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# AT THE WATER'S EDGE: LEGAL PROTECTIONS AND FUNDING FOR A NEW GENERATION OF CLIMATE CHANGE REFUGEES

*Claire DeWitte\**

## PART I: INTRODUCTION

As climate change stimulates a rise in sea level, coastal communities and islands are experiencing destructive erosion of land and flooding of habitation.<sup>1</sup> As a result, residents of low-lying communities and small islands are, and will continue to be, displaced due to the gradual, steady rise of sea level and its associated problems, such as increased destruction from flooding and other natural disasters.<sup>2</sup> Millions of people will lose their homes and livelihoods, forcing them to seek alternative shelter within their own country, or cross borders in the hope of finding a new home and work.<sup>3</sup> Climate change displacement is predicted to affect approximately 200 million people by 2050.<sup>4</sup> The enormity of climate change displacement demands financial resources that vulnerable

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1. See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CONTRIBUTION OF WORKING GROUP I TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 408-21 (S. Solomon et al. eds. 2007), available at [http://www.ipcc.ch/publications\\_and\\_data/ar4/wg1/en/contents.html](http://www.ipcc.ch/publications_and_data/ar4/wg1/en/contents.html) [hereinafter IPCC, CONTRIBUTION OF WORKING GROUP I].

2. See NORMAN MYERS WITH JENNIFER KENT, CLIMATE INST., ENVIRONMENTAL EXODUS: AN EMERGENT CRISIS IN THE GLOBAL ARENA 134-39 (1995), available at <http://www.climate.org/PDF/Environmentnal%20Exodus.pdf>.

3. See Lisa Friedman, *Coming Soon: Mass Migrations Spurred by Climate Change*, N.Y. TIMES, Mar. 2, 2009, available at <http://www.nytimes.com/cwire/2009/03/02/02/climatewire-facing-the-specter-of-the-globes-biggest-and--9919.html?scp=1&sq=Coming%20Soon:%20Mass%20Migrations&st=cse>.

4. OLI BROWN, MIGRATION AND CLIMATE CHANGE 9 (Int'l Org. for Migration Research Series Paper No. 31 2008), available at [http://www.iisd.org/pdf/2008/migration\\_climate.pdf](http://www.iisd.org/pdf/2008/migration_climate.pdf).

populations lack.<sup>5</sup> Currently, people displaced by climate change are not recognized by international law as a group that receives protection and assistance. In contrast, refugees who flee their countries of nationality due to persecution on account of, for example, race or religion, gain internationally recognized status under the United Nations Convention Relating to the Status of Refugees.<sup>6</sup> In an effort to fill the void, scholars have endeavored to redefine “refugee” and “internally displaced persons” (IDPs) in light of the climate change catalyst, and propose international funding mechanisms to rectify the negative effects of the mass human migration. First, I will outline the current state of sea level rise and the projected displacement in developing low-lying coastal communities and islands.<sup>7</sup> Second, I will analyze new “refugee” and “IDP” definitions and possible funding mechanisms. Third, I will argue that the Green Climate Fund, born out of the Copenhagen Accord, is an appropriate funding mechanism to assist people displaced by climate change; therefore, a portion of the Green Climate Fund should be allocated specifically toward mitigating forced displacement due to rising sea level.

## PART II: THE DISAPPEARANCE OF LAND

### A. Sea Level Rise

The Intergovernmental Panel on Climate Change (IPCC)<sup>8</sup> Fourth Assessment Report states that there are two key causes of global sea level rise: thermal expansion of oceans (water expands as it warms) and

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5. KOKO WARNER, CHARLES EHRHART, ALEX DE SHERBININ, SUSANA ADAMS, & TRICIA CHAI-ONN, IN SEARCH OF SHELTER: MAPPING THE EFFECTS OF CLIMATE CHANGE ON HUMAN MIGRATION AND DISPLACEMENT iv (CARE Int'l 2009) available at [http://www.care.org/getinvolved/advocacy/pdfs/Migration\\_Report.pdf](http://www.care.org/getinvolved/advocacy/pdfs/Migration_Report.pdf) [hereinafter IN SEARCH OF SHELTER].

6. Bonnie Docherty & Tyler Giannini, *Confronting the Rising Tide: A Proposal for a Convention on Climate Change Refugees*, 33 HARV. ENVTL. L. REV. 349, 357 (2009); United Nations Convention Relating to the Status of Refugees, July 28, 1951, 189 U.N.T.S. 137 [hereinafter 1951 Convention]; United Nations Protocol Relating to the Status of Refugees, *opened for signature* Jan. 31, 1967, 606 U.N.T.S. 267 [hereinafter 1967 Protocol].

7. Coastal communities and small islands in developing countries receive the focus because of the regions' high vulnerability to rise in sea level.

8. IPCC is a scientific body that was established by the United Nations Environment Programme and the World Meteorological Organization to “provide the world with a clear scientific view on the current state of climate change and its potential environmental and socio-economic consequences.” <http://www.ipcc.ch/organization/organization.htm>. IPCC won the Nobel Peace Prize in 2007. *Id.*

the loss of land-based ice due to increased melting.<sup>9</sup> From 1993 to 2003, thermal expansion of oceans and loss of land-based ice are believed to have equally contributed to the global rise in sea level.<sup>10</sup> Studies have shown that since 1961, “the average temperature of the global ocean has increased to depths of at least 3,000 meters and that the ocean has been absorbing more than 80% of the heat added to the climate system. Such warming causes seawater to expand, contributing to sea level rise.”<sup>11</sup> Historically, sea level rise was stable until the nineteenth century.<sup>12</sup> During the twentieth century, estimates show that the global sea level rose at an average rate of 1.7 millimeters annually.<sup>13</sup> Since 1993, “sea level has been rising at a rate of around three millimeters per year, significantly higher than the average during the previous half century.”<sup>14</sup> Sea level is projected to rise at an even faster rate during the twenty-first century, with an anticipated four millimeters per year by the 2090s.<sup>15</sup>

### *B. Areas and Populations of Impact*

Global sea level rise is not geographically uniform.<sup>16</sup> Some regions are confronted with rates that are five times the global sea level average.<sup>17</sup> For example, the western Pacific Ocean and eastern Indian Ocean are experiencing the highest sea level rise, while sea level is dropping in the eastern Pacific Ocean and western Indian Ocean.<sup>18</sup> Low-lying coastal communities and small islands are particularly vulnerable to rising sea level.<sup>19</sup> Coastal communities, which are very susceptible to

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9. IPCC, CONTRIBUTION OF WORKING GROUP I, *supra* note 1, at 409.

10. *Id.*

11. *Id.* at 5.

12. *Id.* at 409.

13. *Id.*

14. *Id.*

15. IPCC, CONTRIBUTION OF WORKING GROUP I, *supra* note 1, at 409.

16. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CONTRIBUTION OF WORKING GROUP II TO THE FOURTH ASSESSMENT REPORT ON THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 336 (M.L. Parry et al. eds. 2007) [hereinafter IPCC, CONTRIBUTION OF WORKING GROUP II].

17. “Although regional variability in coastal sea level change had been reported from tide gauge analyses . . . the global coverage of satellite altimetry provides unambiguous evidence of non-uniform sea level change in open oceans.” IPCC, CONTRIBUTION OF WORKING GROUP I, *supra* note 1, at 411.

18. *Id.* IPCC suggests that the western Pacific and eastern Indian oceans experience more substantial sea level rise because they are “regions that exhibit large interannual variability associated with ENSO [El Nino – Southern Oscillation]. . . . These spatial patterns likely reflect decadal fluctuations rather than long-term trends.” *Id.*

19. *See id.* at 408-21.

extreme storms, experience “increased coastal inundation, erosion and ecosystem losses” due to rising sea level caused by climate change.<sup>20</sup> The IPCC assessment of sea level rise on small islands includes “a reduction in island size, particularly in the Pacific . . . sea level rise will exacerbate inundation, erosion, and other coastal hazards, threaten vital infrastructure,<sup>21</sup> settlements and facilities, and thus compromise the socio-economic well-being of island communities and states.”<sup>22</sup> A gradual rise in sea level also increases the risk of sudden flooding and vulnerability to catastrophic storms.<sup>23</sup> For example, the harsh force of a tropical storm “will increase as a consequence of higher mean sea level: higher waves will be capable of reaching the original shoreline (defined as the shorelines prior to the rise in sea level) and areas further inland will become exposed to wave action.”<sup>24</sup> Moreover, ecosystems that have served to “dissipate the energy of storms” are threatened by rising sea level. For example, coastal mangroves, dense forests of interlacing roots, “offer a form of physical protection to coastal systems and populations [during storms], are also likely to be affected by [sea level rise].”<sup>25</sup>

Humans have often considered coastal land ideal for habitat and settlement.<sup>26</sup> A movement toward urbanization is “likely to increase population densities in low-lying coastal areas; the population living within thirty kilometers of the coast is estimated to be growing at twice the global average reflecting coastward migration, and GDP growth in coastal areas exceeds the national average in many countries.”<sup>27</sup> IPCC predicts “the coastal population could grow from 1.2 billion people (in 1990) to 1.8 to 5.2 billion people by the 2080s, depending on assumptions about migration.”<sup>28</sup> With the increase of coastal population,

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20. IPCC, CONTRIBUTION OF WORKING GROUP II, *supra* note 16, at 317.

