

## Climate-change-induced Movement of Persons in Africa: Human Rights Responses to Aspects of Human Security\*

*Oliver C. Ruppel & Sanita van Wyk*

### *Abstract*

This article reviews the possible and expected effects of climate change on certain components of human security in Africa. Due to multiple stresses, Africa is one of the continents most vulnerable to climate change and climate variability. Climate change and climate variability not only have the potential to impose additional pressures on human security and to overwhelm adaptive capacities of societies, climate change is also deemed to influence a diverse array of conflicts. According to the Intergovernmental Panel on Climate Change, one of the greatest impacts of climate change might be on human mobility. To this end, the chapter focuses on the socio-political and legal aspects of climate-change-induced movement of environmental migrants, refugees and displaced persons, and potential human rights responses thereto.

### *A. Introduction*

The purpose of the concept *human security* is to protect the vital core of all human lives in ways that enhance human freedoms and human fulfilment.<sup>1</sup> Human security has already been addressed by the founders of the United Nations (UN), yet an important milestone of the development of today's notion of the concept was the 1994 United Nations Development Programme (UNDP) Human Development Report,<sup>2</sup> which defines *human security* as "a

---

\* This article is an updated version of Ruppel & van Wyk (2011a).

<sup>1</sup> CHS (2003).

<sup>2</sup> UNDP (1994).

concern with human life and dignity".<sup>3</sup> The Report also emphasises four vital characteristics of human security:<sup>4</sup>

- Human security is a universal concern
- All the components of human security are interdependent
- It is easier to ensure human security through prevention than intervention, and
- Human security is people-centred.

Seven broad interdependent components of human security have been identified. They are –<sup>5</sup>

- economic security
- food security
- health security
- environmental security
- personal security
- community security, and
- political security.

However, this list is not exhaustive or mutually exclusive in its representation of the existing risks to human security.

The concept of human security is established on two pillars. The first, the "freedom from fear" factor, focuses on protecting individuals from violent conflicts and from the denial of civil liberties, and ensures freedom of expression and belief. The second pillar is the "freedom from want" factor, which emphasises satisfying the individual's basic need for food, shelter and clothing.<sup>6</sup> In addressing the root problem of insecurity in Africa, violence, poverty and inequality – be it social or economic – play a core role.<sup>7</sup> A human security approach focusing on people as the prime referents of security is increasingly being integrated into policymaking and jurisprudence.<sup>8</sup>

It has been stated that "in no other continent are threats to human security more dire and the absence of protection infrastructure more conspicuous,

---

3 (ibid.:22).

4 (ibid.:22–23).

5 King & Murray (2002:585–610).

6 Kumssa & Jones (2010:453–461); UNDP (1994:24).

7 (ibid.).

8 Abass (2010:3).

than in Africa.”<sup>9</sup> Undoubtedly, this assessment also applies to climate-change-related threats to human security. In the following section, possible and expected effects of climate change on the various components of human security in Africa will thus be outlined briefly, before making some references to potential human rights responses.

### *B. Climate Change and Human Security*

Despite Africa’s relatively low contribution to the world’s total greenhouse gas (GHG) emissions, the continent is one of the most vulnerable to climate change and climate variability.<sup>10</sup>

#### *I. Environmental Security*

Climate change and variability have the potential to impose additional pressures on human security along with many socio-economic factors, and overwhelm the adaptive capacities of societies in many world regions. The most direct link between climate change and threats to human security is probably the aspect of environmental security, where access to clean water is considered to be one of the greatest environmental threats.<sup>11</sup>

#### *II. Economic Security*

As another aspect of human security, the effects of climate change on economic security are manifold. Economic security requires an assured basic income for individuals, usually from productive and remunerative work or, as a last resort, from a publicly financed safety net.<sup>12</sup> The impacts of global

9 (ibid.:10).

10 Boko et al. (2007:433–467). While *climate change* “refers to a change in the state of the climate that can be identified … by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer”, *climate variability* “refers to variations in the mean state and other statistics … of the climate on all spatial and temporal scales beyond that of individual weather events”; see IPCC (2007:Annex II, Glossary).

11 Bantekas (2010:43).

12 UNDP (1994).

warming on the agricultural sector in Africa are considered to be a direct and profound threat. Again, water scarcity has a direct impact on many economic development initiatives on the agricultural sector, which is one of the most important in African economies.

### *III. Food Security*

Climate change has economic impacts on crop and livestock farming systems; warmer and drier climates adversely affect net farm revenues translating into a worsening food security situation on the continent.<sup>13</sup> The ultimate damages of climate change may significantly affect economic growth.<sup>14</sup> Although agricultural productivity might increase in the short run in some regions of Africa because of global warming, many African countries and regions are likely to be severely affected by climate change and climate variability.<sup>15</sup> Increasing temperatures and declining precipitation in Africa resulting from climate change are likely to reduce yields for primary crops in the next two decades; these changes will have a substantial impact on food security, although the precise extent and nature of that impact cannot yet be determined.<sup>16</sup> Periods of droughts and floods will have an impact on the availability of and access to food.<sup>17</sup> It is predicted that the impacts of climate change such as sea-level rise, droughts, heatwaves, floods and rainfall variation could, by 2080, push another 600 million people into the abyss of malnutrition and increase the number of people facing water scarcity by 1.8 billion.<sup>18</sup>

### *IV. Health Security*

Health security aims to guarantee a minimum protection from diseases and unhealthy lifestyles. Climate change is considered to be a serious global

---

13 See e.g. Nhemachena et al. (2010).

14 Lecocq & Shalizi (2007).

15 Boko et al. (2007:435).

16 (ibid.).

17 Ziervogel et al. (2006).

18 UNDP (2008).

health threat in the 21st Century.<sup>19</sup> Africa is particularly vulnerable as threats to health security are usually greater for poor people in rural areas, particularly women and children, due to malnutrition and insufficient access to health services, clean water and other basic necessities. Major diseases could expand their coverage as a result of global warming. For example, an additional 220–400 million people could be exposed to malaria – a disease that already claims around 1 million lives annually.<sup>20</sup> Other health security threats in Africa include the spread of infectious diseases such as cholera – which is influenced by both global and regional climatic variability,<sup>21</sup> dengue fever,<sup>22</sup> and meningitis.<sup>23</sup>

### *C. Human Security, Conflict and Environmental Migration*

While *personal security* aims to protect people from physical violence by states or individuals, *community security* is concerned with protecting people from the loss of traditional relationships and values and from sectarian and ethnic violence. *Political security* addresses the question as to whether or not people live in a society that honours their basic human rights. All the aforementioned factors are relevant when it comes to the issues of violent conflicts and migration. Conflict, climate-change-induced disasters, and human mobility are all interlinked.<sup>24</sup> Climate change is deemed to influence, to a greater or lesser degree, a diverse array of conflicts including war, terrorism, and diplomatic and trade-related disputes.<sup>25</sup>

Conflict is deemed to become an indirect impact of climate change.<sup>26</sup> In other words, climate change impacts the natural environment, and the state of the natural environment may cause future conflict. In attempting to demarcate those that are affected by the impacts of climate change, it is necessary to focus on the link between the reasons for environmental migration caused by specific climate change impacts.<sup>27</sup> Thus, a person who migrates

19 Costello et al. (2009).

20 UNDP (2008).

21 De Magny et al. (2007:20).

22 Jansen & Beebe (2010:272–279).

23 Cuevas et al. (2007:A12–A17).

24 Kolmannskog (2010:104, 108).

25 Homer-Dixon (1991:77).

26 Biermann & Boas (2010:64).

27 (ibid.).

because his/her environment was directly impacted by climate change can be considered an *environmental migrant*. But a person who migrates because conflict has erupted in his/her environment – perhaps due to an environment affected by climate change – should not be considered an environmental migrant because the direct reason of migration concerns the conflict and not the state of the environment.

