affected the health of people residing nearby. The Court decided that emissions of toxic fumes violated the plaintiff's right to respect their private and family life under Article 8.¹⁴⁶ The same decisions were reached in *Taskin v. Turkey*,¹⁴⁷ *Moreno Gomez v. Spain*¹⁴⁸ and *Fadeyeva v. Russia*.¹⁴⁹ At the European Court it would not seem difficult to bring climate, human rights or health related cases citing provisions of several European Conventions in protection of ageing population.

However, at the international level, there is no tribunal or court which has decided cases of this nature. In the same vein, the International Criminal Court (ICC) has not tried a case connecting human rights to climate crimes, or climate change generally. If there are none, the emerging domestic and regional cases may serve as impetus to bring cases linking climate and human rights to the international level. Nevertheless, climate science, health and human rights should continue to garner further growth in research. The growth in research will strengthen linkages between climate change, human rights health, and the ageing population.

VI. CONCLUSION

It is apparent that there is no specific health policy that is implemented or enforced under the international climate change regime. The current

¹⁴⁵ *Guerra v. Italy*, 1998-I Eur. Ct. H.R. 7.

¹⁴⁶ *Human Rights and Environment: The Case Law of the European Court of Human Rights in Environmental Cases*, ECHR ENVIRONMENTAL CASE LAW TOOLKIT 33 (2011), http://www.justiceandenvironment.org/_files/file/2011%20ECHR.pdf.

¹⁴⁷ *Taskin v. Turkey*, 2004-X Eur. Ct. H.R. 621.

¹⁴⁸ *Moreno Gomez v. Spain*, 2004-X Eur. Ct. H.R. 633.

¹⁴⁹ *Fadeyeva v. Russia*, 2005-IV Eur. Ct. H.R. 85.

objective of the climate change regime is to stabilize GHGs in the most cost effective way so as to encourage global participation. By requiring developed countries to assist developing countries in adapting to current changes and mitigating imminent adverse effects of climate change to achieve this objective, climate laws may be linked to other international legal regimes, such as human rights and health.

There is also a clear indication that enforcing the rights to life and health under the human rights regime may go a long way in protecting the health concerns of the ageing population against the adverse effects of climate change. Enforcing climate change obligations at the international level through human rights is still evolving. Thus, domestic or regional litigation could be used to enforce the rights to life, health, and a clean and healthy environment as an alternative is more feasible than international litigation. Nevertheless, a potential creation of a global health law regime would be adequate because it would address the health issues of the ageing population. The global health regime will certainly impose obligations on states to protect the ageing population from the threats of climate change. However, to achieve this important objective, there is need to strengthen and reform existing domestic international structures on human rights, health and climate change regimes.