21. *Id.* at 689. “Island infrastructure tends to predominate in coastal locations. In the Caribbean and Pacific islands, more than 50% of the population live within 1.5 km of the shore. Almost without exception, international airports, roads and capital cities in the small islands of the Indian and Pacific [o]ceans and the Caribbean are sited along the coast, or on tiny coral islands.” *Id.*

22. *Id.*

23. *Id.* at 333, 689.

24. NICK BROOKS, ROBERT NICHOLLS, & JIM HALL, WBGU, SEA LEVEL RISE: COASTAL IMPACTS AND RESPONSES 14, (2006), available at [http://www.wbgu.de/wbgu\\_sn2006\\_ex03.pdf](http://www.wbgu.de/wbgu_sn2006_ex03.pdf).

25. *Id.* at 26.

26. “Population densities in coastal areas are three times the global mean, and it is estimated that 50% of the world’s population will live within 100 km of the coast by 2030.” *Id.* at 1.

27. *Id.*

28. IPCC, CONTRIBUTION OF WORKING GROUP II, *supra* note 16, at 317.

natural coastal landscape has experienced increased agricultural and industrial use and an “expansion of economic activity, settlements, urban centres and tourist resorts.”<sup>29</sup> High population density on coastal lands exacerbates the impact of rising sea level. For example, an increase of human activity on coastlines directly impacts “drainage of coastal wetlands, deforestation and reclamation, and discharge of sewage, fertilisers and contaminants into coastal waters”<sup>30</sup> and breaks down traditionally protective ecosystems.<sup>31</sup> Rising sea level, high coastal population, and humans’ increased pressure on coastal ecosystems serve as a perfect storm to accelerate and swell the number of humans facing permanent displacement.

A nation’s geographic location and population density are not the only factors that determine its vulnerability to the negative effects of rising sea level, particularly human displacement. IPCC stresses that “[w]hile physical exposure can significantly influence vulnerability for both human populations and natural systems, a lack of adaptive capacity is often the most important factor that creates a hotspot of human vulnerability.”<sup>32</sup> Generally, a nation’s adaptive capacity is measured by the development level of the nation.<sup>33</sup> For example, “[d]eveloping nations may have the political or societal will to protect or relocate people who live in low-lying coastal zones, but without the necessary financial and other resources/capacities, their vulnerability is much greater than that of a developed nation in an identical coastal setting.”<sup>34</sup> Due to financial constraints, developing nations can rely less on the “resilience of systems to the immediate impacts of coastal hazards, for example the quality of physical infrastructure, the preparedness of communities, and the ability of a system to recover from damage associated with coastal hazards.”<sup>35</sup> Consequently, developing nations face the greatest threat of detrimental human displacement due to rising sea level.

a. The Three Deltas: Ganges-Brahmaputra, Mekong, and Nile

Bangladesh is frequently cited as a “hotspot” for human displacement caused by rising sea level. Approximately 160 million

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29. *Id.* at 319.

30. *Id.*

31. *Id.* at 333.

32. *Id.* at 317.

33. *Id.*

34. IPCC, CONTRIBUTION OF WORKING GROUP II, *supra* note 16, at 317.

35. BROOKS, NICHOLLS, & HALL, *supra* note 24, at 1.

people occupy this flat land that sits just above sea level.<sup>36</sup> The Ganges, Brahmaputra, and Meghna rivers form the world's largest delta, all within Bangladesh's borders. The abundance of rivers and deltas provide many Bangladeshis with their livelihood and natural resources.<sup>37</sup> Flooding is not a new phenomenon for Bangladesh; however, "climate change will accelerate change in this already dynamic environment and leave millions of Bangladeshis exposed to increased flooding, severe cyclones, and sea level rise impacts."<sup>38</sup> The IPCC anticipates that with a one meter rise in sea level, approximately 1,000 square kilometers of cultivated land and sea product culturing area is likely to become sea marsh and 5,000 square kilometers of Mekong River delta are projected to flood.<sup>39</sup> Bangladeshis rely mostly on small-scale farming as their source for food.<sup>40</sup> This projection has direct impact on the habitation of Bangladeshis as "even a relatively moderate 10 or 20 centimeters rise in sea level could displace millions within the next 15 years."<sup>41</sup> Displacement is not just a prediction; fifteen years ago, "half of Bhola Island in Bangladesh became permanently flooded, leaving homeless 500,000."<sup>42</sup> To make matters worse, Bangladesh lacks the financial capabilities and necessary adaptation abilities to effectively minimize the strains on natural resources as displaced Bangladeshis seek protection from the looming floods.<sup>43</sup> Due to Bangladesh's "long history of weak and corrupt governments," Bangladeshis cannot depend on their government for political and social protection during the upheaval of land ownership caused by rising sea level.<sup>44</sup>

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36. Central Intelligence Agency, *The World Factbook* (Oct. 19, 2010, 12:01 PM), <https://www.cia.gov/library/publications/the-world-factbook/geos/bg.html>.

37. IN SEARCH OF SHELTER, *supra* note 5, at iv.

38. *Id.*

39. IPCC, CONTRIBUTION OF WORKING GROUP II, *supra* note 16, at 481.

40. Emily Wax, *In Flood-Prone Bangladesh, a Future That Floats*, WASH. POST, Sep. 27, 2007, available at <http://www.washingtonpost.com/wp-dyn/content/article/2007/09/26/AR2007092602582.html>.

41. Nicki Bennett, *Climate Migration*, N.Y. TIMES (Mar. 23, 2008, 3:20 PM), <http://kristof.blogs.nytimes.com/2008/03/23/climate-migration/?scp=1&sq=Climate%20Migration&st=cse>.

42. Docherty & Giannini, *supra* note 6, at 356.

43. See Wax, *supra* note 40.

44. "Farmers who lose land in flooding often fight with neighbors over what is left and who owns what after the floodwaters recede. As a result, land disputes have backed up the courts in recent years, accounting for 80 percent of Bangladesh's legal suits, said Atiq Rahman, executive director of the Bangladesh Center for Advanced Studies and one of the country's top climate change experts." *Id.*

Vietnam, home of the Mekong Delta, faces a displacement projection similar to that of its South Asian neighbor, Bangladesh. A recent report indicates that approximately one-third of the Mekong Delta could be lost with a three-foot rise in sea level.<sup>45</sup> Effectively, 11% of Vietnam's eighty-seven million residents could potentially be displaced by such an increase in sea level.<sup>46</sup> Because Vietnam has low coastal protection, the region is more likely to be damaged from increased flooding.<sup>47</sup> The Mekong Delta provides half of Vietnam's rice, 60% of its shrimp harvest, and 80% of its fruit crop.<sup>48</sup> A rise in sea level will not only force coastal residents to migrate, but will affect the entire nation's food production. The government of Vietnam has started to develop plans to respond to the projected Vietnamese displacement,<sup>49</sup> but it faces an uphill battle. The costs of preventive measures, like building dikes along miles of the Mekong Delta, can be debilitating to an already struggling economy.<sup>50</sup>

Three major Egyptian cities, Alexandria, Rosetta, and Port Said, border the Nile Delta. The Nile Delta rivals Bangladesh as one of the most densely populated regions in the world.<sup>51</sup> If sea level rises by fifty centimeters, IPCC projects over two million people in the Nile Delta region potentially "abandoning their homes" and a "loss of 214,000 jobs."<sup>52</sup> Taken as a whole, of Egypt's total population of approximately eighty-one million people, twelve million people are expected to be displaced due primarily to rising sea level.<sup>53</sup> Alexandria, the second largest city in Egypt, is at particular risk of infrastructure destruction and

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45. Seth Mydans, *Vietnam Finds Itself Vulnerable if Sea Rises*, N.Y. TIMES, Sep. 24, 2009, available at [http://www.nytimes.com/2009/09/24/world/asia/24delta.html?\\_r=1&scp=1&sq=Vietnam%20Finds%20Itself&st=cse](http://www.nytimes.com/2009/09/24/world/asia/24delta.html?_r=1&scp=1&sq=Vietnam%20Finds%20Itself&st=cse).