Indeed, the relationship between conflict and environmental migration is complex and troublesome. Resettling environmental migrants may place an extra or unbearable burden on their new environment.<sup>28</sup> This may cause friction between the environmental migrants and the local inhabitants of the land and lead to conflict in their new settlement area.<sup>29</sup> This can set in motion another migratory cycle, as conflict can damage the natural environment to such an extent that another group of people decides to migrate.<sup>30</sup> Conflict-ridden zones in general also reflect a lack of state control or effective governance. This, in turn, implies ineffective environmental management, which also contributes to degradation of the environment – potentially leading to environmental migration.<sup>31</sup> In addition to exacerbating environmental degradation, conflicts also make it difficult for environmental migrants to leave such zones peacefully.<sup>32</sup>

Climate change, climate-related environmental variability and conflict have attracted much attention and debate. While there seems to be consensus about the environment being only one of several interconnected causes of conflict rather than the decisive factor,<sup>33</sup> the changing climate arguably increases the risk of civil unrest in Africa. This is because conflicts are more likely in regions with more vegetation such as Africa (possibly resulting from vegetation recovery after population has been displaced out of conflict zones), and that increased levels of malnutrition, which run high in Africa, are related to armed conflicts.<sup>34</sup> Another view emphasises the role of arable land and renewable resources such as fresh water. It is argued that, as a long-term trend, population growth and resource scarcities result in violent com-

---

28 Warner et al. (2010:710).

29 (ibid.).

30 (ibid.).

31 Kolmannskog (2010:109).

32 (ibid.).

33 (ibid.:103–119).

34 Rowhani et al. (2011:207–222).

petition,<sup>35</sup> while short-term causes may trigger the outbreak of conflict.<sup>36</sup> Therefore, distributional conflicts can arise out of the degradation of natural resources as a result of overexploitation and the effects of climate change.

In determining with certainty whether climate change will be a cause of conflict, one first needs to ask what social changes are initiated by a changing climate; and secondly, one needs to know what type of conflict is likely to arise from a specific type of social change.<sup>37</sup> Potential social changes are numerous and complex, and are dependent on political and economic factors.<sup>38</sup> In addition to social, political and economic factors, environmental change can lead to conflict and migration. In fact, migration is probably the oldest way of dealing with environmental change.<sup>39</sup> Historically, people have always set out to inhabit environments that would allow not only survival, but also a stable human existence.<sup>40</sup> But when people are faced with environmental change, they may have other options as well: they could choose to adapt to the change and, in so doing, might lessen the impact of such a change, or they could do nothing and, in effect, accept a lower quality of life.<sup>41</sup>

#### *D. Climate-change-induced Movement of Persons*

In its First Assessment Report, the Intergovernmental Panel on Climate Change (IPCC) stated that one of the greatest impacts of climate change might be on human mobility.<sup>42</sup> Burgeoning human populations and the accelerated degradation of natural resources are expected to swell the numbers of migrants as well, both internally and across borders.<sup>43</sup> Increased environmental migration due to the effects of climate change is considered a new phenomenon, unprecedented in its scale and scope,<sup>44</sup> and is closely related to the concept of human security. In addition to low-lying islands, coastal

---

35 Homer-Dixon (1994:5–40).

36 Hendrix & Glaser (2007:695–715).

37 Homer-Dixon (1991:87).

38 (ibid.).

39 Kolmannskog (2008).

40 Warner et al. (2010:691).

41 (ibid.:690).

42 IPCC (1990:Chapter 5, 9).

43 Gleditsch et al. (2007:3).

44 Warner et al. (2010:692).

and deltaic regions, various parts of Africa are expected to be affected by climate-change-induced migration.<sup>45</sup>

Climate change impacts the frequency and severity of extreme or sudden weather events.<sup>46</sup> Such events become disastrous when a community is vulnerable to its effects.<sup>47</sup> A community's vulnerability is dependent on its exposure to the event and its ability to adapt or recover after the event has occurred.<sup>48</sup> Africa's low adaptive capacity<sup>49</sup> makes it particularly vulnerable to suffering disastrous consequences of climate change. A global study conducted in 2009<sup>50</sup> reveals that, in 2008, at least 36 million people were newly displaced by sudden-onset natural disasters. Of the 36 million, over 20 million were displaced by sudden-onset climate-related disasters. Further estimates put the number of displaced people in Africa as having increased almost 700,000 in 2008 to 1.1 million in 2009, and 1.7 million by 2010.<sup>51</sup>

It is predicted that the effect of climate change on future forced migrations will be determined by, among other things, the following factors:<sup>52</sup>

- The amount of GHG emissions
- Population growth
- Population distribution
- Evolution of climate change, and
- The adaptive capabilities of communities on various levels.

It should, however, be noted that estimates on migration flows resulting from climate change remain speculative, as migration drivers are usually not monocausal but influenced by multiple factors.<sup>53</sup> Only by understanding the environment in the broader social, economic and political context can one evaluate the role that the environment plays in migration behaviour.<sup>54</sup>

The impact of climate change on food security and water stress in rural areas of developing countries is expected to accelerate rural–urban migration

---

45 Gemenne (2011:182–195).

46 (ibid.).

47 Brown (2008:9, 24).

48 (ibid.).

49 Boko et al. (2007:435).

50 OCAH & IDMC (2009).

51 IDMC (2011:16).

52 Brown (2008:27).

53 Smith et al. (2011:180).

54 Lonergan (1998:8).

movements.<sup>55</sup> In sub-Saharan Africa, climate change is already considered an important determinant of urban growth.<sup>56</sup> In 2009, almost 40% of Africa's total population of 1 billion lived in urban areas; it is estimated that Africa's population will become 50% urban by 2030, rising to 60% by 2050.<sup>57</sup> African inland cities are exposed to higher ambient temperatures and more frequent heatwaves, with a concomitant potential risk of water shortages, damage to infrastructure (e.g. transportation infrastructure including roads and railways), and desiccating vegetation. Declining rainfall, droughts and floods have the potential of rendering agricultural lands in Africa unproductive or making rural settlements uninhabitable; this affects the livelihoods of rural residents, forcing them to migrate to the urban areas.<sup>58</sup>

Africa counts 37 cities with populations above 1 million, half of which are within low-elevation coastal zones,<sup>59</sup> which are particularly vulnerable to extreme weather events caused by climate change. These zones are likely to experience storm surges, a rise in sea level, increased flooding, (semi-)permanent inundation, coastal erosion, landslides, and the increase of water-borne diseases, which may all have devastating effects on human settlements – especially if no measures are taken to ensure risk reduction in terms of urban planning, land-use management, and the quality of housing and infrastructure.<sup>60</sup> Depending on their location and nature of construction, buildings and supporting infrastructure are vulnerable to flooding and other extreme weather events which increase the likelihood of landslides and building subsidence, especially on clay soils. Such threats require enhanced construction and infrastructural standards as a first barrier of resistance and protection, which include raising building foundations, strengthening roads, and increasing storm-water drainage capacity.<sup>61</sup> In this regard, the high risk for low-lying urban slums has to be pointed out. Although the proportion of urban slum dwellers is decreasing, informal settlements remain one of the major threats to African urban stability and, by extension, to overall political stability.<sup>62</sup>

55 Brown (2008:32).

56 Barrios et al. (2006:357–371).

57 UN-Habitat & UNEP (2010).

58 Hope (2011:37–56).

59 Mosha (2011:69–102).

60 (ibid.).

61 UN-Habitat & UNEP (2010).

62 (ibid.).

### *E. Migrants, Refugees and Internally Displaced Persons*

Not only is there a range of terms referring to environmental migrants, their use is inconsistent.<sup>63</sup> This contribution explores some of this terminology. The various legal options in dealing with environmental migrants are mentioned to illustrate that dealing with this problem on a terminological scale is problematic. This is a large and urgent issue to address, as the label and corresponding definition awarded to environmental migrants affects the world community's obligations under international law. Not only is a sound and accurate definition needed, but this problem should also be practically addressed by countries already struggling to adhere to existing international obligations. The way in which nations deal with environmental migrants is a litmus test of the way they deal with human rights. Safeguarding human dignity should be identified as a top priority in protecting such migrants.<sup>64</sup> In fact, the International Bill of Rights should apply, meaning that citizens and non-citizens alike should be able to claim rights in terms of –

- the Universal Declaration of Human Rights
- the International Covenant on Civil and Political Rights (ICCPR)
- the International Covenant on Economic, Social and Cultural Rights (ICESCR)
- the First Optional Protocol to the ICCPR, and
- the Second Optional Protocol to the ICCPR.

Most African countries have acceded to both the ICCPR<sup>65</sup> and the ICESCR.<sup>66</sup> On 10 December 2008, the UN General Assembly adopted, by consensus, the Optional Protocol to the ICESCR. The Optional Protocol provides a mechanism through which persons can petition the UN Committee on Economic, Social and Cultural Rights about violations of their rights. The Optional Protocol was opened for signing on 24 September 2009. Both the ICCPR and the ICESCR call on states parties to take legislative or other measures to effect the rights contained in them. Most of the rights and freedoms recognised in the ICCPR are also entrenched in national constitutions'

---

63 Warner et al. (2010:689–715).

64 OHCHR [n.d.]

65 As at the time of writing, only one of the 54 fully recognised states in Africa is not a party to the ICCPR, namely South Sudan.

66 Of the 54 fully recognised states in Africa, Botswana and South Sudan are not parties to the ICESCR as at the time of writing.

Bill of Rights. This may include the right to dignity, the right to life, the right to health, the right of access to water, the right to legal representation, the guarantee against torture and other cruel or inhuman treatment or punishment, and protection against discrimination on any ground. Both the ICE-SCR and the ICCPR provide protection for specific rights and freedoms; both recognise the right of peoples to self-determination; both prohibit all forms of discrimination in the exercise of human rights; and both have the force of law for those countries that have ratified them. States have obligations under international human rights law to respect, to protect and to fulfil human rights. In the context of climate change, such obligations specifically include ensuring that policies aimed at limiting the effects of climate change are implemented effectively and in ways that do not overburden or discriminate against specific vulnerable groups, e.g. women, children, the disabled, and indigenous peoples.<sup>67</sup>

Since environmental migrants – just as migrants in general – experience a higher risk of falling into poverty and social exclusion than the general population, they can also be seen as a vulnerable group. Thus, environmental migrants de facto need a high level of protection under international human rights law. However, one problem encountered by using the term *environmental migrant* is that the term *migrant* may imply a voluntary decision to move – the pull of the new destination being stronger than the push of the old.<sup>68</sup> Some of the ‘push factors’ of environmental migration include sudden natural disasters, slow-onset natural disasters, environmental conflicts, environmental destruction due to conflict, environmental conservation, development projects, and industrial accidents.<sup>69</sup> Sudden natural disasters include floods, storms, hurricanes and typhoons.<sup>70</sup> Slow-onset natural disasters include sea-level rise, degradation of agricultural land, desertification, increasing water stress and food insecurity.<sup>71</sup> Climate change particularly impacts slow-onset natural disasters such as sea-level rise and water stress.<sup>72</sup>

The term *climate change refugee* (or, in short, *climate refugee*) is often used instead of the term *environmental migrant* or *environmentally dis-*

---

67 Ruppel (2010); Ruppel & Ruppel-Schlichting (2011).

68 Brown (2008:14).

69 Kolmannskog (2008).

70 Brown (2008:18).

71 (ibid.).

72 Gemenne (2011:182–195).

placed person to convey the urgency of the situation.<sup>73</sup> But the term *climate refugee* can also refer to a subcategory of *environmental migrants* – migrants whose relocation can be directly linked to climate change. There are also subcategories of climate refugees: they are categorised according to whether the migration is voluntary or forced, or anticipated or unexpected, as well as according to the role that environmental degradation plays in their decision to migrate.<sup>74</sup> However, it is difficult to determine the level of force or anticipation involved in the decision to migrate, and adaptive capabilities are influenced by additional factors,<sup>75</sup> such as the affected person's financial capacity and his/her available personal or official support networks at the time.<sup>76</sup> Those who are forced to stay behind because they do not have the financial resources or appropriate networks in place to ensure successful migration may fall through the gaps of an already limited international law regime.<sup>77</sup>

In trying to categorise environmental migrants (and not necessarily the subcategory of climate refugees), the International Organization for Migration proposes a useful definition:<sup>78</sup>

Environmental migrants are persons or groups of persons who, for compelling reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad.

The United Nations Environment Programme defines environmental refugees as –<sup>79</sup>

... 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 jeopardised their existence and/or seriously affected the quality of their life.

---

73 Brown (2008:13). For other terms for *environmentally induced migrants* and the environmental factors that influence the meanings and use of these terms, see Warner et al. (2010:697). For normative gaps and possible approaches relating to the protection of people crossing borders in the context of climate change, see Kälin & Schrepfer (2012).

74 Biermann & Boas (2010:65).

75 (ibid.).

76 Kolmannskog (2010:106).

77 Ruppel (2011d).

78 IOM (2007).

79 Biermann & Boas (2010:62).

However, there remains a need for a clear definition of climate refugee as the term creates conflict of a legal nature when it comes to whether or not climate refugees can legally be classified as refugees under international refugee law. But regardless of this, states should ensure that all persons – both citizens and non-citizens – classified as refugees or environmental migrants or persons fleeing from armed conflict or poverty will receive safeguarding of their basic human dignity and respect for their fundamental human rights. This assurance is perhaps the best point of departure in trying to expand the definition of refugee, and the UN Office of the High Commissioner for Human Rights also highlights this point.<sup>80</sup>

International refugee law applies to any person defined as refugee by the Geneva Refugee Convention of 1951,<sup>81</sup> namely as a person with a –<sup>82</sup>

... wellfounded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it.