46. *See id.*

47. IPCC, CONTRIBUTION OF WORKING GROUP II, *supra* note 16, at 485.

48. IN SEARCH OF SHELTER, *supra* note 5, at 15.

49. *See Mydans, supra* note 45.

50. *Id.* The rise in sea level and the cost of preventive measures "could slow Vietnam's drive to emerge from its postwar poverty and impede its ambitions to become one of the region's economic leaders. Once again, this nation, which has spent much of its history struggling to free itself from foreign domination, finds itself threatened by the overpowering outside force." *Id.*

51. Brown, *supra* note 4, at 18.

52. IPCC, CONTRIBUTION OF WORKING GROUP II, *supra* note 16, at 339.

53. Norman Myers, *Environmental Refugees: A Growing Phenomenon of the 21st Century*, 357 PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY BIOLOGICAL SCIENCES 609, 611 (2001), available at <http://rstb.royalsocietypublishing.org/content/357/1420/609.full.pdf+html>.

displacement due to rising sea level.<sup>54</sup> With a population of approximately four million, Alexandria is home to 40% of the nation's industry and extends along a coastal plain for over sixty-three kilometers.<sup>55</sup> In 1999, M. El Raey of University of Alexandria projected that 60% of Alexandria's population and 56% of its industry would be affected by a 0.25 meter increase in sea level rise.<sup>56</sup> Similar to Vietnam, Egypt strives to implement measures to mitigate the damage of sea level rise, like beach nourishment and installing hard structures.<sup>57</sup> However, the nation faces the high cost of implementation.<sup>58</sup>

b. Disappearing Islands: the Maldives and Tuvalu

Low-lying islands anticipate complete envelopment of their land, the most lasting and detrimental result of the rising water.<sup>59</sup> The Maldives and Tuvalu serve as illuminating examples of projected total land loss of small island nations. The Maldives is a series of 1,200 atolls in the Indian Ocean with the highest point of elevation at 2.4 meters above sea level. Tuvalu is vulnerable to rising sea level as well, with the highest point just five meters above sea level. Male, the capital of the Maldives, which is located approximately one kilometer from the coast, may experience considerable flooding by 2025.<sup>60</sup> To try to prevent the ultimate loss of the Maldivian capital, the government constructed a three meter high sea wall that surrounds the city. The Maldives lacked the resources to construct the protective wall, which cost approximately \$63 million, so the government accepted 99% of the needed capital as aid from the Japanese government.<sup>61</sup> If the rise in sea level does not

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54. M. El Raey, Kh. Dewidar, & M. El Hattab, *Adaptation to the Impacts of Sea Level Rise in Egypt*, 12 *Climate Res.* 117, 118-19 (1999), available at <http://www.int-res.com/articles/cr/12/c012p117.pdf>.

55. *Id.* at 118.

56. *Id.*

57. The following are examples of "coastal nourishment" and "hard structures" that Egypt has considered in order to combat the rise in sea level along the Delta: 1) constructing two jetties that are sixty-five meters in length along the west of Alexandria; 2) extending an existing breakwater along the eastern harbor of Alexandria; 3) transporting desert sand to five Alexandria beaches; and 4) reinforcing a sea wall in Abu Quir Bay. *Id.* at 120.

58. *Id.* at 127.

59. Docherty & Giannini, *supra* note 6, at 349.

60. *Id.*, *supra* note 6, at 356. In 2008, Male's population was 103,693.

61. See Nick Bryant, *Maldives: Paradise Soon To Be Lost*, BBC NEWS, July 28, 2004, available at [http://news.bbc.co.uk/2/hi/south\\_asia/3930765.stm](http://news.bbc.co.uk/2/hi/south_asia/3930765.stm); Andrew Revkin, *Maldives Considers Buying Dry Land if Sea Rises*, N.Y. TIMES, Nov. 11, 2008, available

actually cause the total disappearance of the island, the change in sea level will likely have major impact on commercial fisheries, which serve as “an important contribution to the GDP of many island states.”<sup>62</sup> In an effort to combat the future loss of land and homes, the Maldives and Tuvalu governments have called on the international community to assist in preventing their nations from ceasing to exist.<sup>63</sup>

### PART III: NEW BREED OF DISPLACEMENT

#### A. *Refugee Law*

Currently, international law does not grant protection to people displaced due to rising sea level and other environmental dangers<sup>64</sup> caused by climate change.<sup>65</sup> In order to receive internationally recognized refugee status, a displaced person must fulfill the requirements outlined in the 1951 United Nations Convention Relating to the Status of Refugees (1951 Refugee Convention) and the 1967 Protocol.<sup>66</sup> Under the 1951 Refugee Convention, an individual seeking “refugee” status must meet the definition’s three elements. First, the term “refugee” applies “to any person who . . . has . . . a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion.”<sup>67</sup> Second, the individual must be “*outside the country of his nationality*.”<sup>68</sup> Third, the individual must be “unable or, owing to such fear, . . . unwilling to avail himself of the protection of that country; or . . . , not having a nationality and being outside the country of his former habitual residence as a result of such events, . . . unable or, owing to such fear, . . . unwilling to return.”<sup>69</sup>

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at [http://www.nytimes.com/2008/11/11/science/earth/11maldives.html?\\_r=1&scp=4&sq=Maldives%20and%20Japan&st=cse](http://www.nytimes.com/2008/11/11/science/earth/11maldives.html?_r=1&scp=4&sq=Maldives%20and%20Japan&st=cse).

62. IPCC, CONTRIBUTION OF WORKING GROUP II, *supra* note 16, at 689.

63. See Webcast: United Nations Climate Change Conference in Copenhagen, held by the United Nations (Dec. 7-19, 2009), [http://webcast.cop15.dk/kongresse/cop15/templ/ovw.php?id\\_kongressmain=1&theme=cop15](http://webcast.cop15.dk/kongresse/cop15/templ/ovw.php?id_kongressmain=1&theme=cop15).

64. Some possible environmental factors that may force displacement other than rising sea level are drought, lack of potable water, land degradation, and lack of natural resources.

65. Docherty & Giannini, *supra* note 6, at 357.

66. 1951 Convention, *supra* note 6, art. 1.

67. *Id.* art. 1(A)(2).

68. *Id.* (emphasis added).

69. *Id.*

A displaced person will find it difficult to qualify as a “refugee” under this definition due to the “persecution” and “class” elements of the definition, thus limiting the number of individuals who successfully find legal protection in another country. Moreover, qualifying for refugee status is nearly impossible if the environment is cited as the reason for displacement, “[u]nless the environmental degradation is a consequence of an armed conflict or there is a mixture of environmental and political causes.”<sup>70</sup>

If refugee status is successfully granted, international legal protections are bestowed on the refugee in his/her new host country, including the right to be gainfully employed, receive public education, and freedom from refoulement “to the frontiers of territories where his life or freedom would be threatened on account of his race, religion, nationality, membership of a particular social group or political opinion.”<sup>71</sup> Each signatory country to the 1951 Refugee Convention determines the ceiling of accepted refugees each year.<sup>72</sup> Effectively, due to the 1951 Refugee Convention’s narrow “refugee” definition and limited host countries’ quotas, people who are displaced because of climate-induced rising sea level are left without legal protection.<sup>73</sup>

As our globe faces the escalation of climate change-induced displacement, the definition of “refugee” is looking like “a product of its time.”<sup>74</sup> The 1951 Refugee Convention was signed during the aftershocks of World War II and the predominant source of refugees was war-ravaged Europe.<sup>75</sup> Therefore, “[n]ot surprisingly, the definition that issued forth from that era reflected Western notions of rights and needs

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70. Maria Stavropoulou, *Indigenous Peoples Displaced from Their Environment: Is There Adequate Protection?*, 5 COLO. J. INT’L ENVTL. L. & POL’Y 105, 119 (1994).

71. 1951 Convention, *supra* note 6, art. 33(1).

72. President Obama, for example, has allotted 80,000 slots for refugees in 2010.

73. *But see* Jessica Cooper, Article, *Environmental Refugees: Meeting Requirements of the Refugee Definition*, 6 N.Y.U. ENVTL. L.J. 480, 486-87 (1998). Ms. Cooper makes the compelling argument that:

[E]nvironmental refugees already fit within the 1951 definition. Using examples of environmental crises to demonstrate that governments are responsible for environmental degradation and its resulting populations of environmental refugees . . . government-induced environmental degradation is a form of persecution . . . [and] environmental refugees meet the “for reasons of” requirement of the refugee definition, since they are persecuted for reasons of their membership in a social group of persons who are politically powerless to protect their environment.

*Id.*

74. *Id.* at 482.

75. *Id.*

extolled after the persecution of the Second World War.”<sup>76</sup> The twenty-first century has brought catalysts of displacement that the original 1951 Refugee Convention drafters could not have anticipated. Recognizing the projected magnitude of climate change displacement and the lack of an international convention to mitigate and ease the migration, scholars have sought to redefine “refugee” in order to incorporate the unique needs of climate change displacement.

*B. Proposals to address climate change displacement – a more precise definition*

Over the last twenty-five years, an increasingly heated academic debate has focused on possible new definitions for people displaced by climate change. Initially, much of the discourse was guided by “those who study . . . the broader class of environmental refugees rather than the more specific subset of climate change refugees.”<sup>77</sup> For example, in 1985, the United Nations Environment Programme (UNEP) produced the first “environmental refugee” definition: “[t]hose people who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental disruption (natural and/or triggered by people) that jeopardized their existence and/or seriously affected the quality of their life.”<sup>78</sup> The debate continued as Myers and Kent, in 2005, defined an environmental refugee as persons who can no longer gain secure livelihood in their traditional homelands because of environmental factors of unusual scope, notably drought, desertification, deforestation, soil erosion, water shortages, climate change, and natural disasters such as cyclones, storm surges and floods.<sup>79</sup> This definition

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76. *Id.*

77. Docherty & Giannini, *supra* note 6, at 363.

78. “By ‘environmental disruption’ in this definition is meant any physical, chemical and/or biological changes in the ecosystem (or resource base) that render it, temporarily or permanently, unsuitable to support human life.” *Id.* Professor Robert McLeman of the University of Ottawa addressed reservations associated with the UNEP’s definition of environmental refugee when he stated that “most suggested examples involving environmental refugees, such as Darfur or Rwanda, have also been influenced by other significant, non-climatic drivers” as well as “deliberate decisions by governments to alter environmental conditions (such as populations displaced by flooding of areas upstream of China’s Three Gorges dams).” Robert McLeman, *Climate Change Migration, Refugee Protection, and Adaptive Capacity-Building*, 4 MCGILL INT’L J. SUST. DEV. L. & POL’Y 1, 13 (2008).

79. Org. for Security and Cooperation in Europe, 13th Economic Forum, Prague, May 23-27, 2005, Environmental Refugees: An Emergent Security Issue 1, (remarks by

suggests an involuntary decision to relocate when “the general degradation of a region’s natural environment might lead people to decide to seek better fortunes elsewhere.”<sup>80</sup>

Biermann and Boas, in “Preparing for a Warmer World: Towards a Global Governance System to Protect Climate Refugees,” sought to narrow the definition in order to focus more on climate change as the causal link between natural disruption and forced migration, as opposed to general environmental changes. In their view, “climate refugees” are “people who have to leave their habitats, immediately or in the near future, because of sudden or gradual alterations in their natural environment related to at least one of the three impacts of climate change: sea level rise, extreme weather events, and water scarcity.”<sup>81</sup> With continued focus on climate change, in 2009, Docherty and Giannini proposed a “climate change refugee” definition that covers sudden and gradual disruptions and “acknowledges aggregate human contributions to climate change.”<sup>82</sup> According to Docherty and Giannini, a “climate change refugee” is “an individual who is forced to flee his or her home and to relocate temporarily or permanently across a national boundary as the result of sudden or gradual environmental disruption that is consistent with climate change to which humans more likely than not contributed.”<sup>83</sup>

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Norman Myers), *available at* [http://www.osce.org/documents/eea/2005/05/14488\\_en.pdf](http://www.osce.org/documents/eea/2005/05/14488_en.pdf).

80. Docherty & Giannini, *supra* note 6, at 364.

81. FRANK BIERMANN & INGRID BOAS, PREPARING FOR A WARMER WORLD: TOWARDS A GLOBAL GOVERNANCE SYSTEM TO PROTECT CLIMATE REFUGEES 8 (Global Governance Project, Global Governance Working Paper No. 33, 2007), *available at* [http://www.sarpn.org.za/documents/d0002952/climate\\_refugees\\_globalgovernance\\_Nov2007.pdf](http://www.sarpn.org.za/documents/d0002952/climate_refugees_globalgovernance_Nov2007.pdf).

82. Docherty & Giannini, *supra* note 6, at 371.

The recognition of human contribution must work within the parameters of existing and evolving science. Science cannot currently prove the extent to which humans contributed to a specific event, but it can determine the likelihood that they contributed to a type of disruption. For example, according to the IPCC, the likelihood of human contribution ranges from more likely than not (greater than fifty percent) for droughts to very likely (more than ninety percent) for temperature increases and sea-level rise. The proposed climate change refugee definition adopts the IPCC’s “more likely than not” standard in order to encompass the range of environmental disruptions most commonly associated with climate change and related displacement.

*Id.*

83. Docherty & Giannini, *supra* note 6, at 361.

*C. Internally Displaced Persons Law*

The rights and bestowed protections of people who are internally displaced by rising sea level has received less focus than people who cross borders. However, academics predict that “[m]ost refugees may stay in their countries and regions, especially in the case of coastal erosion and sea level rise. For example, Christian Aid expects that only five million refugees will cross international borders.”<sup>84</sup> Partly due to limited financial resources and support, many displaced persons will not be able to migrate great distances.<sup>85</sup> Docherty and Giannini argue that IDPs should be left out of the climate change refugee definition in order to reflect the 1951 Refugee Convention’s current distinction between refugees and IDPs, as well as recognizing that “host states, to which refugees flee, are more likely to accept outside assistance than are home states, which may not want interference from the international community.”<sup>86</sup> In contrast, other academics, like Biermann and Boas, embrace IDPs in their environmental or climate change refugee definitions, arguing that there should not be different legal status or protection applied “depending on whether the victims of climate change have crossed a border.”<sup>87</sup>

If IDPs are excluded from the proposed climate change refugee definitions intended to protect people displaced due to rising sea level, IDPs will not find sufficient protection under current IDP law. As Stephen Castles points out in a United Nations Refugee Agency report, “[t]here is no legal or institutional regime specifically designed to protect IDPs.”<sup>88</sup> Because of the gap in international law, “unless [an IDP’s] state consents, the internally displaced also receives no assistance from the international community. Thus, internally displaced persons must seek aid from their own state, and, under existing international law, the internally displaced largely remain an internal matter for that state to address.”<sup>89</sup> Striving to create a mandate that would provide protection for IDPs, the Commission on Human Rights and the General Assembly

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84. BIERMANN & BOAS, *supra* note 81, at 14.

85. IN SEARCH OF SHELTER, *supra* note 5, at iv.

86. Docherty & Giannini, *supra* note 6, at 369.

87. BIERMANN & BOAS, *supra* note 81, at 8.

88. STEPHEN CASTLES, UNITED NATIONS HIGH COMMISSIONER FOR REFUGEES, ENVIRONMENTAL CHANGE AND FORCED MIGRATION: MAKING SENSE OF THE DEBATE 9 (2002), available at [http://www3.hants.gov.uk/forced\\_migration.pdf](http://www3.hants.gov.uk/forced_migration.pdf).

89. Patrick L. Schmidt, *The Process and Prospects for the U.N. Guiding Principles on Internal Displacement to Become Customary International Law: A Preliminary Assessment*, 35 GEO. J. INT’L L. 483, 489 (2004).

called on Dr. Francis Deng, Representative of the U.N. Secretary-General on Internally Displaced Persons, to develop a new international framework for IDPs.<sup>90</sup> Dr. Deng's work on an international mandate was framed in the realization that IDPs assistance falls under state sovereignty, because the recipients of aid are by definition internal.<sup>91</sup> In order to confront the sensitive issue of state sovereignty,<sup>92</sup> Dr. Deng chose to "approach sovereignty not as a negative concept by which states barricade themselves against international scrutiny and involvement, but rather as a positive concept entailing responsibility for the protection and general welfare of the citizens and of those falling under state jurisdiction."<sup>93</sup> In 1998, the United Nations adopted Dr. Deng's proposed mandate, The Guiding Principles on Internal Displacement (Guiding Principles), which serves as the sole international document directly addressing the unique plight of people displaced within their own nation's borders.<sup>94</sup> While the Guiding Principles "reflect and are consistent with international human rights and humanitarian law and analogous refugee law,"<sup>95</sup> the document lacks binding force on state

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90. *Id.* at 483.