There are numerous complications in attempting to classify climate refugees as refugees under international refugee law. The definition of the term refugee, as set out under international law, does not (explicitly) provide for environmental reasons in leaving the country as being sufficient grounds to qualify for refugee status.<sup>83</sup> The fear of persecution has to be present and, unless nature could be seen as a persecutor, environmental reasons technically do not suffice.<sup>84</sup> In addition, the term refugee relies on the fact that an international border was crossed: a person moving within a country is not referred to as a refugee, but as an *internally displaced person*.<sup>85</sup> Moreover, the term refugee implies that the person is unable to return to the country from which s/he fled due to a well-founded fear of persecution,<sup>86</sup> while in some cases a climate refugee will be unable to return to the place from where

---

80 OHCHR [n.d.].

81 Nowak (2003:39).

82 Article 1.A(2), 1951 Convention Relating to the Status of Refugees, hereinafter the *Geneva Refugee Convention*.

83 Brown (2008:11–15).

84 Warner et al. (2010:695).

85 Brown (2008:13–14).

86 (ibid.).

s/he migrated for reasons other than a well-founded fear of persecution. Such a reason may be a rising sea level.<sup>87</sup>

Other instruments, such as the 1969 Organisation of African Unity Convention Governing the Specific Aspects of Refugee Problems in Africa<sup>88</sup> and the 1984 Cartagena Declaration on Refugees<sup>89</sup> have defined refugee in broader terms than the 1951 Geneva Refugee Convention. The 1969 Convention applies the term refugee to a person who is “compelled to leave his place of habitual residence in order to seek refuge in another place outside his country of origin or Nationality.”<sup>90</sup>

According to Conclusion No. 3 of the 1984 Cartagena Declaration on Refugees, the definition or concept of a refugee –

... recommended for use in the region is one which, in addition to containing the elements of the 1951 Convention and the 1967 Protocol, includes among refugees persons who have fled their country because their lives, safety or freedom have been threatened by generalized violence, foreign aggression, internal conflicts, massive violation of human rights or other circumstances which have seriously disturbed public order.

Although certain environmental events caused or worsened by climate change may comprise events which have “seriously disturbed public order”, these two instruments were not originally intended to protect climate refugees.<sup>91</sup>

Even though the term refugee is debatable, Biermann and Boas advocate the use of the term climate refugees.<sup>92</sup> They argue that using a term other than climate refugee would not be appropriate as it detracts from the “legitimacy and urgency”<sup>93</sup> However, neither author supports the idea that refugee protection hinges on whether or not a person has crossed an international border (in the case of climate refugees).<sup>94</sup> They propose that climate refugees be defined as –<sup>95</sup>

---

87 (ibid.).

88 Article 1.2.

89 Section III.3. This declaration concerns refugees from Central America, Mexico, and Panama.

90 Article 1 of the 1969 Organisation of African Unity Convention Governing the Specific Aspects of Refugee Problems in Africa.

91 Biermann & Boas (2010:73).

92 (ibid.:66).

93 (ibid.:67).

94 (ibid.).

95 (ibid.).

... 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 drought and water scarcity.

They add that a good definition of climate refugees should address three aspects, namely –<sup>96</sup>

- the cause of migration, i.e. the type of environmental impact that would create climate refugees
- the type of migration, i.e. whether it is forced or voluntary, and whether it is permanent or temporary, and
- appropriate terminology, i.e. whether or not the term refugee is appropriate.

There are many other proposed academic definitions for climate refugee.<sup>97</sup> Most of these do not specify whether the person needs to cross an international border, but they differ widely in stating whether or not the migration needs be temporary or permanent.<sup>98</sup>

Some also contend that climate refugees should be afforded the same protection as refugees under international refugee law.<sup>99</sup> Legally, this might be the simplest route; but there are numerous political and economic reasons why countries do not wish to extend ‘traditional refugee protection’ to climate refugees. By including climate refugees as refugees under current international refugee law, countries would have to deal with 20 times more refugees than they already do.<sup>100</sup> A potential problem with this definition lies in its implementation: it remains questionable whether developing countries will be able to monitor environmental changes as well as the concomitant human migration in a consistent and effective manner. Biermann and Boas suggest the creation of a *sui generis* regime designed specifically to

---

96 (ibid.:63).

97 For examples of a definition for *environmental refugee*, see Warner et al. (2010:694–695).

98 (ibid.:694).

99 (ibid.:695).

100 Biermann & Boas (2010:74).

protect climate refugees.<sup>101</sup> But even with the successful establishment of a “tailor-made”<sup>102</sup> regime, effective implementation of new legal and policy solutions will still present a significant stumbling block due to the enormous potential costs involved. Whether or not climate refugees are added to the traditional refugee group or divided into their own *sui generis* group is not that important if the ultimate goal is to protect the human rights of both groups – traditional refugees and climate refugees. Indeed, the biggest hurdle for countries in respect of defining climate refugees as a designated group lies in the fact that no country really wants to take on the responsibility in dealing with climate refugees; unfortunately for them, there is no definition or grouping of climate refugee that will make the problem disappear.

The International Organization for Migration and the UN Office of the High Commissioner for Refugees use the term *environmentally displaced persons* when referring to climate refugees.<sup>103</sup> The term *distress migration* can also be considered in a context where displacement is not forced, or the entire family does not have to migrate.<sup>104</sup> An environmental migrant (or climate refugee) not crossing the borders of his/her country is known as an *internally displaced person*, and internally displaced persons are not protected under international refugee law.<sup>105</sup> Clearly, this shows that climate refugees – who move within their own country as well as across borders – should be treated differently to internally displaced persons if they are to receive appropriate protection. Persons labelled as *internally displaced* do not seem to receive the same amount of protection and care that refugees and persons displaced due to conflict and sudden-onset disasters do.<sup>106</sup> The responsibility of protecting internally displaced persons lies with national

---

101 (ibid.:76–77). Various principles should form the basis of such a *sui generis* regime, according to Biermann & Boas. Briefly, these principles concern relocating and resettling climate refugees in a planned and voluntary manner; granting the majority of climate refugees the status of permanent immigrants to a new country; designing the regime for groups of people rather than for individual cases; making it a priority to support national governments in coping with an influx of climate refugees; and obliging developed countries to bear the bulk of the substantial financial burden in relocating climate refugees.