91. Francis Mading Deng, *The Global Challenge of Internal Displacement*, 5 WASH. U. J.L. & POL'Y 141, 143-44 (2001).

92. Deng argues that states may be forced to give up state sovereignty for the protection of their citizens:

Under normal circumstances, states are expected to, and do in fact, discharge those responsibilities [for the protection and general welfare of the citizens and those falling under state jurisdiction]. If they cannot discharge those responsibilities for lack of capacity or resources, they are expected to seek, or at least welcome, international assistance. If, on the other hand, they fail to meet their obligations or fail to welcome international assistance, and masses of their people suffer humanitarian and human rights tragedies as a result, then they must expect the international community to show concern and perhaps even threaten intervention. Such intervention could range from persuasive diplomatic intercession, to more assertive political and economic measures in the form of sanctions, to coercive military intervention, in extreme cases. It is obvious, therefore, that the best way to guarantee state sovereignty is to discharge the responsibilities of sovereignty towards the citizens and those under state jurisdiction.

*Id.* at 144-45.

93. *Id.* at 144.

94. *Further Promotion and Encouragement of Human Rights and Fundamental Freedoms, Including the Question of the Programme and Methods of Work of the Commission on Human Rights, Mass Exoduses and Displaced Persons*, U.N. ESCOR, Commission on Human Rights, 54th Sess., ¶¶ 9-10, U.N. Doc. E/CN.4/1998/53/Add.2 (1998) [hereinafter Guiding Principles on Internal Displacement].

95. *Id.* ¶ 9.

actors.<sup>96</sup> Nonetheless, the thirty principles serve as “valuable practicable guidance to Governments, other competent authorities, intergovernmental organizations and NGOs in their work with internally displaced persons.”<sup>97</sup>

Similar to the 1951 Refugee Convention, the Guiding Principles are not suited to effectively deal with the particular issues of rising sea level displacement. The Guiding Principles define IDPs as:

[P]ersons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized State border.<sup>98</sup>

On first examination of the IDP definition, people displaced due to rising sea level may fit within the definition's limitations. According to the definition, a displaced person is protected if he or she must move because of “natural or human made disasters.” While the Guiding Principles do not provide a definition for “disaster,” common use suggests a sudden event.<sup>99</sup> Accordingly, the United Nations Refugee Agency has referred to the following events as “natural disasters” that served as catalysts for internal displacement: the 2004 tsunami in the Indian Ocean, the 2005 earthquake in Pakistan, and the 2008 cyclone in Myanmar.<sup>100</sup> The tsunami, earthquake, and cyclone are easily described as sudden, disastrous events that immediately produced IDPs due to the quick destruction of homes. Rising sea level could be considered a gradual *and* sudden disaster. While rising sea level is a gradual occurrence, coastal regions that experience a gradual rise in sea level are

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96. Deng, *supra* note 91, at 147. “[The Guiding Principles] aim is to provide practical guidance to all those with a role in addressing the plight of the internally displaced. The idea was that, as a restatement of existing legal norms, the Guiding Principles would provide only guidelines for application with a focus on internal displacement and would not require formal adoption by the relevant UN agencies.” *Id.*

97. U.N. Refugee Agency, Guiding Principles on Internal Displacement, Introductory Note (2004), available at <http://www.unhcr.org/43ce1cff2.html>.

98. Guiding Principles on Internal Displacement, *supra* note 94, Annex, ¶ 2.

99. Webster's Dictionary defines “disaster” as “2 a) a sudden calamitous event producing great material damage, loss, and distress; b) a sudden or great misfortune; c) a complete failure.” WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 643 (3d. ed. 1993).

100. U.N. Refugee Agency, Internally Displaced People: On the Rise in Their Own Land, <http://www.unhcr.org/pages/49c3646c146.html> (last visited Aug. 27, 2010).

more vulnerable to sudden, frequent, and detrimental flooding.<sup>101</sup> Therefore, a rise in sea level could be interpreted as a human made disaster under the IDP definition.

The Guiding Principles call for protections for IDPs, like the “right to an adequate standard of living”<sup>102</sup> and unimpeded access to “the medical care and attention they require, without distinction on any grounds other than medical ones,”<sup>103</sup> that are blanketed in a general right of equality and dignity. Although the Guiding Principles provide nations with a blueprint outlining guaranteed rights and protection of IDPs, they lack a principle addressing international assistance in times of “natural or human made disasters.” In fact, Guiding Principle 3 places responsibility on the home state to provide assistance and protection to the internally displaced: “[n]ational authorities have the primary duty and responsibility to provide protection and humanitarian assistance to internally displaced persons within their jurisdiction.”<sup>104</sup> The document fails to confer an international duty to protect people who are displaced within their own borders;<sup>105</sup> home states are charged with “facilitating durable solutions for their displacement.”<sup>106</sup> Climate change-induced sea level rise is a global problem. IDPs’ respective home states are not the only contributors to the natural disaster that is causing displacement. Therefore, the burden to assist and protect IDPs should not rest solely on the shoulders of their national authorities. With the inclusion of Principle 3, the Guiding Principles do not serve as the adequate and necessary response for displacement caused by rising sea level.

#### *D. Proposed Funding Mechanisms*

Academics have coupled their efforts to redefine “refugee” and “IDP” with proposals to mitigate and assist the migration. For example, Docherty and Giannini proposed “a new legal instrument” that would “create obligations to deal with both prevention and remediation of the climate change refugee problem.”<sup>107</sup> They argue for the adoption of an independent convention, separate from the 1951 Refugee Convention or

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101. IPCC, CONTRIBUTION OF WORKING GROUP II, *supra* note 16, at 334.

102. Guiding Principles on Internal Displacement, *supra* note 94, principle 18.

103. *Id.* principle 19.

104. *Id.* principle 3.

105. BIERMANN & BOAS, *supra* note 81, at 18.

106. Elizabeth Ferris, Senior Fellow, Foreign Policy, Brookings Inst., Displacement, Natural Disaster, and Human Rights (Oct. 17, 2008), *available at* [http://www.brookings.edu/speeches/2008/1017\\_natural\\_disasters\\_ferris.aspx](http://www.brookings.edu/speeches/2008/1017_natural_disasters_ferris.aspx).

107. Docherty & Giannini, *supra* note 6, at 350.

the United Nations Framework Convention on Climate Change, which would accomplish three goals:

First, the instrument should establish guarantees of human rights protections and humanitarian aid for a specific class of people. Second, it should spread the burden of fulfilling those guarantees across the home state, host state, and international community. Finally, it should form institutions to implement the provisions, including a global fund, a coordinating agency, and a body of scientific experts.<sup>108</sup>

Stressing the belief that “there are legal and moral reasons to hold those who contributed most to causing the harm responsible for mitigating it,”<sup>109</sup> Docherty and Giannini proposed a global fund consisting of in-kind financial assistance from the international community.<sup>110</sup> Specifically, the global fund would administer and manage the international financial assistance.<sup>111</sup> Docherty and Giannini argue that the global community will be better able to harness the emerging issue of climate change refugees by “pooling all states’ resources” with the greater financial burden falling on developed nations that have contributed the most to the current warming of the globe.<sup>112</sup>

In comparison to Docherty and Giannini’s proposed “new legal instrument” and accompanying global fund, Biermann and Boas proposed adopting a protocol to the United Nations Framework Convention on Climate Change (UNFCCC)<sup>113</sup> called the “Recognition, Protection and Resettlement of Climate Refugees.”<sup>114</sup> This protocol would be grounded in the following five principles: planned relocation and resettlement, resettlement instead of temporary asylum, collective

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108. *Id.*

109. *Id.* at 382.

110. *Id.* at 350, 379.

111. *Id.* at 385.

112. *Id.* at 382.

113. United Nations Framework Convention on Climate Change is an international treaty created to address and combat climate change. The UNFCCC entered into force on March 21, 1994, and is ratified by 192 countries. Under UNFCCC, governments: “gather and share information on greenhouse gas emissions, national policies and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; cooperate in preparing for adaptation to the impacts of climate change.” U.N. FRAMEWORK CONVENTION ON CLIMATE CHANGE, [http://unfccc.int/essential\\_background/convention/items/2627.php](http://unfccc.int/essential_background/convention/items/2627.php) (last visited Aug. 27, 2010).

114. BIERMANN & BOAS, *supra* note 81, at 26.

rights for local populations, international assistance for domestic measures, and international burden-sharing.<sup>115</sup> In order to achieve the five principles, extensive funding is necessary. Biermann and Boas suggest that the appropriate funding apparatus is a separate fund dedicated to the particular needs of climate refugees.<sup>116</sup> The proposed Climate Refugee Protection and Resettlement Fund would be entirely grant-based.<sup>117</sup> To that end, if “larger development projects financed through loans include the resettlement of climate refugees, the particular costs of the resettlement elements will be fully reimbursed as a grant.”<sup>118</sup> In order to avoid rivalry with “other sustainable development needs” in the UNFCCC,<sup>119</sup> the Climate Refugee Protection and Resettlement Fund would be funded by new and additional capital.<sup>120</sup> Developing countries that incur costs to protect and relocate climate change refugees due to sea level rise will receive reimbursement for their incremental costs through the Climate Refugee Protection and Resettlement Fund.<sup>121</sup> The proposed UNFCCC Protocol on Recognition, Protection and Resettlement of Climate Refugees will provide its member parties or affiliated committees with the authority to create and manage “a list of designated populations as ‘climate refugees in need of relocation,’” in order to properly “determine the amount of reimbursement and type of assistance, and to take all other measures related to the governance of the fund.”<sup>122</sup>

Though academics have different approaches, the proposals discussed above find common ground in the belief that rising sea level and displacement are global problems that require committed

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115. *Id.* at 25-26.

116. *Id.* at 29.

117. *Id.* at 30.

118. *Id.*

119. The UNFCCC has already established a funding mechanism that manages and distributes financial assistance to developing countries combating the effects of climate change. The Special Climate Change Fund was created in 2001, and finances “[a]daptation, . . . [t]ransfer of technologies, . . . [e]nergy, transport, industry, agriculture, forestry and waste management . . . [and] [a]ctivities to assist developing country Parties . . . in diversifying their economies . . . .” U.N. FRAMEWORK CONV. ON CLIMATE CHANGE, *Report on the Conference of the Parties of the Seventh Session Held at Marrakesh From 29 October to 10 November 2001*, 44, U.N. DOC. FCCC/CP/2001/13/Add.1 (Jan. 21, 2002), *available at* [http://unfccc.int/cooperation\\_and\\_support/financial\\_mechanism/special\\_climate\\_change\\_fund/items/3657.php](http://unfccc.int/cooperation_and_support/financial_mechanism/special_climate_change_fund/items/3657.php).

120. BIERMANN & BOAS, *supra* note 81, at 30.

121. *Id.* Additionally, a “large part of th[is] financial transfer will be channelled through international relief agencies and . . . these agencies will then be entitled to reclaim their costs” from the fund. *Id.*

122. *Id.*

international cooperation to truly combat their effects. This understanding of the global nature of the problem is reflected in emerging international efforts to set guidelines for climate change prevention. The most recent attempt to reach international agreement occurred at the United Nations Climate Change Conference in Copenhagen, Denmark.

#### PART IV: THE COPENHAGEN CONFERENCE

From December 7, 2009 to December 18, 2009, delegates from 193 countries met in Copenhagen, Denmark, for a United Nations summit on climate change. The Copenhagen Conference was charged with the task of developing a new international agreement to be implemented after the expiration of the Kyoto Protocol<sup>123</sup> in 2012.<sup>124</sup> The delegates endeavored to unify nations in constructive steps that would collectively combat the current effects of global warming and preempt future harms.<sup>125</sup>

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123. Kyoto Protocol to the United Nations Framework Convention on Climate Change, *opened for signature* Mar. 16, 1998, 2303 U.N.T.S. 148 (*entered into force* Feb. 16, 2005). The Kyoto Protocol is an international agreement that:

[S]ets binding targets for 37 industrialized countries and the European community for reducing greenhouse gas (GHG) emissions. . . . Recognizing that developed countries are principally responsible for the current high levels of GHG emissions in the atmosphere as a result of more than 150 years of industrial activity, the Protocol places a heavier burden on developed nations under the principle of “common but differentiated responsibilities.”

*Kyoto Protocol*, UNFCCC (Nov. 19, 2010, 2:15 PM), [http://unfccc.int/kyoto\\_protocol/items/2830.php](http://unfccc.int/kyoto_protocol/items/2830.php). The United States is a signatory of the Kyoto Protocol, but has never ratified the international agreement. See UNFCCC, *Kyoto Protocol: Status of Ratification* (2009), [http://unfccc.int/files/kyoto\\_protocol/status\\_of\\_ratification/application/pdf/kp\\_ratification\\_20091203.pdf](http://unfccc.int/files/kyoto_protocol/status_of_ratification/application/pdf/kp_ratification_20091203.pdf).

124. The United Nations Framework Convention on Climate Change, *Fact Sheet: 10 Frequently Asked Questions About the Copenhagen Deal* 1 (2009), [http://unfccc.int/files/press/fact\\_sheets/application/pdf/10\\_faqs\\_copenhagen\\_deal.pdf](http://unfccc.int/files/press/fact_sheets/application/pdf/10_faqs_copenhagen_deal.pdf) (last updated November 2009).

125. Specifically, there are four key issues the delegates at the Copenhagen Conference needed to provide clarity for:

The [sic] first is clarity on the mid-term emission reduction targets that industrialized countries will commit to. Second, there must be clarity on the actions that developing countries could undertake to limit their greenhouse gas emissions. Third, it must define stable and predictable financing to help the developing world reduce greenhouse gas emissions and adapt to the inevitable effects of climate. And finally, it must identify institutions that will allow technology and finance to be deployed in a way that treats the developing countries as equal partners in the decision-making process.

Unfortunately, establishing an amalgamated voice that incorporates diverse interests and needs is a difficult task. The Copenhagen Conference was weighed down with contentious talks that exemplified the immense difficulty “to forge consensus among the disparate blocs of countries fighting over environmental guilt, future costs and who should referee the results.”<sup>126</sup>

Many delegates from developing nations, the most vulnerable to climate change, were not included in negotiations between highly developed and influential countries, such as the United States, China, and India.<sup>127</sup> Small island nations attended the Copenhagen Conference as a united front to advocate for their citizens who are losing their homes and livelihood to rising sea level. During a panel entitled “Sinking Islands, the Pacific Voice,” a delegate from the Solomon Islands described the struggles climate change refugees face and stressed the need for support from developed nations. She emphatically stated:

Increasing sea level rise, unpredictable weather, increasing temperature—any of which describe climate change—but for me, climate change is losing my island. Today, I witnessed washing away of my shoreline, my island slowly sinking. Today, I witnessed culture threat. Today, I witnessed people of my island moving to another island . . . . Sea level rise is forcing my people to migrate . . . . My question today is can the world leaders support our leaders, because that is where our survival lies.<sup>128</sup>

Repeatedly, delegates from Papa New Guinea, Tonga, Republic of Palau, and other low-lying island nations stressed the urgency for assistance in the face of rising sea level. To illustrate the pending upheaval, the President of Palau described the rising sea level as a “tsunami moving in slow motion vertically from the bottom up to

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*Id.*

126. Andrew C. Revkin & John M. Broder, *A Grudging Accord in Climate Talks*, N.Y. TIMES, Dec. 20, 2009, available at <http://www.nytimes.com/2009/12/20/science/earth/20accord.html?scp=1&sq=a%20grudging%20accord%20in%20climate%20talks&st=cse>.

127. John M. Broder, *Many Goals Remain Unmet in 5 Nations' Climate Deal*, N.Y. TIMES, Dec. 19, 2009, available at [http://www.nytimes.com/2009/12/19/science/earth/19climate.html?\\_r=1&scp=1&sq=Many%20goals%20remain%20unmet%20in%205%20nations'%20climate%20deal&st=cse](http://www.nytimes.com/2009/12/19/science/earth/19climate.html?_r=1&scp=1&sq=Many%20goals%20remain%20unmet%20in%205%20nations'%20climate%20deal&st=cse).

128. Webcast: United Nations Climate Change Conference in Copenhagen, “Sinking Islands, the Pacific Voice – 1.5 to stay alive,” held by the United Nations (Dec. 7-19, 2009), [http://webcast.cop15.dk/kongresse/cop15/templ/play.php?id\\_kongresssession=2583&theme=cop15](http://webcast.cop15.dk/kongresse/cop15/templ/play.php?id_kongresssession=2583&theme=cop15).

eventually swallow the low-lying islands which will be forever washed out from the face of the earth.”<sup>129</sup> Despite the numerous pleas for international assistance, the Copenhagen Conference concluded without the delegates committing to a legally binding international agreement. Instead, the outcome of the Conference was the Copenhagen Accord,<sup>130</sup> an agreement that Secretary-General Ban Ki-Moon described as “the first truly global agreement that will limit and reduce greenhouse gas emissions, support adaptation for the most vulnerable and launch a new era of green growth.”<sup>131</sup> Participating nations recognized the Copenhagen Accord by consensus,<sup>132</sup> but failed to make it a binding international treaty with the ability to enforce the terms agreed to at the conference.<sup>133</sup> Some delegates were “disappointed that the . . . [Accord] lacked so many elements they considered crucial, including firm targets for mid- or long-term reductions of greenhouse gas emissions and a deadline for concluding a binding treaty next year.”<sup>134</sup> However, as U.S. President Barack Obama noted, “for the first time in history all major economies have come together to accept their responsibility to take action to confront the threat of climate change,”<sup>135</sup> a fact that should not be lost amidst the disappointment over the Accord’s shortcomings.