102 Kolmannskog (2010:117).

103 Biermann & Boas (2010:66).

104 Kolmannskog (2010:114).

105 Nowak (2003:39).

106 Kolmannskog (2010:105).

governments,<sup>107</sup> and, depending on the situation on the ground, this responsibility is often shirked.<sup>108</sup> However, the UN Human Rights Council recently expressed concern over the impact that climate change has on the problem of internally displaced persons.<sup>109</sup> To this end, the Council declared that “natural disasters are a cause of internal displacement”, that such disasters were worsened by climate change, and that urgent “disaster risk reduction” was needed.<sup>110</sup>

The African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa<sup>111</sup> was adopted in Kampala on 23 October 2009. It is the first regional legal instrument in the world containing legal obligations for states with regard to the protection and assistance of internally displaced persons. The Kampala Convention defines internally displaced persons as –

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

The Kampala Convention explicitly recognises its relevance for climate-change-induced displacement, stating in Article 5 that “States Parties shall take measures to protect and assist persons who have been internally displaced due to natural or human[-]made disasters, including climate change.” However, the Kampala Convention applies to all situations of internal displacement regardless of its causes (Article 15), which makes sense as migration drivers in general are usually not mono-causal but influenced by multiple factors.

Also, several obligations are imposed on states parties by the Kampala Convention. It addresses the need to prevent displacement from happening, e.g. by establishing early warning systems and adopting disaster preparedness and management measures to prevent displacement caused by natural

107 Biermann & Boas (2010:74).

108 Kolmannskog (2010:114).

109 IISD (2012).

110 UN General Assembly, Human Rights Council Doc. A/HRC/20/L.14 (29 June 2012).

111 Hereafter *Kampala Convention*; text available at [http://www.au.int/en/sites/default/files/african\\_union\\_convention\\_for\\_the\\_protection\\_and\\_assistance\\_of\\_internally\\_displaced\\_persons\\_in\\_africa\\_\(kampala\\_convention\).pdf](http://www.au.int/en/sites/default/files/african_union_convention_for_the_protection_and_assistance_of_internally_displaced_persons_in_africa_(kampala_convention).pdf), last accessed 24 February 2012.

disasters. The Convention also requires states parties to protect people against displacement resulting from conflict and violence, discriminatory policies, or human rights violations. It further requires that displacement should neither be used as a method of warfare nor as collective punishment, and that forced evacuations should only take place for reasons of health and safety. If people are displaced, the Kampala Convention provides that they be protected and assisted (Article 4). According to Article 5, states parties are obliged to assess the needs and vulnerabilities of internally displaced persons and of host communities in cooperation with international organisations or agencies, and to provide adequate assistance, if need be, with support from relevant local and international agencies. Another objective of the Kampala Convention is to provide for durable solutions with regard to internally displaced persons, who have the right to make a free and informed choice on whether to return to their original homes, integrate into their new area, or relocate elsewhere in the country (Article 11). Furthermore, states parties are responsible for establishing an effective legal framework to provide just and fair compensation and other forms of reparations for damage incurred as a result of displacement (Article 12).

So far, the Kampala Convention has 39 signatories; 17 countries<sup>112</sup> have ratified it and it entered into force on 6 December 2012.

#### *F. Human Rights Responses*

The impacts of climate change on human rights have been recognised explicitly by the African Commission on Human and Peoples' Rights (ACHPR). In 2009, the ACHPR called on the Assembly of Heads of State and Government to take all necessary measures to ensure that the African Commission is included in the African Union's negotiating team on climate change.<sup>113</sup> Yet, all the efforts made to date to place rights at the centre of any future climate change regime have not focused on human rights. In fact, most international human rights instruments were drafted before the emer-

---

112 See [http://au.int/en/sites/default/files/Convention%20on%20IDPs%20-%20displaced...\\_0.pdf](http://au.int/en/sites/default/files/Convention%20on%20IDPs%20-%20displaced..._0.pdf), last accessed 23 May 2013.

113 ACHPR Resolution 153 on Climate Change and Human Rights and the Need to Study its Impacts in Africa, available at <http://www.achpr.org/sessions/46th/resolutions/153/>, last accessed 6 May 2013.

gence of climate change as a common concern.<sup>114</sup> Therefore, the specific rights potentially affected by climate change, such as rights to food, water, shelter, and health, or rights associated with gender, children and indigenous peoples need to be addressed in the context of climate change. To this end, in 2009, the Human Rights Council adopted Resolution 10/4 recognising the effects of climate change on the enjoyment of human rights.<sup>115</sup>

One could argue that human rights could inform approaches to climate change and human security. This dimension includes arguments based on states' human rights obligations under a variety of international law instruments. These obligations range from the integration of human rights into country strategies in terms of priority entitlements to be protected from the impacts of climate change (e.g. the right to health, housing, water, or food), or more procedural human rights that are relevant to the design and implementation of policies related to climate change (e.g. the right to information, participation, or access to decision-making).<sup>116</sup> In terms of this view, human rights obligations may provide a legal baseline for how climate change is tackled, and what needs to be protected from its impacts.<sup>117</sup>

The social impacts of climate change endanger human security in Africa and increase the vulnerability of specific groups and populations.<sup>118</sup> This vulnerability has also become a key element in human rights discussions. Rights and responsibilities need to be distributed with greater fairness among communities – globally, regionally and domestically. This entails ensuring that poor and marginalised communities in developing countries do not suffer a disproportionate burden associated with climate change.<sup>119</sup>

The interrelationship between human rights and economic development has become closer over the past few years due to increasing discussions in the world community on the issue. This interconnection can be seen as a two-way relationship insofar as economic development is obliged to respect human rights in a democratic society. Conversely, human rights can be given more effect through economic and sustainable development, as one outcome

---

114 Ruppel (2011c:220ff.).

115 UN General Assembly 2009 A/HRC/10/L.11, available at <http://www2.ohchr.org/english/bodies/hrcouncil/docs/10session/A.HRC.10.L.11.pdf>, last accessed 13 September 2011.

116 Ruppel (2011b:281).

117 McInerney-Lankford (2009:431–437).

118 Ruppel (2011a).

119 Ruppel (2011b).

of such development is the increasing availability of resources, resulting in the reduction of poverty and a higher standard of living.<sup>120</sup> In this light, the issue of climate-change-induced human movement of persons in Africa prompts significant questions about justice and distribution. There is an acute need for intelligent collective action focusing on human security and the human suffering that climate change will cause in future.<sup>121</sup> On the one hand, as a matter of law, the human rights of individuals need to be viewed in terms of state obligations: it is principally the state that is responsible for human rights fulfilment.<sup>122</sup> On the other hand, the assignment of such responsibility to the state alone seems inadequate in the context of climate change and human security. The specific rights potentially affected by climate change, such as rights to food, water, shelter and health, or rights associated with gender, children and indigenous peoples, need to be addressed in a supranational context. In 2009, the Human Rights Council noted the effects of climate change on the enjoyment of human rights, and reaffirmed the potential that human rights obligations and commitments have “to inform and strengthen international *and* national policy-making in the area of climate change”.<sup>123</sup>

In the 2009 Resolution, the Council welcomed the exchange of information between the Office of the High Commissioner for Human Rights and the UNFCCC Secretariat, stating, among other things, that climate change and human rights were governed by international regimes that had evolved separately, with different premises underlying the legal frameworks of multilateral environmental agreements such as the UNFCCC and human rights treaties.<sup>124</sup>

What is also remarkable is the emphasis in Outcome of the Work of the Ad Hoc Working Group on Long-term Cooperative Action under the UNFCCC<sup>125</sup> on a human-rights-oriented approach to deal with all issues relating

---

120 Passage largely taken from Ruppel (2009:279).

121 Ruppel & Van Wyk (2011b).

122 Ruppel (2011c).

123 UN General Assembly 2009 A/HRC/10/L.11, available at <http://www2.ohchr.org/english/bodies/hrcouncil/docs/10session/A.HRC.10.L.11.pdf>, last accessed 13 September 2011 (emphasis added).

124 McInerey-Lankford (2009:431–437).

125 Decision 1/CP.16 The Cancun Agreements: Outcome of the Work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, available at <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf#page=2>, last accessed 6 May 2013.

to climate change. By “recognizing that climate change represents an urgent and potentially irreversible threat to human societies and the planet, and thus requires to be urgently addressed by all Parties ...” and

... noting resolution 10/4 of the United Nations Human Rights Council on human rights and climate change, which recognizes that the adverse effects of climate change have a range of direct and indirect implications for the effective enjoyment of human rights and that the effects of climate change will be felt most acutely by those segments of the population that are already vulnerable owing to geography, gender, age, indigenous or minority status, or disability ...[,]

the Conference of the Parties “... emphasizes that Parties should, in all climate change related actions, fully respect human rights.”

The intersections of human rights and climate change should be taken into account in all future climate change and human rights policy and legislation. Moreover, there may be complementarity identifiable in the principles to be found in both the UNFCCC and ICESCR regimes, such as the duty of co-operation, doing no harm, or equity. Human rights are relevant to the design and implementation of responses to the impacts of climate change. Arguably, human rights could inform approaches to climate change in policy and legal terms. It may be possible to identify ways in which addressing climate change can help realise human rights, and how realising such rights can help ensure a greater capacity to adapt to climate change, underscoring the core compatibility of aims and outcomes between addressing climate change and realising human rights.<sup>126</sup>

In the aforementioned context, the special and differential responsibility of industrialised countries remains particularly important with regard to climate migrants, climate refugees and the climate-change-induced internal displacement of persons.<sup>127</sup> This also seems in line with the key principles provided for in Article 3 of the UNFCCC. Today’s accumulated GHG emissions originate mainly from over 150 years of carbon-based industrial activity in developed states. Therefore, the UNFCCC recognises that all countries have a common responsibility to tackle climate change, but places a heavier burden on industrialised states as fulfilment of their respective historic accountability for the causes of climate change. The key principles in Article 3 are reflected in the obligations established for developed and developing countries, including those relating to mitigation, adaptation, tech-

---

126 (ibid.).

127 Kiss & Shelton (2004:12ff.).

nology transfer, finance, and communication of information relating to the UNFCCC. Furthermore, the UNFCCC provides for countries in special situations, including particularly vulnerable countries, least developed countries, countries undergoing transition to a market economy.<sup>128</sup> For instance, Article 4(4) of the UNFCCC states the following: “[T]he developed country parties … shall assist the developing country parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects.”

The human security of certain groups in Africa is being threatened by climate change, and it needs to be taken into account that climate change has largely emerged from actions undertaken elsewhere in the world. The impacts of climate change on (national and international) human displacement and movement, caused by acts of omission and commission by the industrialised world, violate or are deemed to violate the fundamental human rights of Africans (e.g. the rights to health, life, physical integrity, determination and security, and the freedoms of movement and residence). Since Africans are protected by international human rights regimes, the logical answer to such human rights violations would be to hold the largest contributors to GHG emissions liable for their impacts.<sup>129</sup> Even in the absence of a binding human rights regime that explicitly establishes such human rights protection with regard to the impacts of climate change, the responsibility of developed countries is not limited to mitigating climate change, but to help the people in Africa and other developing countries adapt to and cope with the growing injustices that are caused by the changing climate. After all, human rights are not static, and their recognition and implementation is a never-ending process. Moreover, it is commonly known that human rights are usually formulated in response to acts or regimes of injustice as they become responsive to such acts or regimes. In the context of the changing climate, human security and environmental migration, environmental human rights can no longer be seen in isolation from other human (and humanitarian) rights. As with all human rights, environmental human rights are Janus-faced, “simultaneously embracing morality and the law”,<sup>130</sup> and call for positive conceptualisation by national and international legislature.

---

128 See e.g. Articles 4(4), 4(6), 4(8), 4(9) and 4(10).

129 Wold et al. (2009:432).

130 See Mushkat (2009:11).

### *G. Conclusion*

This contribution has been written from an African perspective – where violence, poverty and inequality often hinder the realisation of human rights. Against this background, climate change exacerbates the challenges faced by the most vulnerable groups of society. This article raised the question of whether or not it is possible to respond to these challenges by employing human rights mechanisms. The basic conclusion reached is that it can be done, but that it requires certain gaps to be closed and for rights and responsibilities to be assigned with greater fairness in future. This, in turn, would work to ensure in particular that poor and marginalised communities in Africa do not suffer a disproportionate burden associated with climate change.

Climate-change-induced disasters and conflict related to the impacts of climate change are linked to human mobility. The relationship between environmental migration and conflict is complex and further research needs to be done in terms of interwoven causes and effects. Both conflict and environmental migration are caused by a multitude of factors, and both trigger a domino effect of consequences for humankind and nature. Environmental migration presents a substantial set of problems – theoretically and procedurally. The terminology in referring to environmental migrants is often confused and intertwined with the terminology usually used to refer to political refugees or displaced persons; and while attempts are being made to seek a specific solution, the situation for the people who have to move away from their homes remains unresolved. What needs to be addressed is the current critical lack of consistent terminology and legal instruments dealing with problems specific to environmental migration, whether across borders and within countries, distinctly related to climate change. Looking beyond the detail, it remains imperative to protect the basic human rights of all vulnerable people in the interim, until more sophisticated and inclusive legal (and political) solutions can be formulated and implemented.

It is an unfortunate surprise to discover that the current climate change regime still does not adequately consider appropriate human-rights-focused ways in which to deal with the massive effects of climate change such as environmental migration. It has not been a priority of the international climate change regime to deal with corresponding human rights infringements along the way – notable exceptions being the 2009 Human Rights Council Resolution 10/4, the 2009 African Commission on Human and Peoples' Rights Resolution ACHPR/Res. 153 XLV09, and the 2012 Report by the

Special Rapporteur on the Human Rights of Migrants.<sup>131</sup> The latter considers, among other things, how international law approaches the matter of climate-induced migration, including some deficiencies in the currently existing categories. In developing appropriate responses to this complex issue, the Special Rapporteur also takes note of the political engagement that will be required on the issue.