Despite the concerns that the Copenhagen Accord lacks teeth, developed nations did pledge financial support to a fund which will assist developing nations in their efforts to address the effects of climate change.<sup>136</sup> The Copenhagen Accord states:

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129. Webcast: United Nations Climate Change Conference in Copenhagen, “LAST CHANCE! Pacific island leaders call to keep us alive!,” held by the United Nations (Dec. 7-19, 2009), [http://webcast.cop15.dk/kongresse/cop15/templ/play.php?id\\_kongressession=2625&theme=cop15](http://webcast.cop15.dk/kongresse/cop15/templ/play.php?id_kongressession=2625&theme=cop15).

130. Copenhagen Accord, *opened for signature* Dec. 12, 2009, \_\_\_ U.N.T.S. \_\_\_, available at [http://www.denmark.dk/NR/ronlyres/C41B62AB-4688-4ACE-BB7B-F6D2C8AAEC20/0/copenhagen\\_accord.pdf](http://www.denmark.dk/NR/ronlyres/C41B62AB-4688-4ACE-BB7B-F6D2C8AAEC20/0/copenhagen_accord.pdf).

131. *Climate change deal marks an ‘essential beginning,’ Ban says*, UN NEWS SERVICE, Dec. 19, 2009, <http://www.un.org/apps/news/printnews.asp?nid=33305>.

132. *Id.*

133. James Kanter, *Copenhagen’s One Real Accomplishment: Getting Some Money Flowing*, N.Y. TIMES, Dec. 21, 2009, available at [http://www.nytimes.com/2009/12/21/business/energy-environment/21iht-green21.html?\\_r=1&scp=1&sq=Copenhagen’s%20one%20real%20accomplishment&st=cse](http://www.nytimes.com/2009/12/21/business/energy-environment/21iht-green21.html?_r=1&scp=1&sq=Copenhagen’s%20one%20real%20accomplishment&st=cse).

134. Revkin & Broder, *supra* note 126.

135. *Obama’s Remarks on the Climate Agreement*, N.Y. TIMES, Dec. 19, 2009, available at [http://www.nytimes.com/2009/12/19/science/earth/19climate.text.html?\\_r=1&scp=1&sq=Obama’s%20Remarks%20on%20the%20Climate%20Agreement&st=cse](http://www.nytimes.com/2009/12/19/science/earth/19climate.text.html?_r=1&scp=1&sq=Obama’s%20Remarks%20on%20the%20Climate%20Agreement&st=cse).

136. Kanter, *supra* note 133.

[T]he collective commitment by developed countries to provide new and additional resources, including forestry and investments through international institutions, approaching USD 30 billion for the period 2010-2012 with balanced allocation between adaptation and mitigation . . . In the context of meaningful mitigation actions and transparency on implementation, developed countries commit to a goal of mobilizing jointly USD 100 billion dollars a year by 2020 to address the needs of developed countries.<sup>137</sup>

The Copenhagen Accord calls for the establishment of the Copenhagen Green Climate Fund, which will serve as an “operating entity of the financial mechanism of the Convention to support projects, programme, policies and other activities in developing countries related to mitigation including REDD-plus, adaptation, capacity-building, technology development and transfer.”<sup>138</sup> Notably, the pledged financial support signifies recognition from developed nations that financial capital needs to be dedicated to developing nations, who have contributed least to the global warming catastrophe, and yet, have suffered the most.<sup>139</sup> Who will receive the funds, how the funds will be allocated to the varying climate change issues, and the structure of reporting systems has not been determined.<sup>140</sup>

#### *A. Allocation of Funds for Climate Change Displacement*

The United Nations and the signatories of the Copenhagen Accord intend for financial support to be distributed to developing nations within the year. The Copenhagen Accord calls for a “fast-start” fund valued at \$10 billion annually that is to be dispersed from 2010 to 2012, before \$100 billion is contributed annually by 2020.<sup>141</sup> In line with this goal, the United Nations commenced a high level panel,<sup>142</sup> the Advisory Group on Climate Change Financing, to “design and oversee a \$100 billion annual fund for climate mitigation and adaptation financing in poor

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137. Copenhagen Accord, *supra* note 130, ¶ 8.

138. *Id.* ¶ 10.

139. Revkin & Broder, *supra* note 126.

140. See *Climate Change deal marks an ‘essential beginning,’ Ban says*, *supra* note 131.

141. Kanter, *supra* note 133.

142. Copenhagen Accord, *supra* note 130, ¶ 9.

countries.”<sup>143</sup> In determining the allocation of financial resources from the Green Climate Fund, the Advisory Group on Climate Change Financing must ensure that a significant portion of the financial support is dedicated to preventing and mitigating human displacement caused by rising sea level.

As discussed earlier, climate change refugees<sup>144</sup> are not bestowed legal protection and assistance under refugee and IDP law. Until there is an internationally recognized definition of climate change refugee, and possibly a new United Nations Convention that focuses on this population's unique needs, financial assistance must be derived from a different international funding mechanism. As echoed by the Copenhagen Conference panelists from the Pacific island nations that are facing total envelopment,<sup>145</sup> the dire situation requires immediate international cooperation and response. Thus, the international community must utilize the current climate change mitigation funding mechanism, the Copenhagen Accord, to confront sea level rise displacement. As discussed in Part III, Section C, theorists and academics argue that the appropriate funding mechanism must embrace the principle of international burden sharing, because “[c]limate change is a global problem in causation and consequences, and the industrialized countries bear most of the moral responsibility for its victims.”<sup>146</sup> The Copenhagen Accord reflects this principle when it emphasizes that the effort to combat climate change must be made “in accordance with the

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143. Nathaniel Gronewold, *U.N. Gets Rolling on Copenhagen Accord, Forms Finance Panel*, N.Y. TIMES, Feb. 12, 2010, available at <http://www.nytimes.com/gwire/2010/02/12/12greenwire-un-gets-rolling-on-copenhagen-accord-forms-fin-88171.html?scp=1&sq=U.N.%20Gets%20Rolling%20on%20Copenhagen%20Accord&st=cse>.

144. I use the term “climate change refugee” with the understanding, as discussed in Section III, that there is not a universally agreed-upon definition. Effectively, for the remainder of this paper, I adopt the definition provided by Biermann and Boas, which is as follows: “people who have to leave their habitats, immediately or in the near future, because of sudden or gradual alterations in their natural environment related to at least one of the three impacts of climate change: sea level rise, extreme weather events, and water scarcity.” Biermann and Boas, *supra* note 81, at 8.

145. Webcast: United Nations Climate Change Conference in Copenhagen, “Sinking islands, the Pacific Voice – 1.5 to stay alive,” held by the United Nations (Dec. 7-19, 2009), [http://webcast.cop15.dk/kongresse/cop15/templ/play.php?id\\_kongresssession=2583&theme=cop15](http://webcast.cop15.dk/kongresse/cop15/templ/play.php?id_kongresssession=2583&theme=cop15); Webcast: United Nations Climate Change Conference in Copenhagen, “LAST CHANCE! Pacific island leaders call to keep us alive!” held by the United Nations (Dec. 7-19, 2009), [http://webcast.cop15.dk/kongresse/cop15/templ/play.php?id\\_kongresssession=2625&theme=cop15](http://webcast.cop15.dk/kongresse/cop15/templ/play.php?id_kongresssession=2625&theme=cop15).

146. BIERMANN & BOAS, *supra* note 81, at 26.

principle of common but differentiated responsibilities and respective capabilities.”<sup>147</sup>

Beyond the articulation of an international burden sharing principle, the Copenhagen Accord contains the concrete objective of “stabiliz[ing] greenhouse gas concentration in the atmosphere,” which would require a global temperature rise of less than two degrees Celsius.<sup>148</sup> Allocating financial resources to developing nations to specifically confront human displacement from sea level rise is crucial to satisfying the Copenhagen Accord’s objectives of capping global temperature rise and implementing adaptation actions to reduce vulnerability and build resilience in developing nations. The following factors support the argument that combating the negative effects of climate change requires mitigation and protection of climate change refugees: security and conflict, exasperation of environmental issues in host and home countries, and cultural survival.

#### a. Security and Conflict

As people are forced to relocate within their home country or cross borders to seek refuge in host countries, risk to security and violent conflict is heightened.<sup>149</sup> Though empirical studies are lacking, academics predict that “climate-related stresses will increase competition between groups for increasingly scarce resources, in turn raising the potential for violent conflict and refugee movements.”<sup>150</sup> Developing countries, like Bangladesh and Vietnam, endure on limited resources as is; climate change refugees are expected “to put even further strains on scarce water, energy and food resources.”<sup>151</sup> To make matters worse, in Bangladesh, rise in sea level is anticipated to wipe out vital cultivated land, with “rice production . . . expected to drop 10 percent and wheat production by 30 percent” by 2050.<sup>152</sup> Moreover, human sustenance, may be challenged as individuals who previously relied for nourishment on

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147. Copenhagen Accord, *supra* note 130, ¶ 1.