## References

- Abass, Ademola, 2010, An Introduction to Protecting Human Security in Africa, in: Abass, Ademola (Ed.), *Protecting Human Security in Africa*, Oxford, Oxford University Press, 1–20.
- Bantekas, Ilias, 2010, Environmental Security in Africa, in: Abass, Ademola (Ed.), *Protecting Human Security in Africa*, Oxford, Oxford University Press, 43–62.
- Barrios, Salvador, Luisito Bertinelli & Eric Strobl, 2006, Climatic Change and Rural–urban Migration: The Case of Sub-Saharan Africa, *Journal of Urban Economics* 60, 357–371.
- Biermann, Frank & Ingrid Boas, 2010, Preparing for a Warmer World: Towards a Global Governance System to Protect Climate Refugees, *Global Environmental Politics* 10, 1, 60–88.
- Boko, Michel, Isabelle Niang, Anthony Nyong, Coleen Vogel, Andrew Githeko, Mahmoud Medany, Balgis Osman-Elasha, Ramadjita Tabo & Pius Yanda, 2007, Africa, in: Parry, Martin L., Osvaldo F. Canziani, Jean Palutikof, Paul J. van der Linden & Clair E. Hanson (Eds), *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge, Cambridge University Press, 433–467.
- Brown, Oli, 2008, Migration and Climate Change, *IOM Migration Research Series No. 31*, Geneva, International Organization for Migration, available at [http://www.iisd.org/pdf/2008/migration\\_climate.pdf](http://www.iisd.org/pdf/2008/migration_climate.pdf), last accessed 7 May 2011.
- CHS/Commission on Human Security, 2003, *Human Security Now*, New York, CHS.
- Costello, Anthony, Mustafa Abbas, Adriana Allen, Sarah Ball, Sarah Bell, Richard Bellamy, Sharon Friel, Nora Groce, Anne Johnson, Maria Kett, Maria Lee, Caren Levy, Mark Maslin, David McCoy, Bill McGuire, Hugh Montgomery, David Napier, Christina Pagel, Jinesh Patel, Jose Antonio Puppim de Oliveira, Nanneke Redclift, Hannah Rees, Daniel Rogger, Joanne Scott, Judith Stephenson, John Twigg, Jonathan Wolff & Craig Patterson, 2009, Managing the Health Effects of Climate Change, *The*

---

131 UN A/67/299, available at <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N12/460/71/PDF/N1246071.pdf?OpenElement>, last accessed 7 May 2013.

- Lancet* 373, 1693–1733, available at <http://www.ucl.ac.uk/global-health/ucl-lancet-climate-change.pdf>, last accessed 13 September 2011.
- Cuevas, Luis E., Isabelle Jeanne, Anna Molesworth, Michael Bell, Emily C. Savory, Stephen J. Connor & Madeleine C. Thomson, 2007, Risk Mapping and Early Warning Systems for the Control of Meningitis in Africa, *Vaccine* 25, A12–A17.
- De Magny, Guillaume, Jean-François Guégan, Michel Petit & Bernard Cazelles, 2007, Regional-scale Climate-variability Synchrony of Cholera Epidemics in West Africa, *BMC Infectious Diseases* 7, 20, available at <http://www.biomedcentral.com/content/pdf/1471-2334-7-20.pdf>, last accessed 7 May 2013.
- Gemenne, François, 2011, Climate-induced Population Displacements in a 4°C+ World, *Philosophical Transactions of the Royal Society A, Mathematical, Physical and Engineering Sciences* 369, 182–195.
- Gleditsch, Nils P., Ragnhild Nordås & Idean Salehyan, 2007, *Climate Change and Conflict: The Migration Link*, New York, International Peace Academy.
- Hendrix, Cullen S. & Sarah M. Glaser, 2007, Trends and Triggers: Climate, Climate Change and Civil Conflict in Sub-Saharan Africa, *Political Geography* 26, 695–715.
- Homer-Dixon, Thomas F., 1991, Environmental Changes as Causes of Acute Conflict, *International Security* 16 (2), 76–116.
- Homer-Dixon, Thomas F., 1994, Environmental Scarcities and Violent Conflict: Evidence from Cases, *International Security* 19 (1), 5–40.
- Hope, Kempe, 2011, Climate Change in the Context of Urban Development in Africa, in: Yuen, Belinda & Asfaw Kumssa (Eds), *Climate Change and Sustainable Urban Development in Africa and Asia*, Dordrecht, Springer, 37–56.
- IDMC/Internal Displacement Monitoring Centre, 2011, *Displacement Due to Natural Hazard-induced Disasters, Global Estimates for 2009–2010*, Geneva, IDMC.
- IISD/International Institute for Sustainable Development, 2012, Human Rights Council Links Internal Displacement with Climate Change, *IISD News*, 6 July 2012, available at <http://climate-l.iisd.org/news/human-rights-council-links-internal-displacement-with-climate-change/145266/>, last accessed 7 May 2013.
- IOM/International Organization for Migration, 2007, Discussion Note: Migration and the Environment, MC/INF/288, available at [http://www.iom.int/jahia/webdav/shared/shared/mainsite/about\\_iom/en/council/94/MC\\_INF\\_288.pdf](http://www.iom.int/jahia/webdav/shared/shared/mainsite/about_iom/en/council/94/MC_INF_288.pdf), last accessed 07 May 2013.
- IPCC/Intergovernmental Panel on Climate Change, 1990, *Climate Change – The IPCC Impacts Assessment*, Final Report of Working Group II of the IPCC, Tegart, William J., Gordon W. Sheldon & D. Collin Griffiths (Eds), Canberra, Australian Government Publishing Services.
- IPCC/Intergovernmental Panel on Climate Change, 2007, *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*, Core Writing Team: Pachauri, Rajendra K. & Andy Reisinger (Eds), Geneva, IPCC, available at [http://www.ipcc.ch/publications\\_and\\_data/publications\\_ipcc\\_fourth\\_assessment\\_report\\_synthesis\\_report.htm](http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_synthesis_report.htm), last accessed 13 January 2013.