148. *Id.*

149. JON BARNETT & NEIL ADGER, SECURITY AND CLIMATE CHANGE: TOWARDS AN IMPROVED UNDERSTANDING, HUMAN SECURITY AND CLIMATE CHANGE, AN INTERNATIONAL WORKSHOP, 2 (June 20-21, 2005), [http://www.gechs.org/downloads/holmen/Barnett\\_Adger.pdf](http://www.gechs.org/downloads/holmen/Barnett_Adger.pdf).

150. McLeman, *supra* note 78, at 9-10.

151. Joanna Kakissis, *Environmental Refugees Unable to Return Home*, N.Y. TIMES, Jan. 4, 2010, available at <http://www.nytimes.com/2010/01/04/world/asia/04migrants.html>.

152. Friedman, *supra* note 3.

the bounty from the sea are forced to look inland after the coastal land is eroded or disappears, thus altering the allocation of natural resources. Natural resources induced conflict is not a new phenomenon, as exemplified by violence motivated by dwindling oil resources.<sup>153</sup>

Developing countries, which will primarily serve as home or host countries to individuals displaced by rising sea level, have less adaptive capacity to deal with the influx of population.<sup>154</sup> A developing country's ability to provide state entitlements or services will be challenged due to the lack of financial resources available to adapt to the changing demographics. Serving the needs of displaced individuals will put an additional strain on the home or host country, which could "tip poor countries into fragile states and fragile states into failed states."<sup>155</sup> In "Security and Climate Change: Towards an Improved Understanding," Barnett and Adger argue that "a common factor in many internal wars is that armed groups are comprised of young men whose expectations for a better life have been frustrated due to contractions in their livelihood."<sup>156</sup> An individual's choice to take up arms may be a response to sudden poverty coupled with a real or perceived insecurity of the future.<sup>157</sup>

For the displaced who cross national borders, Myers notes in remarks entitled "Environmental Refugees: An Emergent Security Issue" that there are "limits to host countries' capacity, let alone willingness to take in outsiders."<sup>158</sup> Refugees frequently face hostility in host countries as they can be viewed as "threat[ening] social cohesion and national identity," thus becoming "an excuse for outbreaks of ethnic tension and civil disorder, even political upheaval."<sup>159</sup> Castles argues that "forced movements of population are increasingly perceived as a major factor in generating conflicts between states and the use of force."<sup>160</sup> To combat

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153. NIGEL PURVIS & JOSHUA BUSBY, BROOKINGS INST., *THE SECURITY IMPLICATIONS OF CLIMATE CHANGE FOR THE UN SYSTEM* (2004), [http://www.brookings.edu/~media/Files/rc/papers/2004/05energy\\_purvis/purvis20040501.pdf](http://www.brookings.edu/~media/Files/rc/papers/2004/05energy_purvis/purvis20040501.pdf).

154. See IPCC, *CONTRIBUTION OF WORKING GROUP II*, *supra* note 16, at 317.

155. Oli Brown & Robert McLeman, *A Recurring Anarchy? The Emergence of Climate Change as a Threat to International Peace and Security*, *CONFLICT, SECURITY, AND DEVELOPMENT*, Oct., 2009, at 293, available at [http://www.iisd.org/pdf/2009/recurring\\_anarchy\\_climate.pdf](http://www.iisd.org/pdf/2009/recurring_anarchy_climate.pdf).

156. Barnett & Adger, *supra* note 149, at 5.

157. *Id.* at 6.

158. Myers, *supra* note 79, at 3.

159. *Id.* Myers cites Haitians in the United States and North Africans in Europe to illustrate a host country's hostility towards nonresidents seeking refuge, regardless of the reason. *Id.*

160. CASTLES, *supra* note 88, at 6. Castles supports his argument by citing that "many of the international military interventions of recent years have had the prevention of

the steady flood of climate change refugees from Bangladesh, India is “building a fence much like the one along the U.S.-Mexico border to keep illegal immigrants out.”<sup>161</sup> In sum, the possibility for security risk and conflict will increase as populations are displaced by sea level rise and seek refuge in new locations. As a result, the collective objectives of the Copenhagen Accord will be hindered by amplified armed conflict and security issues within and across nation state borders.

b. Exasperation of Environmental Issues

As sea level rises, residents of coastal communities will gradually move inland as their land is eroded, disappears, or can no longer be cultivated. The resulting food and water scarcity “will accelerate the dramatic rural-urban drift in the developing world” as climate change refugees travel to cities to find new job opportunities and livelihoods.<sup>162</sup> In vulnerable Bangladesh, many climate change refugees may move to the mega-city of Dhaka, where 3.4 million people already live in slums.<sup>163</sup> Dhaka, a city that is already “bursting at the seams,” will swell even more with the inundation from climate change refugees.<sup>164</sup> Not only will the new urban residents be vying for scarce resources in Dhaka, but the influx of people will also contribute to the mega city’s negative environmental impact. Currently, “cities draw together many of Earth’s major environmental problems: population growth, pollution, resource degradation and waste generation.”<sup>165</sup> If cities, like Dhaka, are not equipped to accept and mitigate the prospective population increase due to the rise in sea level, the cities’ current environmental problems will be

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refugee flows as one of their main objectives.” Castles provides examples such as the “‘safe haven’ for Kurds in Northern Iraq after the Gulf War, the US intervention in Haiti in 1994, and the NATO intervention in Kosovo in 1999.” *Id.*

161. Friedman, *supra* note 3.

162. BROWN, *supra* note 4, at 32. In the last fifty years, approximately 800 million people have migrated from rural dwellings to urban dwellings. This movement has primarily impacted the developing world. Lisa R. Pruitt, *Migration, Development, and the Promise of CEDAW for Rural Women*, 30 MICH. J. INT’L L. 707, 710-11 (2009).

163. See The World Bank, *South Asian Population, Urban Growth: A Challenge and an Opportunity* (Oct. 19, 2010, 1:35 PM), <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/SOUTHASIAEXT/0,,contentMDK:21393869~pagePK:146736~piPK:146830~theSitePK:223547,00.html#example>.

164. Friedman, *supra* note 3.

165. U.N. POPULATION FUND, STATE OF THE WORLD POPULATION 2007: UNLEASHING THE POTENTIAL FOR URBAN GROWTH 55 (2007) [http://www.unfpa.org/swp/2007/english/chapter\\_5/print/chapter\\_5.html](http://www.unfpa.org/swp/2007/english/chapter_5/print/chapter_5.html).

exasperated, thus working against the objectives of the Copenhagen Accord.

c. Cultural Survival

The envelopment of small island nations is accompanied by the potential loss of cultures. At the Copenhagen Conference, delegates from small Pacific islands described their expectation of total loss of their island nations if swift action was not taken to combat climate change.<sup>166</sup> Specifically, a student delegate from the Solomon Islands spoke of the anticipated loss of her culture and people if the international community fails to act urgently and with purpose.<sup>167</sup> The survival of all cultures is intrinsically valuable to the global community. While there may not be a direct link between the endurance of cultures and the Copenhagen Accord's ultimate objective of "stabiliz[ing] greenhouse gas concentration in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system,"<sup>168</sup> the international agreement will fail if cultures are allowed to dissipate with the loss of coastal land.

PART V: CONCLUSION

Climate change-induced rising sea level is a reality for low-lying coastal communities and islands. Millions of coastal residents in developing countries will be forced to seek livelihoods in new communities within their country's borders or beyond. Due to the lack of an internationally recognized definition and funding mechanism, climate change refugees currently face, and will continue to face, forced migration without legal protection and financial assistance. Confronted with this dire situation, the international community must act urgently to prevent and mitigate the displacement of millions of vulnerable climate change refugees. The developed nations' pledged funds in the Copenhagen Accord should be allocated to serve this pending upheaval. The Copenhagen Accord is not perfect. Although over 120 countries have agreed to the Accord, it remains legally unenforceable. In the long term, \$100 billion will probably fall short of the capital needed to truly combat the myriad effects of climate change. Despite these problems,

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166. Webcast: United Nations Climate Change Conference in Copenhagen, *supra* note 145.

167. *Id.*

168. Copenhagen Accord, *supra* note 130, at ¶ 1.

the international community, through the Copenhagen Accord, has acknowledged that climate change requires a global response that reflects the appropriate burden-sharing among nations. In turn, the international community must utilize its financial resources to combat the pending forced migration of millions of climate change refugees.