- Jansen, Cassie C. & Nigel W. Beebe, 2010, The Dengue Vector *Aedes aegypti*: What Comes Next, *Microbes and Infection* 12, 272–279.
- Kälin, Walter & Nina Schrepfer, 2012, Protecting People Crossing Borders in the Context of Climate Change: Normative Gaps and Possible Approaches, *Legal and Protection Policy Research Series*, Geneva, United Nations High Commissioner for Refugees, available at <http://www.unhcr.org/protect>, last accessed 14 February 2013.
- King, Gary & Christopher J.L. Murray, 2002, Rethinking Human Security, *Political Science Quarterly* 116, 585–610, available at <http://gking.harvard.edu/files/gking/files/hs.pdf>, last accessed 6 May 2013.
- Kiss, Alexandre & Dinah Shelton, 2004, *International Environmental Law*, New York, Transnational Publishers Inc.
- Kolmannskog, Vikram O., 2008, *Future Floods of Refugees: A Comment on Climate Change, Conflict and Forced Migration*, available at [http://www.nrc.no/arch/\\_img/9268480.pdf](http://www.nrc.no/arch/_img/9268480.pdf), last accessed 13 September 2011.
- Kolmannskog, Vikram O., 2010, Climate Change, Human Mobility, and Protection: Initial Evidence from Africa, *Refugee Survey Quarterly* 29 (3), 103–119.
- Kumssa, Asfaw & John F. Jones, 2010, Climate Change and Human Security in Africa, *Journal of Sustainable Development & World Ecology* 17 (6), 453–461.
- Lecocq, Frank & Zmarak Shalizi, 2007, *How Might Climate Change Affect Economic Growth in Developing Countries? A Review of the Growth Literature with a Climate Lens*, available at [http://www-wds.worldbank.org/servlet/WDSContentServer/WDS/P/IB/2007/08/13/000158349\\_20070813145822/Rendered/PDF/wps4315.pdf](http://www-wds.worldbank.org/servlet/WDSContentServer/WDS/P/IB/2007/08/13/000158349_20070813145822/Rendered/PDF/wps4315.pdf), last accessed 13 September 2011.
- Lonergan, Steve, 1998, The Role of Environmental Degradation in Population Displacement, *Environmental Change and Security Report* 4, 5–15.
- McInerney-Lankford, Siobhan, 2009, Climate Change and Human Rights: An Introduction to Legal Issues, *Harvard Environmental Law Review* 33, 431–437.
- Mosha, Aloysius, 2011, Climate Change in the Context of Urban Development in Africa, in: Yuen, Belinda & Asfaw Kumssa (Eds), *Climate Change and Sustainable Urban Development in Africa and Asia*, Dordrecht, Springer, 69–102.
- Myers, Norman & Jennifer Kent, 1995, *Environmental Exodus: An Emergent Crisis in the Global Arena*, Washington, DC, Climate Institute.
- Nhemachena, Charles, Rashid Hassan & James Chakwizira, 2010, *Economic Impacts of Climate Change on Agriculture and Implications for Food Security in Southern Africa*, available at <http://climsec.pri.no/papers/Economic%20Impacts%20of%20Climate%20Change%20on%20Agriculture%20and%20Implications%20for%20Food%20Security%20in%20Southern%20Africa.pdf>, last accessed 20 August 2011.
- Nowak, Manfred, 2003, *Introduction to the International Human Rights Regime*, Leiden, Martinus Nijhoff Publishers.
- OCAH/United Nations Office for the Coordination of Humanitarian Affairs & IDMC/ Internal Displacement Monitoring Centre, 2009, *Monitoring Disaster Displacement in the Context of Climate Change*, Geneva, OCAH & IDMC.

- OHCHR/Office of the High Commissioner for Human Rights, [n.d.], Fact Sheet 20, available at <http://www.ohchr.org/Documents/Publications/FactSheet20en.pdf>, last accessed 23 January 2012.
- Rowhani, Pedram, Olivier Degomme, Debarati Guha-Sapir & Eric F. Lambin, 2011, Malnutrition and Conflict in East Africa: The Impacts of Resource Variability on Human Security, *Climatic Change* 105, 207–222.
- Ruppel, Oliver C., 2009, Regional Economic Communities and Human Rights in East and Southern Africa, in: Bösl, Anton & Joseph Diescho (Eds), *Human Rights in Africa*, Windhoek, Macmillan, 275–318.
- Ruppel, Oliver C., 2010, Climate Change and Human Vulnerability: Law and Policy, Unpublished paper presented at an expert workshop entitled Identifying Priorities for Climate Change, organised by the Human Rights and Documentation Centre of the University of Namibia in cooperation with the Tyndall Centre for Climate Change, University of Oxford, held at the Safari Court Conference Centre, Windhoek, 9 March 2010.
- Ruppel, Oliver C., 2011a, Climate Change and Human Vulnerability in Africa, in: Ruppel, Oliver C. & Katharina Ruppel-Schlichting (Eds), *Environmental Law and Policy in Namibia*, Windhoek/Essen, Orumbonde Press Windhoek & Welwitschia Verlag Dr. A. Eckl, 308–315.
- Ruppel, Oliver C., 2011b, Environmental Justice: Advocacy, Litigation and Mediation, in: Ruppel, Oliver C. & Katharina Ruppel-Schlichting (Eds), *Environmental Law and Policy in Namibia*, Windhoek/Essen, Orumbonde Press Windhoek & Welwitschia Verlag Dr. A. Eckl, 281–288.
- Ruppel, Oliver C., 2011c, Human Rights and the Environment, in: Ruppel, Oliver C. & Katharina Ruppel-Schlichting (Eds), *Environmental Law and Policy in Namibia*, Windhoek/Essen, Orumbonde Press Windhoek & Welwitschia Verlag Dr. A. Eckl, 219–238.
- Ruppel, Oliver C., 2011d, The International, African and Regional Institutional, Legal and Policy Framework of Climate Change, in: African Ministerial Conference on the Environment (AMCEN) (Eds), *Addressing Climate Change Challenges in Africa: A Practical Guide Towards Sustainable Development*, Nairobi, AMCEN, 169–202, available at [www.unep.org/roa/amcen/docs/publications/guidebook\\_Climate-Change.pdf](http://www.unep.org/roa/amcen/docs/publications/guidebook_Climate-Change.pdf), last accessed 5 August 2012.
- Ruppel, Oliver C. & Katharina Ruppel-Schlichting (Eds), 2011, *Environmental Law and Policy in Namibia*, Windhoek/Essen, Orumbonde Press Windhoek & Welwitschia Verlag Dr. A. Eckl.
- Ruppel, Oliver C. & Sanita Van Wyk, 2011a, Climate Change Induced Movement of Persons in Africa: Human Rights Responses to Aspects of Human Security?, *South African Journal of Environmental Law and Policy* 18 (1), 49–64.
- Ruppel, Oliver C. & Sanita van Wyk, 2011b, It is a Problem that Can't Wait, *The Star*, 12 December 2011, available at <http://www.iol.co.za/the-star/it-s-a-problem-that-can-t-wait-1.1196378>, last accessed 7 May 2013.

- Smith, Christopher, Dominic R. Kniveton, Sharon Wood & Richard Black, 2011, Climate Change and Migration: A Modelling Approach, in: Williams, Charles J.R. and Dominic R. Kniveton (Eds), *African Climate and Climate Change – Physical, Social and Political Perspectives*, Dordrecht, Springer, 179–202.
- UNDP/United Nations Development Programme, 1994, *Human Development Report*, New York, UNDP.
- UNDP/United Nations Development Programme, 2008, *Fighting Climate Change: Human Solidarity in a Divided World*, New York, UNDP.
- UN-Habitat & UNEP/United Nations Habitat & United Nations Environment Programme, 2010, *The State of African Cities 2010: Governance, Inequalities and Urban Land Markets*, Nairobi, UN-Habitat & UNEP.
- Warner, Koko, Mohamed Hamza, Anthony Oliver-Smith, Fabrice Renaud & Alex Julca, 2010, Climate Change, Environmental Degradation and Migration, *Natural Hazards* 55, 689–715.
- Wold, Chris, David Hunter & Melissa Powers, 2009, *Climate Change Law and Policy*, Newark, NJ, Matthew Bender & Company, Inc. & LexisNexis.
- Ziervogel, Gina, Anthony Nyong, Balgis Osman, Cecilia Conde, Sergio Cortés & Tom Downing, 2006, Climate Variability and Change: Implications for Household Food Security, AIACC [Assessments of Impacts and Adaptations to Climate Change] Working Paper No. 20, available at [http://www.aiaccproject.org/working\\_papers/Working%20Papers/AIACC\\_WP\\_20\\_Ziervogel.pdf](http://www.aiaccproject.org/working_papers/Working%20Papers/AIACC_WP_20_Ziervogel.pdf), last accessed 21 August 2011.